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Status of Wildlife populations,  
Fall 1982 and 1977-1981 Hunting  
and Trapping Harvest Statistics

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Status of Wildlife Populations, Fall 1982  
and  
1977-1981 Hunting and Trapping Harvest Statistics

This booklet has been published by the Section of Wildlife Research Unit since 1977 and contains data on populations of farmland, forest and wetland species along with harvest statistics from various hunting and trapping seasons for recent years.

There are data presented from most of the census and survey projects currently active in the Research Unit. (For detailed descriptions of the various projects see the book Wildlife Populations and Research Unit Project Descriptions published in July 1981.)

This year's book contains for the first time data on black bear bait post census routes and results, census and harvest data on moose, and information on breeding populations of 10 species of ducks for the past 28 years. Deleted this year is a DNR administrative region breakdown of data on farmland August census results and bobcat and lynx harvest sex ratios.

For farmland and forest wildlife, most of the field work associated with collection of census and survey data is carried out by wildlife managers (Conservation Officers also participate in pheasant counts). The Farmland and Forest Wildlife Population and Research groups coordinate these activities, analyze and interpret data, and prepare recommendations for season setting meetings. For wetland species, much of the census and survey work is actually done by personnel in the Wetland Wildlife Population and Research Group.

Tom Landwehr, Biologist in the St. Paul Office, compiled and produced this booklet.

Blair Joselyn  
2 September 1982

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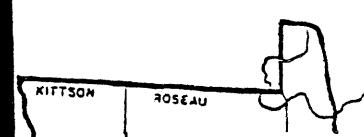
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**FARMLAND WILDLIFE**



Statewide

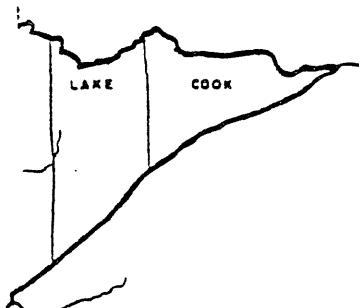
1978	76
1979	51
1980	100
1981	130
1982	59
Change 1981-82	-53%
1977-81 mean	88
Difference 1982 from 5-year mean	-33%



Central

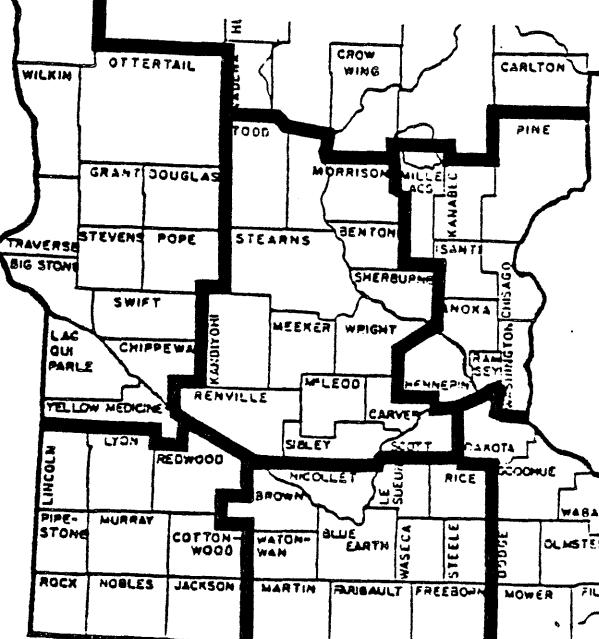
1978	75
1979	58
1980	103
1981	131
1982	41

Change 1981-82      -68%  
1977-81 mean      89  
Difference 1982  
from 5-year mean      -54%



West Central

1978	32
1979	39
1980	71
1981	116
1982	69
Change 1981-82	-41%
1977-81 mean	60
Difference 1982 from 5-year mean	+15%



East Central

1978	168
1979	95
1980	212
1981	252
1982	145

Change 1981-82      -42%  
1977-81 mean      165  
Difference 1982  
from 5-year mean      -12%

Southwest

1978	23
1979	13
1980	30
1981	80
1982	27
Change 1981-82	-67%
1977-81 mean	31
Difference 1982 from 5-year mean	-13%

South Central

1978	106
1979	51
1980	110
1981	126
1982	48

Change 1981-82      -62%  
1977-81 mean      107  
Difference 1982  
from 5-year mean      -55%

Southeast

1978	77
1979	54
1980	85
1981	94
1982	30

Change 1981-82      -62%  
1977-81 mean      87  
Difference 1982  
from 5-year mean      -66%

Figure 1. Pheasants observed per 100 miles of August census route, 1978-1982, and percent change 1981-1982 for routes censused both years.

Table 1. County, regional, and statewide August pheasant census results, 1978-1982.

Region and County	Miles censused 1982	Pheasants observed per 100 miles						1977-1981 mean	Change <sup>a</sup> 1981-1982
		1978	1979	1980	1981	1982			
West Central	950	32.1	38.7	70.9	116.3	68.9	59.8	-	41%
Big Stone	75	82	104	384	352	187			
Chippewa	50	20	56	236	172	54			
Clay	75	0	0	0	0	19			
Douglas	50	0	12	60	24	126			
Grant	50	24	16	28	10	46			
Lac Qui Parle	75	88	65	144	224	204			
Norman	75	0	0	0	0	0			
Ottertail	50	38	106	72	140	100			
Pope	75	57	76	60	179	107			
Stevens	75	36	64	87	287	73			
Swift	75	28	26	-	113	21			
Traverse	75	25	13	37	3	3			
Wilkins	75	9	28	2	27	29			
Yellow Medicine	75	6	0	59	59	13			
Central	825	75.2	57.8	103.3	131.0	41.2	89.1	-	68%
Benton	50	44	48	44	256	74			
Carver	50	340	210	238	178	22			
Kandiyohi	75	25	44	100	131	44			
McLeod	0	136	66	126	106	-			
Meeker	75	35	29	198	293	83			
Morrison	75	28	18	116	39	29			
Renville	50	0	0	0	10	0			
Scott	25	272	156	202	244	120			
Sherburne	50	26	0	36	20	20			
Sibley	75	120	71	116	157	27			
Stearns	100	6	45	83	65	26			
Todd	75	7	4	39	117	41			
Wright	50	44	146	256	112	54			
East Central	450	168.4	94.6	211.8	252.4	145.3	164.8	-	42%
Anoka	50	112	36	160	96	28			
Chisago	75	341	176	383	480	280			
Hennepin	25	144	-	136	76	16			
Isanti	75	75	115	237	335	171			
Kanabec	50	154	82	216	224	142			
Mille Lacs	75	103	29	49	209	135			
Pine	50	148	60	126	182	122			
Washington	50	252	146	332	176	140			

Table 1. Continued.

Region and County	Miles censused 1982	Pheasants observed per 100 miles						Change <sup>a</sup> 1981-1982
		1978	1979	1980	1981	1982	1977-1981 mean	
Southwest	475	23.2	13.4	30.2	80.0	27.3	30.6	- 67%
Cottonwood	50	40	34	72	62	32		
Jackson	50	4	-	20	58	68		
Lincoln	50	0	0	0	134	2		
Lyon	50	4	26	2	24	50		
Murray	50	61	24	116	180	60		
Nobles	75	57	5	19	91	3		
Pipestone	50	0	4	40	40	2		
Redwood	25	12	0	2	42	4		
Rock	50	12	14	2	84	24		
South Central	775	106.0	51.4	109.9	125.8	47.5	107.4	- 62%
Blue Earth	75	100	63	156	79	5		
Brown	75	93	69	44	85	55		
Faribault	75	115	59	93	59	35		
Freeborn	75	-	40	16	97	24		
Le Sueur	75	228	91	201	277	115		
Martin	75	41	23	115	183	91		
Nicollet	75	67	28	128	93	39		
Rice	75	113	35	149	147	55		
Steele	50	-	-	234	222	50		
Waseca	25	120	-	87	114	0		
Watonwan	75	21	40	27	56	24		
Southeast	450	77.4	53.8	84.7	94.2	28.9	87.2	- 62%
Dakota	25	156	104	130	102	92		
Dodge	25	56	-	248	314	40		
Fillmore	50	178	46	-	80	16		
Goodhue	50	50	98	-	44	0		
Houston	50	14	2	4	60	6		
Mower	75	43	68	132	139	55		
Olmsted	75	51	56	91	83	53		
Wabasha	50	156	50	22	14	4		
Winona	50	24	0	24	4	6		
Statewide	3,800	76.0	51.0	99.6	130.0	58.6	87.7	- 53%

<sup>a</sup>Regional and statewide results only from routes censused both years.

Table 2. August 1981 roadside census results for selected farmland wildlife species by agricultural regions.

Region	Miles censused	Individuals per 100 miles <sup>a</sup>				
		Hungarian partridge	Cottontail rabbits	Jack rabbits	Mourning doves	Deer
WC	900	38.2	6.7	2.5	622	3.1
C	775	27.5	10.3	2.2	285	1.5
EC	400	0.5	19.2	0.0	153	0.5
SW	475	149.9	9.9	7.2	514	2.9
SC	775	44.3	8.4	1.5	223	1.0
SE	450	21.1	13.6	2.0	177	4.2
Statewide	3,775	45.3	10.4	2.5	346	2.2

<sup>a</sup>The average number of animals per 100 miles is calculated using total miles censused and is not corrected for only miles censused both years.

Table 3. August 1982 roadside census results for selected farmland wildlife species by agricultural regions.

Region	Miles censused	Individuals per 100 miles <sup>a</sup>				
		Hungarian partridge	Cottontail rabbits	Jack rabbits	Mourning doves	Deer
NW	475	3.8	1.9	1.5	225	10.7
WC	925	22.5	4.8	2.6	558	4.9
C	700	23.0	6.5	0.9	234	2.4
EC	425	0.7	7.3	0.5	167	1.4
SW	450	72.0	3.6	4.7	315	2.9
SC	750	15.5	6.7	1.1	219	1.7
SE	450	16.0	4.2	0.9	213	0.9
Statewide <sup>b</sup>	3,700	23.9	5.6	1.8	315	2.6

<sup>a</sup>The average number of animals per 100 miles is calculated using total miles censused and is not corrected for only miles censused both years.

<sup>b</sup>NW region not in statewide averages.

Table 4. August statewide roadside census results for selected farmland species, 1976-1982.

Species	Animals per 100 miles <sup>a</sup>							Pct change 1981-1982
	1976	1977	1978	1979	1980	1981	1982	
Pheasants <sup>b</sup>	44.2	82.0	76.0	51.0	99.6	130.0	58.6	- 55
Hungarian partridge <sup>b</sup>	17.1	31.4	36.3	34.5	47.0	45.3	23.9	- 47
Cottontail rabbits <sup>b</sup>	5.3	6.9	8.8	7.3	6.5	10.4	5.6	- 46
Jack rabbits <sup>b</sup>	2.2	2.6	3.8	3.7	3.0	2.5	1.8	- 28
Mourning doves <sup>b</sup>	413.0	411.0	319.0	353.0	357.0	346.0	315.0	- 9
White-tailed deer <sup>b</sup>	1.2	1.4	1.1	1.1	1.6	2.2	2.6	+ 18
Sandhill Cranes								1.00
Tree Squirrels								0.90
Foxes								0.32
Skunks								0.22
Badger								0.02

<sup>a</sup>The average number of animals per 100 miles is calculated using total miles censused and is not corrected for only miles censused both years.

<sup>b</sup>NW region not included in these averages.

Table 5. Spring Prairie Chicken booming ground counts for 15 northwestern counties, 1977-1982  
 (counts coordinated and summarized by AWM Terry Wolfe, Crookston).

County	1977	1978	1979	1980	1981	1982
Becker	54 <sup>a</sup> ( 5) <sup>b</sup>	26 ( 4)	102 ( 9) <sup>c</sup>	156 (16) <sup>c</sup>	159 (16) <sup>c</sup>	133 (13) <sup>c</sup>
Cass	13 ( 1)	9 ( 1)	14 ( 2) <sup>c</sup>	17 ( 6) <sup>c</sup>	63 (15) <sup>c</sup>	68 (16) <sup>c</sup>
Chippewa	-- --	8 ( 1)	2 ( 1)	2 ( 1)	2 ( 1)	0
Clay	197 (14)	261 (21)	205 (17) <sup>c</sup>	186 (17)	196 (16) <sup>c</sup>	216 (12) <sup>c</sup>
Hubbard	-- --	-- --	-- --	-- --	4 ( 1)	3 ( 1)
Mahnomen	107 ( 8)	71 ( 4)	81 ( 7)	203 (21)	223 (20)	294 (22)
Marshall	-- --	-- --	-- --	-- --	3 ( 1)	7 ( 2)
Morrison	-- --	-- --	-- --	-- --	-- --	1 ( 1)
Norman	136 (11)	130 ( 9)	213 (13)	230 ( 9)	210 ( 9)	273 (15)
Ottertail	8 ( 2)	8 ( 2)	19 ( 5)	13 ( 2)	9 ( 2)	12 ( 1)
Pennington	-- --	-- --	8 ( 1)	-- --	2 ( 1)	6 ( 1)
Polk	141 (13)	140 (16)	192 (18) <sup>c</sup>	269 (27)	254 (26)	283 (29)
Red Lake	3 ( 1)	7 ( 1) <sup>c</sup>	8 ( 1) <sup>c</sup>	8 ( 1)	19 ( 2)	19 ( 2)
Wadena	-- --	c(10)c	27 ( 3) <sup>c</sup>	10 ( 3)	60 (12) <sup>c</sup>	64 (11)
Wilkin	216 (12)	180 (14)	77 ( 4)	164 (14)	206 (23) <sup>c</sup>	269 (20)
Total	875 (67)	841 (74)	948 (81)	1,258(117)	1,410(144)	1,648(146)
Avg. No. cocks/ground	13.1	11.4	11.7	10.8	9.8	11.2

<sup>a</sup> Number of booming cocks.

<sup>b</sup> Number of booming grounds.

<sup>c</sup> Data include only grounds on which counts were conducted. In several counties booming grounds were located but counts were not made, they are not included in the data presented.

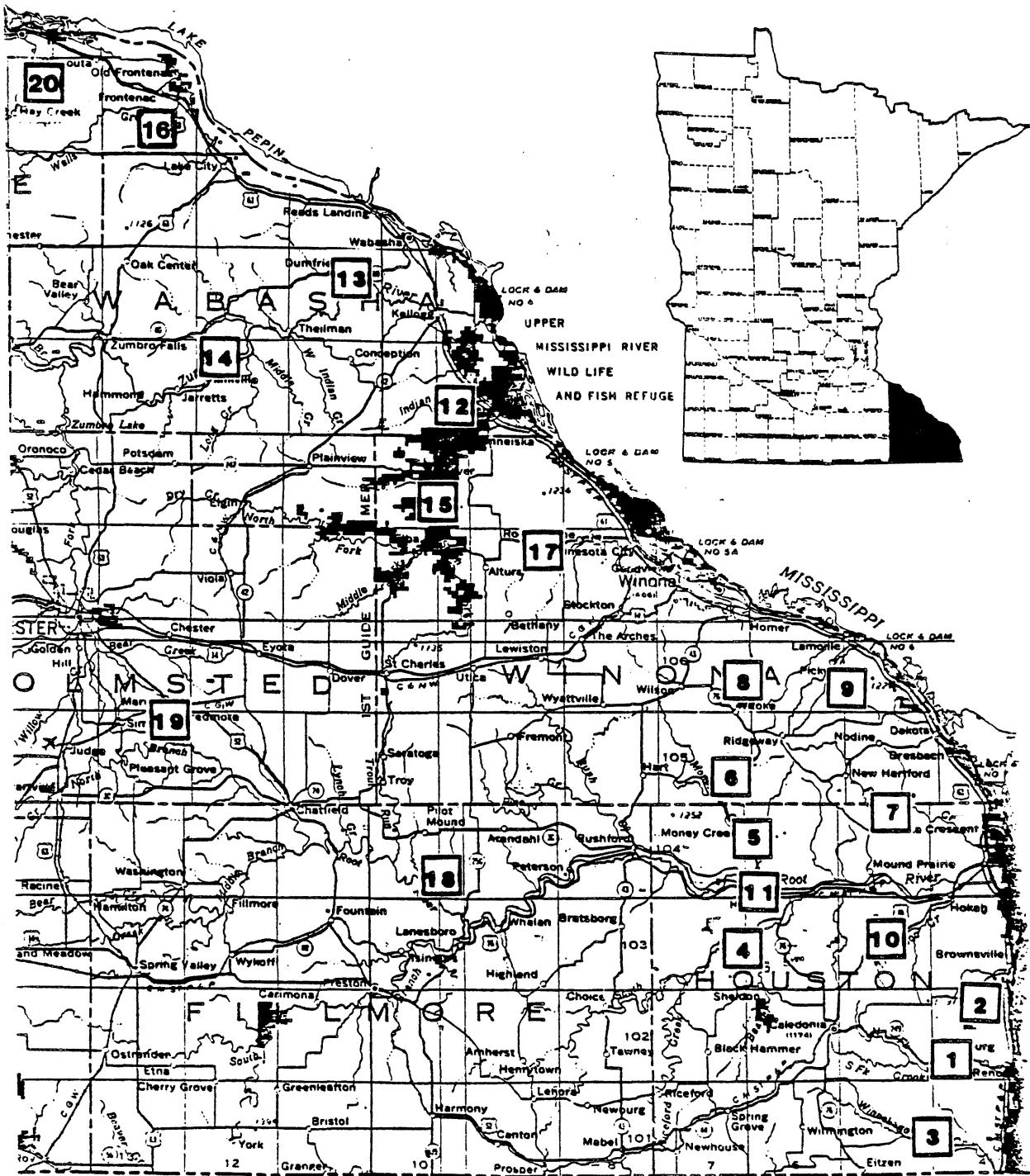


Figure 2. Approximate locations of gobble-count census routes in southeastern Minnesota (not shown is route #21 - Welch - located between Cannon Falls and Red Wing in Goodhue County).

Table 6. "Best Day" turkey gobbling counts in southeastern Minnesota, 1976-1982.

Route <sup>a</sup>	Percent of stops with gobblers (No. gobblers)						
	1976	1977	1978	1979	1980	1981	1982
Number of stops <sup>b</sup>	81	85	132	132	176	169	171
1. Crooked Creek	25( 3)	100(25)	57( 6)	40( 7)	33( 4)	29( 7)	33( 9)
2. Wildcat	40( 7)	60(11)	90(20)	10( 1)	70(13)	33( 6)	11( 1)
3. Winnebago	89(12)	88(18)	56( 8)	56( 8)	56( 5)	44( 4)	44( 6)
4. Yucatan		20( 3)	14( 1)	0( 0)	0( 0)	0( 0)	22( 2)
5. Houston		0( 0)	13( 1)	0( 0)	20( 2)	11( 2)	10( 2)
6. Wiscoy			10( 1)	0( 0)	10( 1)	0( 0)	10( 1)
7. Pine			10( 1)	0( 0)	0( 0)	11( 2)	0( 0)
8. Pleasant-Cedar			0( 0)	0( 0)	11( 1)	0( 0)	0( 0)
9. Pickwick				20( 1)	0( 0)	13( 1)	0( 0)
10. Sullivan	11( 2)	14( 1)			20( 2)	10( 2)	25( 4)
11. Crystal		13( 1)	0( 0)		25( 3)	13( 1)	0( 0)
12. Snake-Indian	0( 0)	22( 3)	56(11)	30( 5)	10( 1)	29( 4)	50( 7)
13. Zumbro east	0( 0)	14( 1)	43( 6)	11( 2)	20( 3)	0( 0)	0( 0)
14. Zumbro west			0( 0)	0( 0)	0( 0)	0( 0)	11( 1)
15. Whitewater	50(28)				89(23)	55( 9)	11( 1)
16. Goodhue south			56( 6)	50( 6)	63( 6)	13( 1)	20( 2)
17. Rollingstone			11( 2)	33( 6)	0( 0)	0( 0)	0( 0)
18. Lanesboro					33( 6)	63( 7)	0( 0)
19. Cummingsville					33( 4)	25( 2)	25( 1)
20. Goodhue north						33( 6)	44( 6)
21. Welch							50( 4)
Total	33(52)	35(63)	27(63)	17(36)	26(74)	19(54)	18(46)

<sup>a</sup> Routes that have been discontinued are not included.

<sup>b</sup> ops w/out interference.

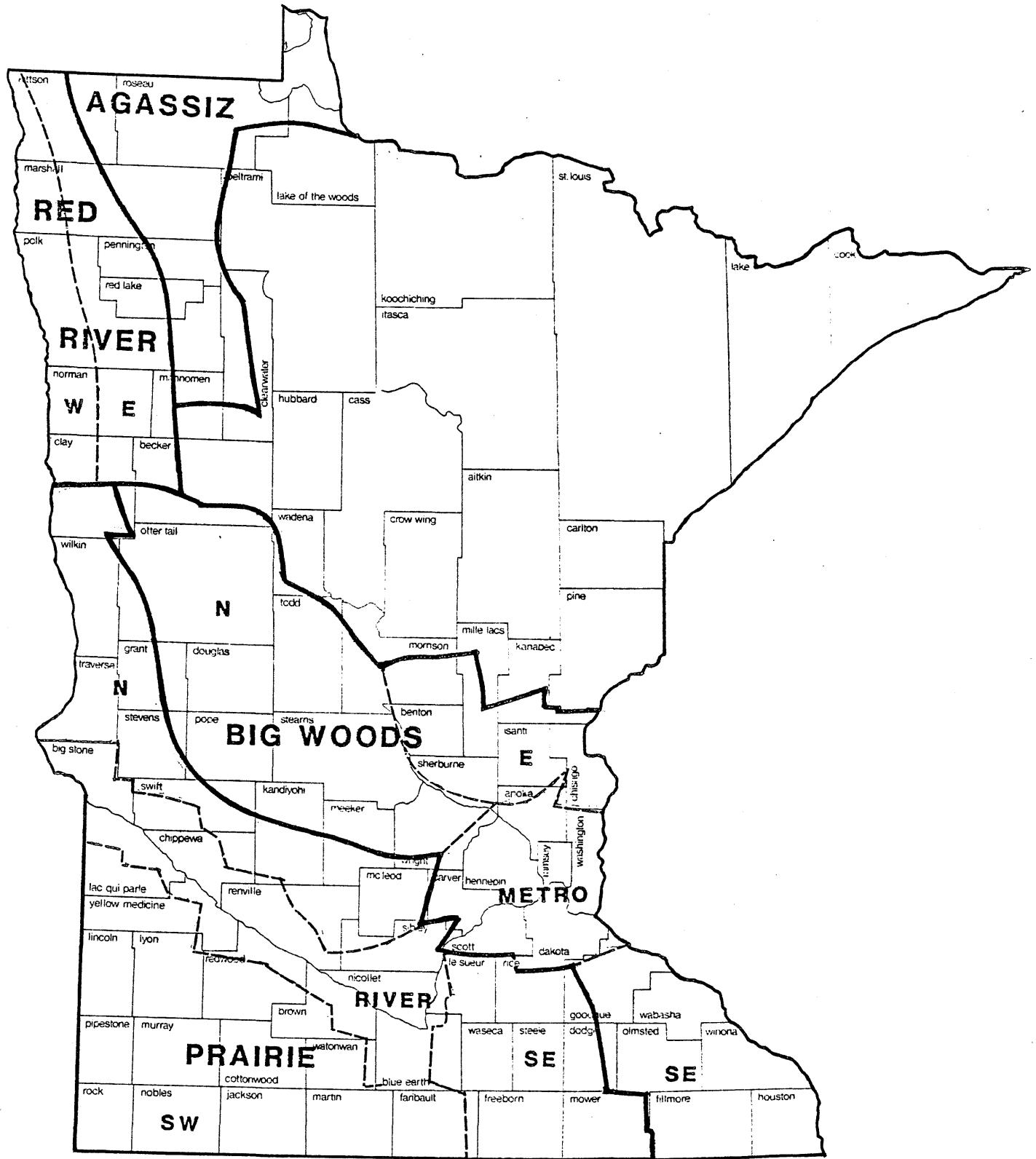


Figure 3. Farmland deer management units and subunits.

Table 7. Productivity of deer in the Big Woods and Prairie Deer Management Units (DMU), 1979-1982.

	Age class	Pregnancy rate	Fetuses per pregnancy	Proportion of sample	Gross productivity <sup>a</sup>
<b>BIG WOODS</b>					
1982 (N=237)	Fawn	46%	1.19	35%	
	Yearling	88%	1.77	23%	
	Adult	96%	1.90	42%	1.31 fawn/doe
1981 (N=181)	Fawn	60%	1.06	36%	
	Yearling	97%	1.68	22%	
	Adult	96%	2.00	42%	1.39 fawns/doe
1980 (N=173)	Fawn	61%	1.18	35%	
	Yearling	94%	1.71	21%	
	Adult	98%	1.93	44%	1.43 fawns/doe
1979 (N=211)	Fawn	28%	1.11	34%	
	Yearling	90%	1.58	22%	
	Adult	95%	1.93	44%	1.23 fawns/doe
1978 (N=209)	Fawn	45%	1.04	36%	
	Yearling	91%	1.49	23%	
	Adult	99%	1.98	41%	1.30 fawns/doe
<b>PRAIRIE</b>					
1982 (N=132)	Fawn	47%	1.18	35%	
	Yearling	84%	1.80	23%	
	Adult	100%	2.03	42%	1.39 fawns/doe
1981 (N=132)	Fawn	50%	1.06	36%	
	Yearling	95%	1.75	22%	
	Adult	97%	1.96	42%	1.38 fawns/doe
1980 (N=108)	Fawn	63%	1.06	35%	
	Yearling	92%	1.64	21%	
	Adult	93%	1.95	44%	1.34 fawns/doe
1979 (N=176)	Fawn	36%	1.21	34%	
	Yearling	94%	1.71	22%	
	Adult	92%	2.03	44%	1.32 fawns/doe
1978 (N= 48)	Fawn	38%	1.25	36%	
	Yearling	93%	1.31	23%	
	Adult	100%	1.95	41%	1.25 fawns/doe

<sup>a</sup> Gross productivity calculated as pregnancy rate x fetuses/pregnancy weighted by the proportion of each age class in the sample.

Table 8. Deer densities in the farmland zone, 1982<sup>a/</sup>.

DMU	Deer per square mile		Goal		Bucks:does
	Spring	Fall	Spring	Fall	
<u>Red River</u>					
East	2.60	4.32	2.02	3.34	40:60
West	1.00	1.68	0.76	1.25	39:61
<u>Agassiz</u>	4.74	7.56	4.39	7.25	41:59
<u>Big Woods</u>					
North	3.97	6.49	3.60	5.94	42:58
Central	5.33	8.67	4.55	7.51	41:59
Metro	2.05	3.33	1.87	3.09	41:59
SE	7.36	12.00	5.47	9.29	41:59
<u>Prairie</u>					
North	2.10	3.48	1.30	2.14	41:59
River	2.51	4.15	1.45	2.39	41:59
SW	1.76	2.93	1.11	1.83	41:59
SE	1.51	2.51	1.12	1.84	40:60
<u>Farmland</u>	3.16	5.17	2.46	4.08	

<sup>a/</sup> Based on population modeling.



FOREST WILDLIFE



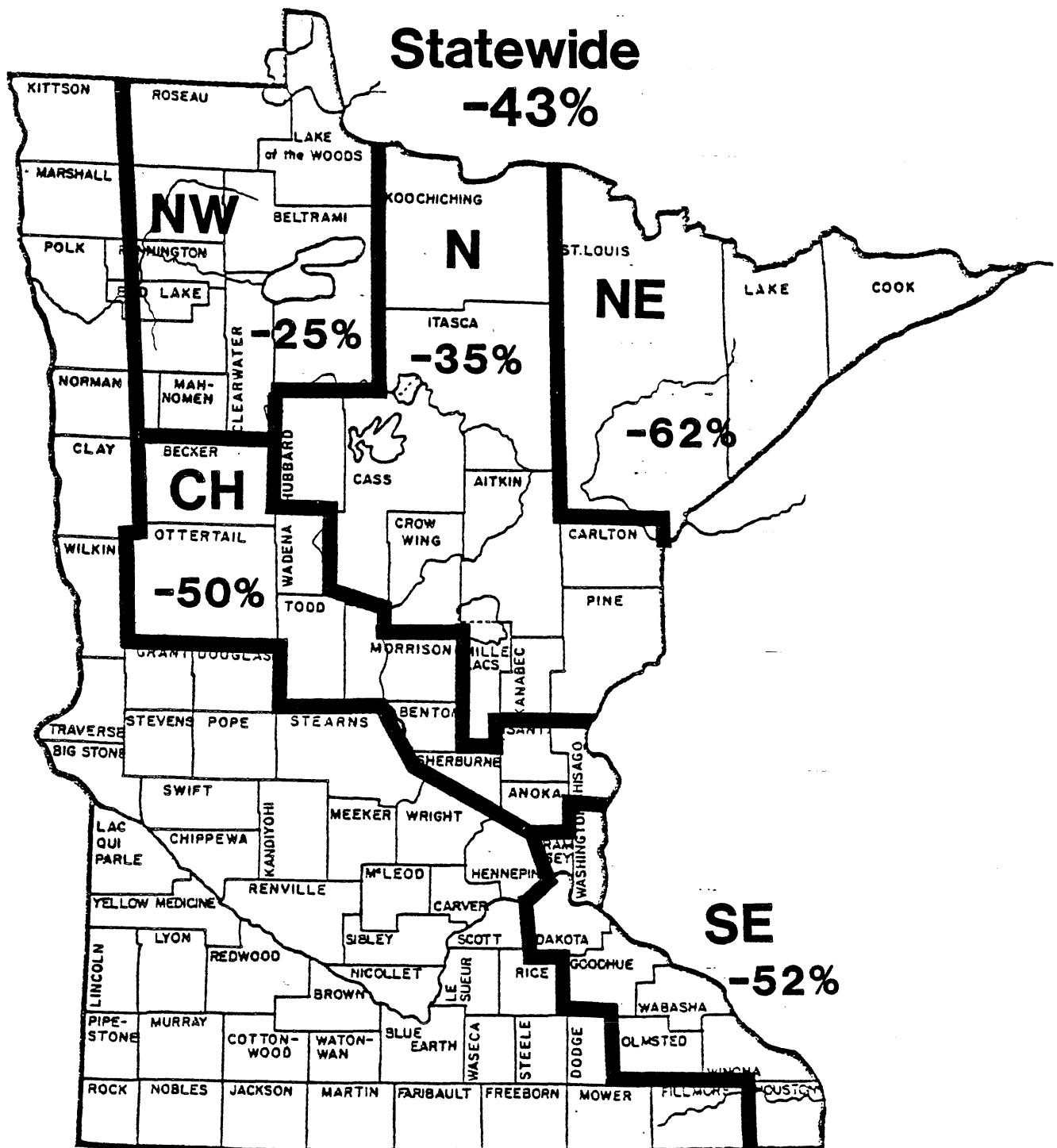


Figure 4. Changes from 1981-1982 in average numbers of ruffed grouse drums per stop on roadside counts.

Table 9. Mean number of ruffed grouse drums per stop by zone,  
1949-1982.

Year	REGION					Range-wide mean
	Northwest	North	Northeast	Central hardwoods	Southeast	
1949		1.6				1.6
1950		1.8				1.8
1951		2.4				2.4
1952		2.8				2.8
1953		1.8				1.8
1954		1.1				1.1
1955		0.7				0.7
1956		1.2		1.7		1.2
1957		1.7	0.4	2.9		1.5
1958		2.1	0.7	1.7		1.9
1959		2.0	0.4	1.7		1.1
1960		1.9	0.5	1.3	0.7	1.6
1961		2.0	0.9	1.1	0.2	1.7
1962		2.3	0.5	1.6	0.5	1.9
1963		0.6	0.5	0.4	2.1	0.6
1964		0.7	0.9	0.3	1.3	0.6
1965		1.3	0.7	0.5	1.4	1.0
1966		1.3	0.6	0.7	1.9	1.0
1967		2.0	1.2	1.0	1.0	1.7
1968		2.6	1.6	1.0	1.3	2.0
1969		2.8	1.4	1.4	2.3	2.2
1970		3.1	0.9	1.6	2.1	2.2
1971		3.3	1.2	1.6	3.7	2.4
1972		3.4	1.0	2.0	3.1	2.6
1973	1.3	1.3	1.0	0.9	3.6	1.2
1974	0.8	1.1	0.6	0.7	3.0	1.0
1975	1.3	1.4	0.8	0.8	2.0	1.2
1976	0.8	1.5	0.4	0.9	1.8	1.1
1977	1.0	1.6	0.5	0.9	2.4	1.1
1978	2.0	2.4	0.8	1.4	2.5	1.8
1979	1.7	2.2	0.7	1.3	2.1	1.6
1980	1.9	2.2	0.7	1.9	2.7	1.7
1981	1.2	1.7	0.8	1.8	2.3	1.4
1982	0.9	1.1	0.3	0.9	1.1	0.8

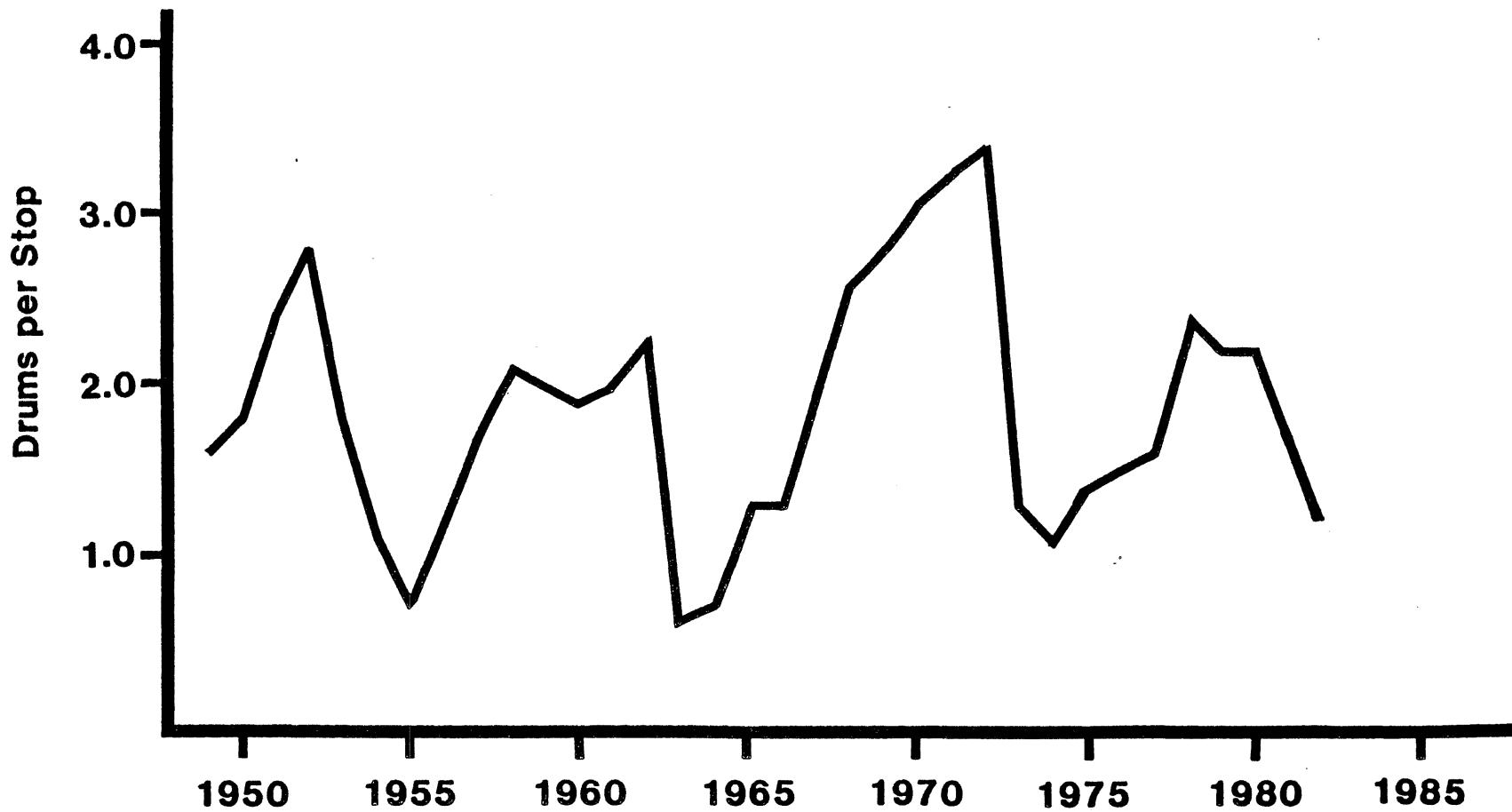


Figure 5. Mean drums/stop on roadside ruffed grouse drumming counts in the North census zone, 1949-1982.

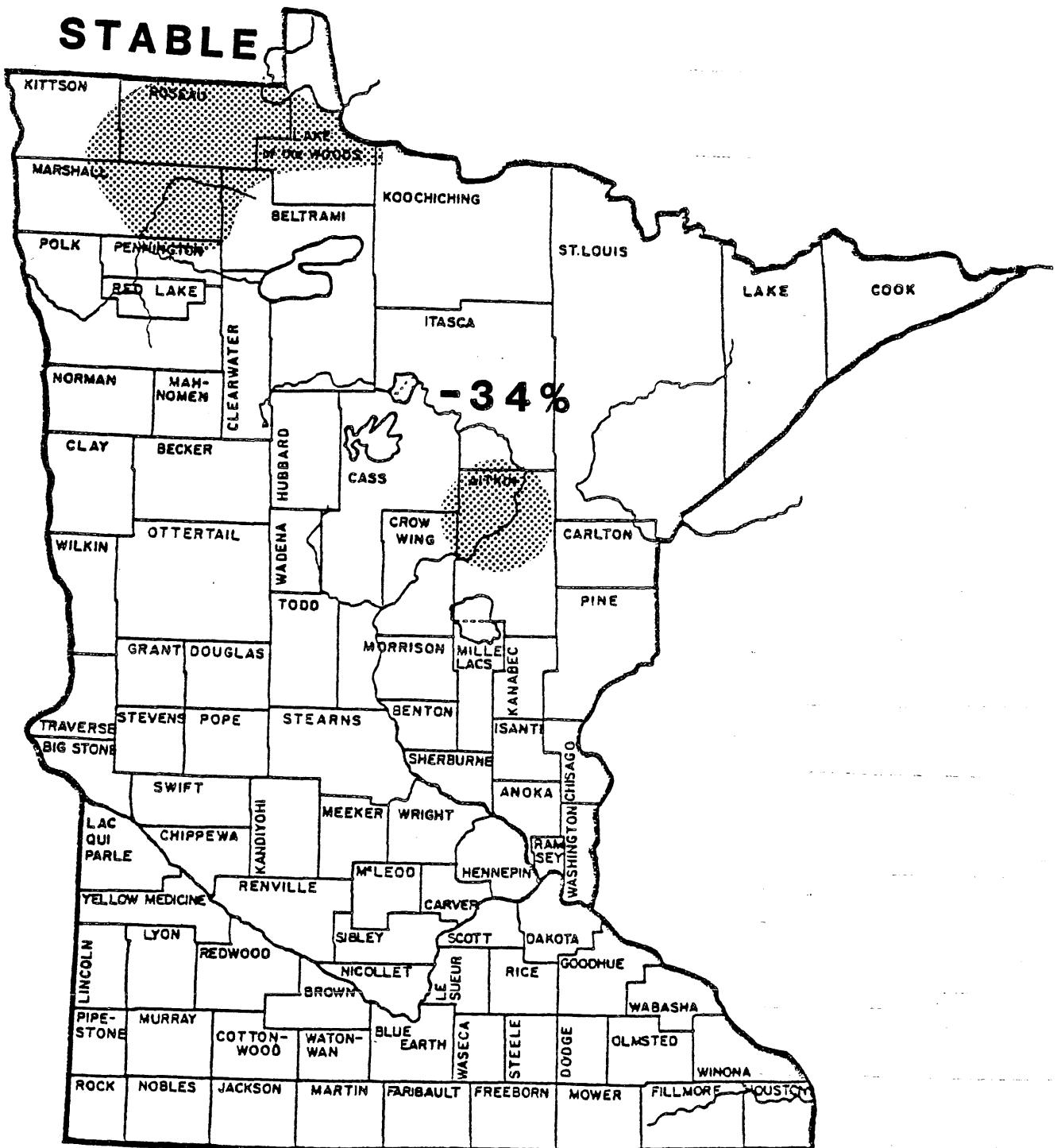


Figure 6. Changes in numbers of dancing male Sharp-tailed grouse on census areas, 1981-1982.

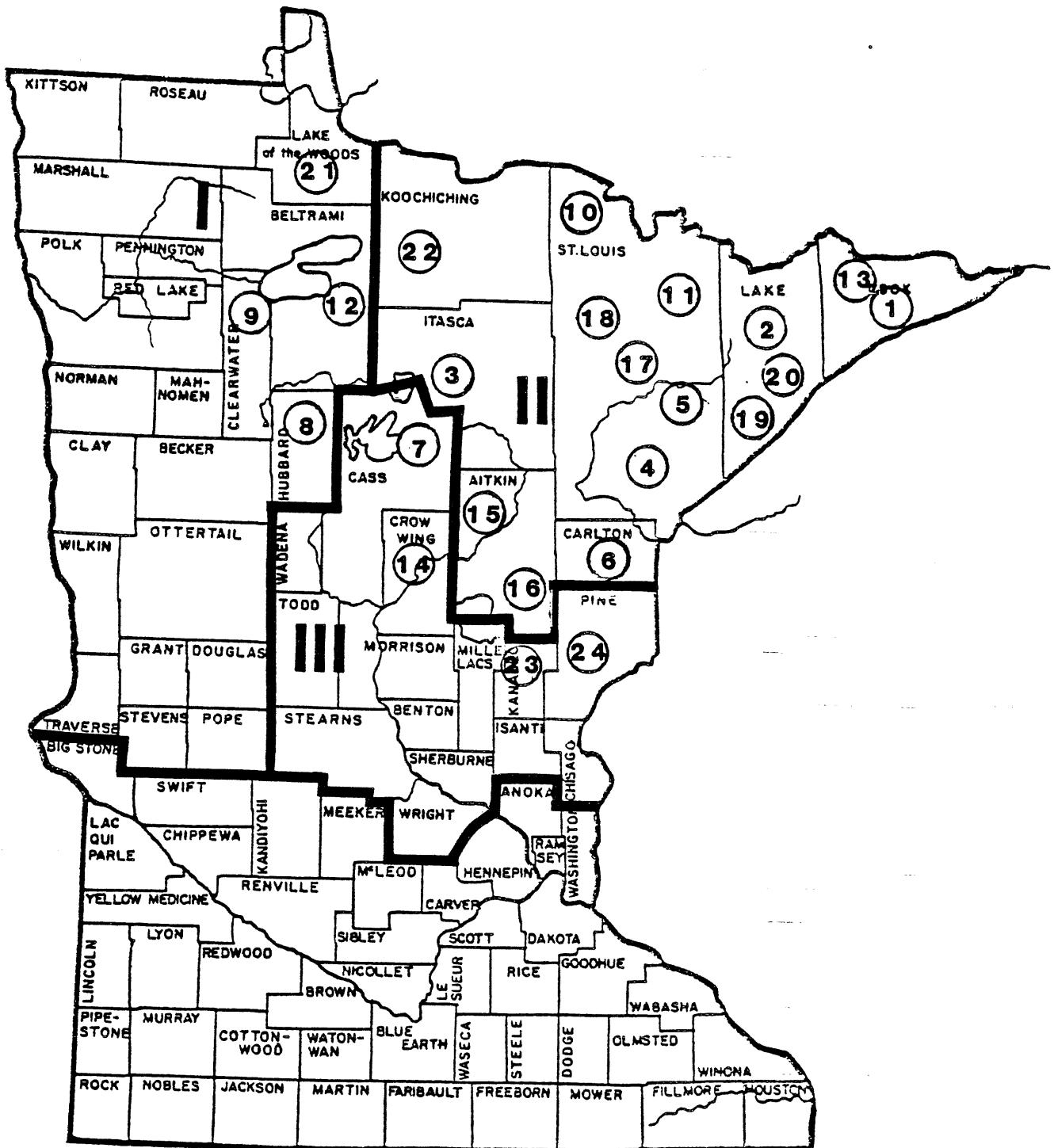


Figure 7. Approximate location of 24 aerial beaver census routes, within DNR Regions I-III.

Table 10. Live beaver colonies per mile of census route in northern Minnesota, 1971-1981.

Route number	Route name	Year											
		1971	1972	1973	1974	1975	1976	1977	1978	1979	1980		
1	Cascade			1.12	0.44	0.55	1.12	0.52	0.39	1.07	0.42	0.43	
2	Kawishiwi	0.73	1.12	0.92	0.33	0.95		0.73	0.97	0.68	0.75	0.50	
3	Itasca	0.58	0.43	0.22	0.46	0.80	0.60	0.74	1.04	0.66	0.63	0.48	
4	South St. Louis	0.51	0.33		0.48	0.74	0.63	0.76	0.99		0.64	0.74	
5	Central St. Louis	0.44	0.66	0.78	0.60	1.23			1.02	0.95	0.90	0.95	
6	Carlton & Pine	0.25	0.30	0.33	0.45	0.56	0.26	0.69	0.89	0.60	0.83	0.67	
7	Cass	0.63	0.51	0.19	0.37	0.80	0.57	0.83	1.03	1.00	0.95	0.53	
8	Balsam-Hennepin	0.42	0.37	0.31	0.60	0.40	0.28	0.51	0.39	0.55	0.44	0.43	
9	Pinewood-Mississippi	0.30	0.30	0.16	0.56	0.32	0.33	0.55	0.32		0.38	0.39	
10	Kabetogama Peninsula	2.53	1.34	1.52	2.20	2.21	2.39	2.14	2.91	3.05	2.52	3.55	
11	Ely-Finger Lakes	1.00	1.21	1.32	0.92	1.85		1.41	1.59	1.26	1.06	0.98	
12	Hay Creek-Kelliher	0.44	0.36	0.40	0.78	0.48	0.46	0.68	0.44		0.43	0.48	
13	Cook County Transect	0.27	0.21	0.23	0.57	0.36	0.30	0.49			0.23	0.40	
14	Cass-Crow Wing	0.38	0.21	0.43	0.67	0.43	0.59	0.70	0.68	0.78	0.61		
15	Little Willow-Aitkin	0.29	0.36	0.18	0.24	0.35		0.42	0.45	0.47	0.44	0.38	
16	East Aitkin County				0.52	0.62	0.47	0.89	1.14	0.96	0.72	0.52	
17	West Vermilion	0.51	0.38	0.24	0.67	0.93	0.54	1.03	1.25	1.12	0.96	1.05	
18	Blackduck	0.41	0.59	0.55	0.92	1.41	0.97	1.24	1.54	1.31	1.09	1.22	
19	Splitrock		0.82		1.11	1.45	1.21	1.14	1.45		1.07	---	
20	Isabella		0.24	0.30	0.58	0.80	0.73	0.66	0.66	0.68	0.60	0.65	
21	Red Lake-Pine Island				0.62	0.51	0.44	0.63	0.44	0.73	0.40	0.41	
22	Northome					0.40	0.61	0.53	0.75	0.75	0.85	0.86	0.91
23	Kanabec County					0.78	0.61	0.65	0.84	0.59	0.55	0.70	0.48
24	Southern Pine					0.92	0.91	0.88	0.85	0.74	0.88	0.93	0.58
	DNR Region I	0.39	0.34	0.29	0.64	0.43	0.38	0.59	0.40	0.64	0.41	0.43	
	DNR Region II	0.73	0.66	0.58	0.67	1.01	0.77	0.89	1.14	1.05	0.86	0.90	
	DNR Region III	0.63	0.45	0.20	0.63	0.75	0.63	0.78	0.77	0.78	0.84	0.55	

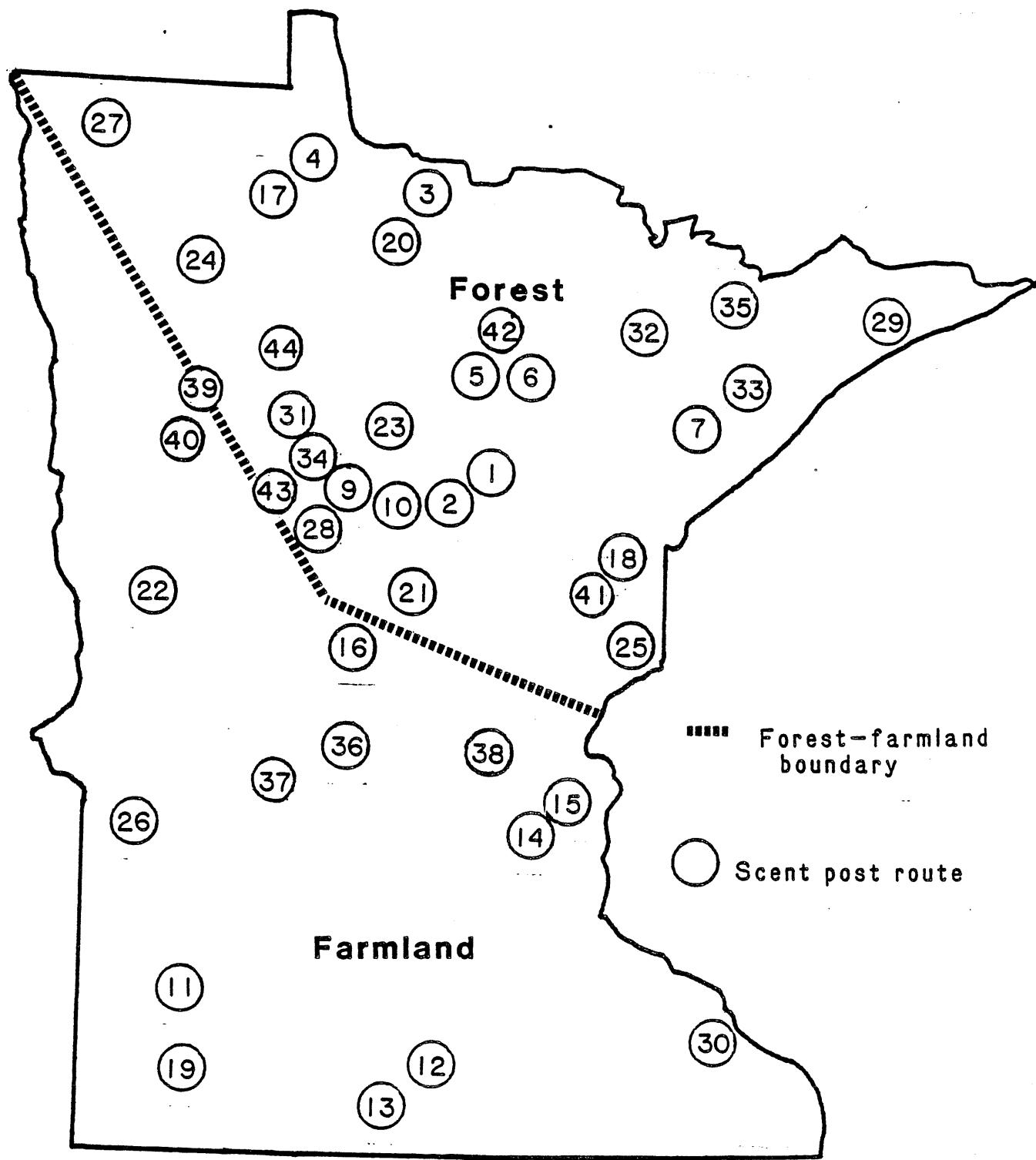


Figure 8. Location of 43 scent post routes in Minnesota.  
The following routes were not censused in 1981:  
11, 19, 25, 28, 31, 36, 37, 39 and 40.

Table II. Scent post indices<sup>a</sup> for 34 routes run in Minnesota, 1981.

Species	ROUTE NUMBERS																																	
	1	2	3	4	5	6	7	9	10	12	13	14	15	16	17	18	20	21	22	23	24	26	27	29	30	32	33	34	35	38	41	42	43	44
Coyote	36	31	47	15	57	50	5	7	16					230	5	10	182	45	20	26	5	86	21	65	50	20	80	163						
Timber wolf		47			30	56																	10	5	10			10	30					
Red fox	10	15	280	126	10	40	102	141	5	5	36	60	46	10	40	95	66	15	22	10	354	149	104	131	117	5	131	60	80	45	30	181	30	20
Gray fox															5									73								5		
Bobcat	5					10								210	15							5		41				15	32					
Skunk	207	178	36	90	139	150		162	109	5	15	80	36	5	55	61	25	109	116	246	31	57	20	51		161	50	60	207	121	138			
Black bear	5	5	15	5	5	7	16							5	25	30	30	5				26	5	5	10	5	16							
Badger		5												5		33					5			5						5				
Raccoon	10	10		10		114	85		100	15	120		25	40	11	25	10	15	16	78		5	181	45		5	10							
Fisher	5	10												5								5	5											
Weasel														5		5	5	22					15	10										
Mink	15	135	5											260	5	15	10	10	45	5	26	7	10			15	10							
Domestic dog	16	117	5	45	10	7	78	37	46	30	204			15	5	54	10	41	10	22			25	40	5	5	10							
Domestic cat	5	20		35	31		26	78	71	128				15	60	54	35	20	26	51			30	105	45									

<sup>a</sup>Index =  $\frac{\text{Total visits}}{\text{operable nights}} \times 1000$

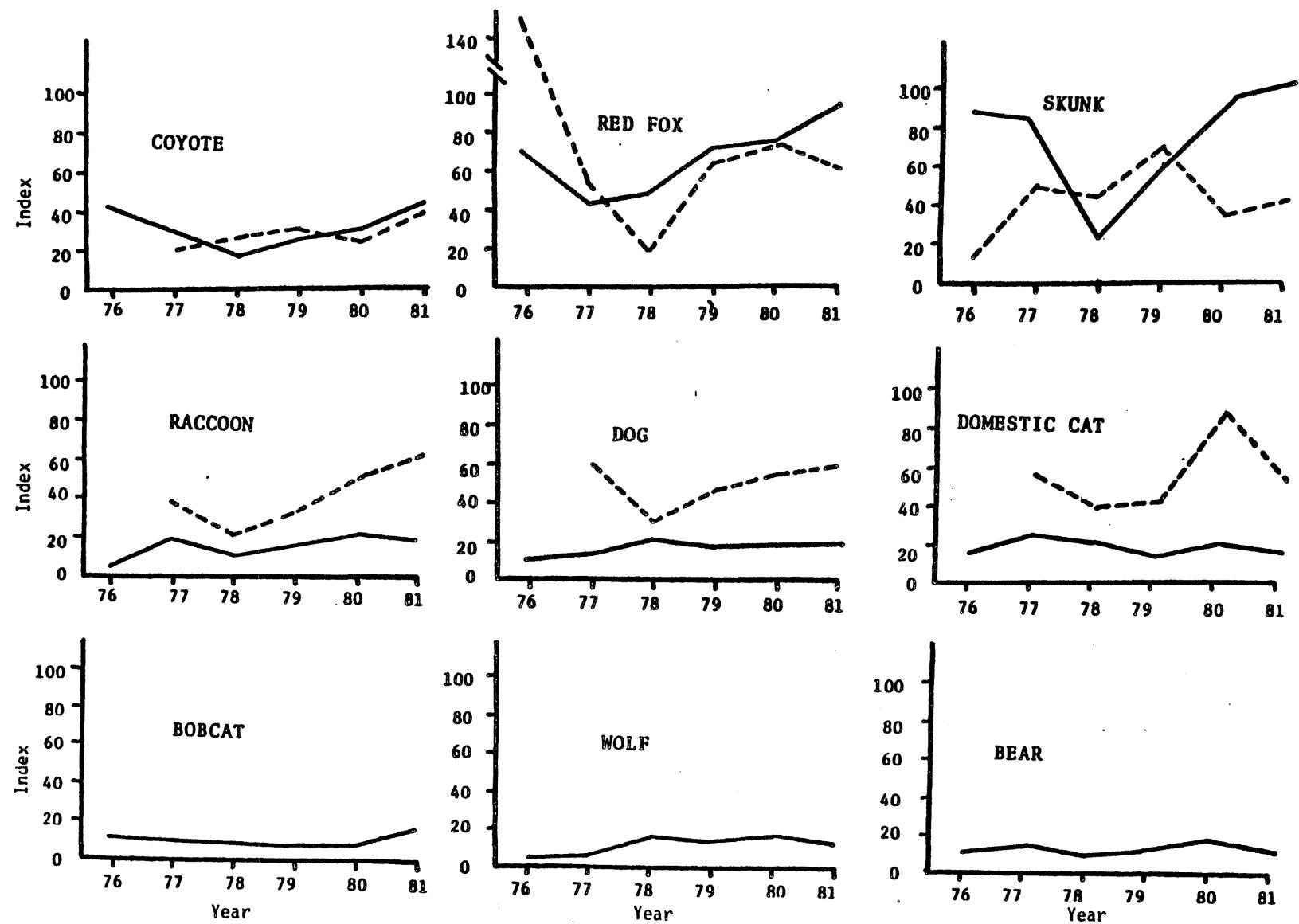


Figure 9. Mean scent post indices ( $1000 \times$  total visits/operable nights) for nine species in the Forest (solid line) and Farmland (dashed line) census zones, 1976-1981.

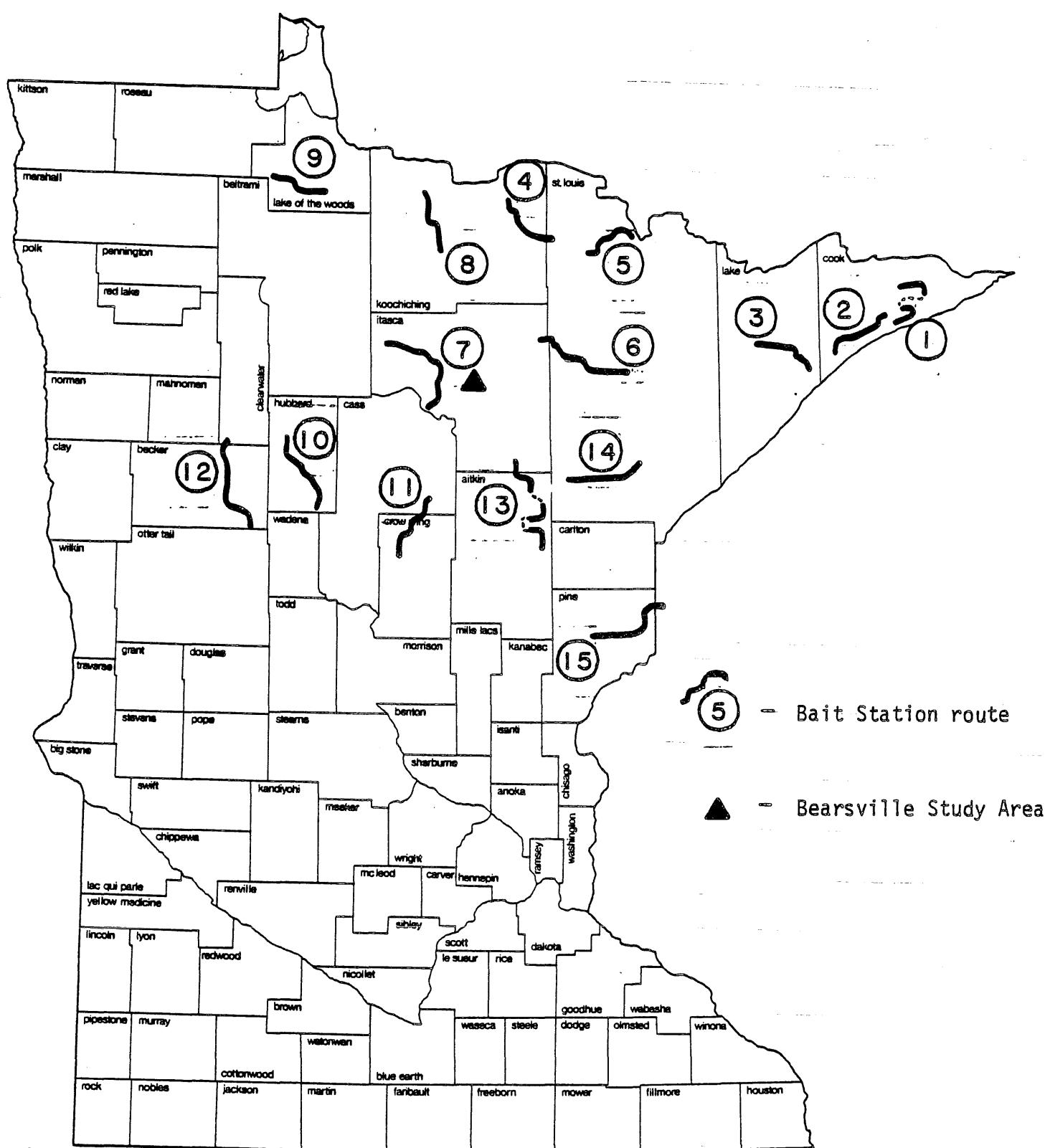


Figure 10. Approximate locations of 15 black bear bait station routes and the Bearsville Study Area.

Table 12. Bear bait post survey; percent of bait stations visited by bear, 1980-1982.

Bear Management Unit	Route Number	1980 <sup>1</sup>	1981	1982
Northeast	1	14	28	22
	2	32	22	14
	3	<u>10</u>	<u>2</u>	<u>37</u>
	Average	19	17	24
North Central	4	24	56	22
	5	26	54	31
	6	20	27	17
	7	<u>22</u>	<u>44</u>	<u>18</u>
	Average	23	45	22
Northwest	Study Area Route	13	45	69
	8	16	14	6
	9	<u>20</u>	<u>40</u>	<u>16</u>
	Average	18	27	11
West Central	10	6	22	26
	11	4	22	12
	12	<u>10</u>	<u>44</u>	<u>22</u>
	Average	7	29	20
East Central	13	12	32	24
	14	10	4	16
	15	<u>6</u>	<u>32</u>	<u>24</u>
	Average	9	23	21

<sup>1</sup> 1980 routes were not run simultaneously.

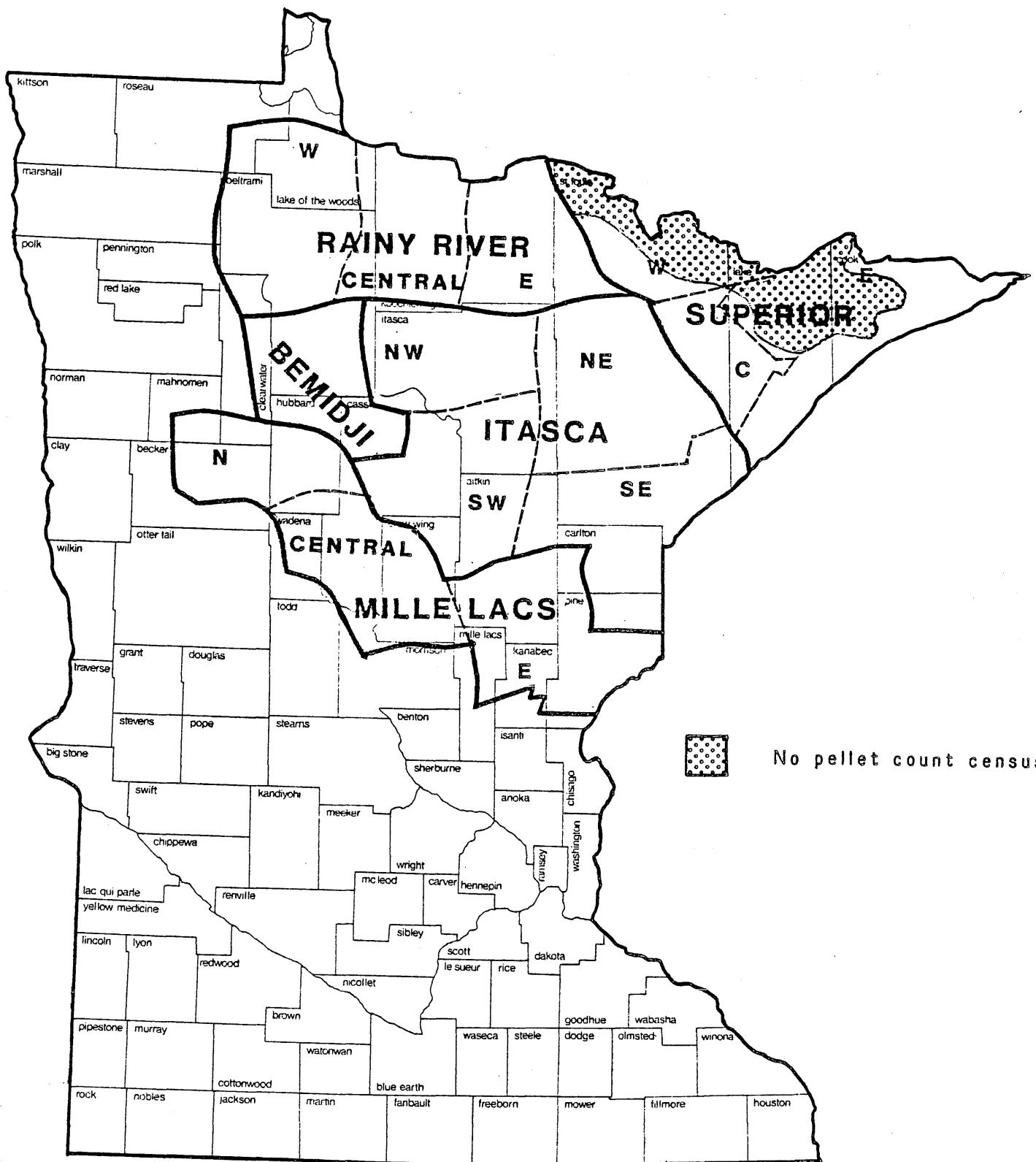


Figure 11. Forest deer management units and subunits.

Table 13. Spring (pre-fawning) estimates of deer per square mile as determined by pellet counts, 1976-1982.

DMU	Year						
	1976	1977	1978	1979	1980	1981	1982
<b>Itasca</b>							
NW	10.1 ± 3.5	16.7 ± 4.0	16.3 ± 4.5	16.6 ± 3.9	16.8 ± 3.9	22.9 ± 4.3	22.4 ± 4.5
SW	7.4 ± 2.5	9.0 ± 2.4	12.7 ± 3.7	14.1 ± 4.3	14.5 ± 4.1	16.9 ± 4.7	17.3 ± 4.8
NE	12.4 ± 3.8	17.2 ± 3.8	16.2 ± 3.3	17.3 ± 4.1	15.1 ± 3.6	16.7 ± 3.8	14.1 ± 3.5
SE	6.6 ± 2.4	11.4 ± 3.9	13.2 ± 4.2	13.6 ± 5.0	12.0 ± 5.2	18.1 ± 5.3	10.8 ± 4.2
<b>Rainy River</b>							
West	10.9 ± 3.3	17.2 ± 4.5	7.4 ± 5.3	12.5 ± 3.6	10.9 ± 3.7	-----	13.9 ± 6.0
Central	9.0 ± 3.0	10.4 ± 5.2	9.5 ± 5.2	11.2 ± 3.5	8.2 ± 2.6	-----	11.4 ± 6.1
East	9.3 ± 2.8	12.4 ± 5.4	10.6 ± 5.4	14.4 ± 7.4	21.8 ± 6.9	19.1 ± 5.1	8.9 ± 3.2
<b>Mille Lacs</b>							
West	10.4 ± 2.7	13.3 ± 3.7	7.4 ± 2.3	11.0 ± 2.8	12.4 ± 3.3	17.8 ± 4.7	18.0 ± 5.2
Central	9.1 ± 3.2	11.9 ± 4.1	9.7 ± 4.7	9.3 ± 3.6	7.6 ± 2.4	11.3 ± 4.1	17.4 ± 4.8
East	7.0 ± 2.3	9.0 ± 2.2	14.9 ± 3.2	16.5 ± 4.7	9.4 ± 2.5	14.0 ± 2.8	14.1 ± 3.7
<b>Superior<sup>a</sup></b>							
West				20.0 ± 5.2	15.1 ± 3.4	21.4 ± 5.0	15.4 ± 2.9
Central				12.1 ± 4.9	10.2 ± 3.3	15.2 ± 5.6	16.2 ± 10.2
East				4.8 ± 1.6	4.8 ± 1.7	-----	-----
<b>Bemidji</b>							
					11.4 ± 3.5	17.7 ± 5.4	

<sup>a</sup> No pellet counts were conducted in the Boundary Waters Canoe Area or the Voyageurs National Park.

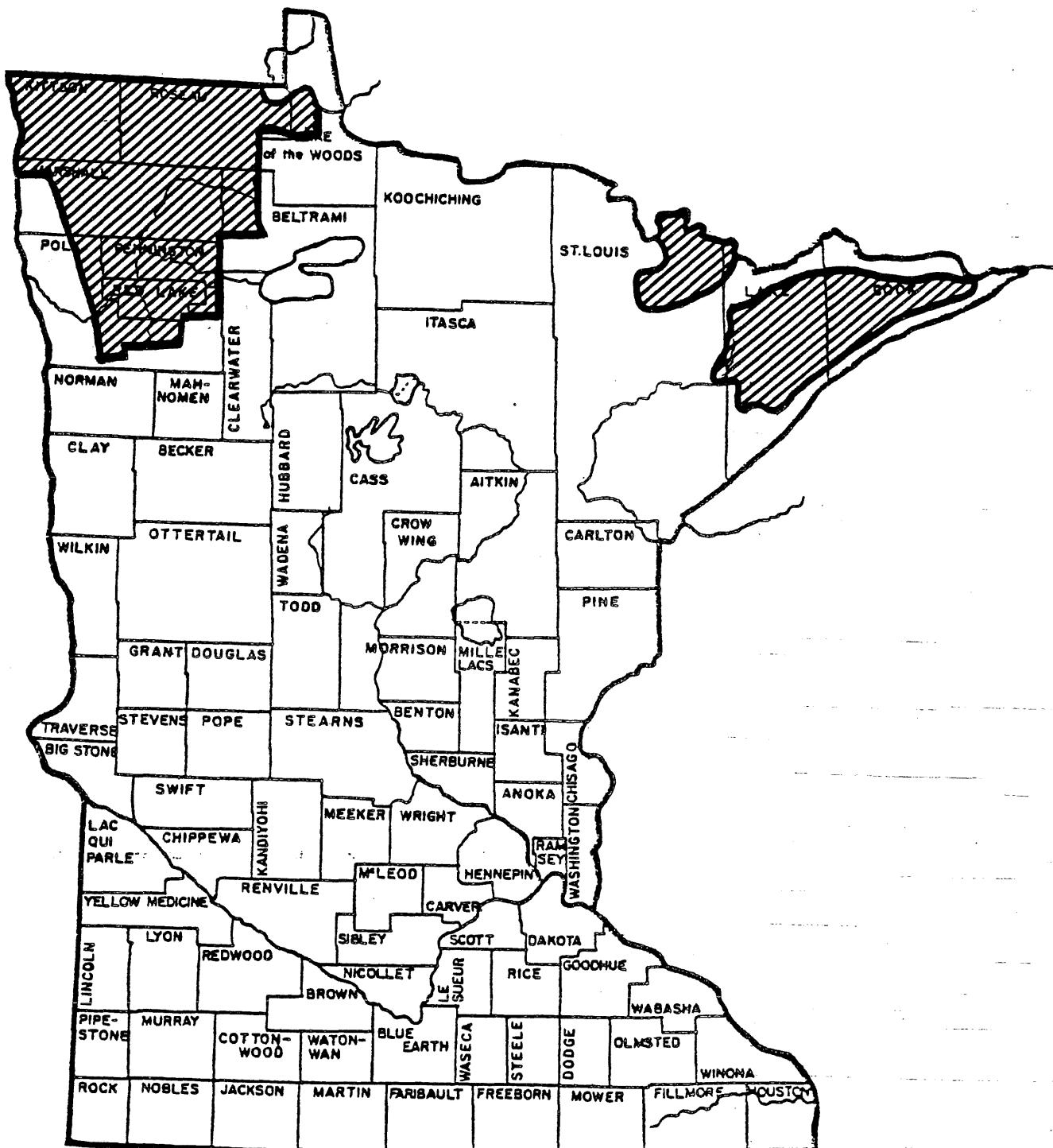


Figure 12. Location of northwest and northeast moose census and hunting zones.

Table 14. Moose aerial census estimates in the 2 northern moose areas, 1966-1981.

Year	Total moose seen	Calf/Calf-Cow	Net productivity	Area (Sq. mi.)	Population estimate
<u>Northeast moose zones</u>					
1966 - 67	490	1.041	10.4 %	5412	3357 ± 1427
1968 - 69	208	1.115	13.9 %	4896	1872 ± 732
1970 - 71	324	1.100	13.6 %	5412	2631 ± 989
1971 - 72	403	1.290	19.9 %	4896	2993 ± 982
1972 - 73	467	1.139	17.6 %	5508	1663 ± 449
1973 - 74	630	1.327	11.0 %	5508	2207 ± 783
1974 - 75	703	1.179	14.1 %	5508	2179 ± 455
1975 - 76	432	1.154	13.9 %	6138	2399 ± 653
1976 - 77	530	1.211	20.6 %	6138	3469 ± 1405
1977 - 78	337	1.094	10.4 %	6138	1385 ± 368
1978 - 79	905	1.182	17.2 %	6138	4450 ± 1064
1979 - 80	836	1.109	13.4 %	5868	4492 ± 1011
1980 - 81	828	1.246	17.2 %	5868	4742 ± 1157
1981 - 82	920	1.119	16.3 %	5868	4986 ± 1117
<u>Northwest moose zones</u>					
1970 - 71	287	1.391	33.5 %	2665	1993 ± 628
1971 - 72	406	1.130	21.4 %	2664	2367 ± 639
1972 - 73	481	1.155	23.3 %	5364	3144 ± 550
1973 - 74	431	1.262	31.3 %	5364	2671 ± 534
1974 - 75	539	1.128	27.8 %	5364	3539 ± 1044
1975 - 76	675	1.160	24.7 %	5274	2396 ± 494
1976 - 77	782	1.145	24.2 %	5274	3538 ± 1210
1977 - 78	602	1.083	19.6 %	5613	2515 ± 619
1978 - 79	469	1.137	23.0 %	5613	2158 ± 464
1979 - 80	510	1.176	27.5 %	5613	2808 ± 604
1980 - 81	746	1.016	25.5 %	5706	3294 ± 639
1981 - 82	762	1.274	31.8 %	5706	3402 ± 592



MIGRATORY BIRDS



Table 15. Estimated number of breeding ducks in Minnesota based on spring aerial census transects, 1975-1982.

Species	Year	Unadjusted population index	Visibility factor	Adjusted population estimate
Mallard	1975	91,458	1.60	146,000
	1976	84,069	1.81	152,000
	1977	96,164	2.27	218,000
	1978	70,145	2.70	189,000
	1979	73,226	2.70	198,000
	1980	114,493	1.99	228,000
	1981	92,009	2.19	201,000
	1982	64,793	2.66	172,000
	1975	50,962	3.20	163,000
	1976	93,116	4.16	387,000
Blue-winged teal	1977	41,666	5.26	219,000
	1978	30,680	8.33	256,000
	1979	49,919	4.54	227,000
	1980	57,710	6.25	360,000
	1981	69,210	4.17	289,000
	1982	49,167	6.45	317,000
	1975	56,026	3.60	181,000
	1976	66,914	2.41	158,000
	1977	32,250	4.34	139,000
	1978	41,520	4.16	170,000
Other ducks <sup>/1</sup>	1979	46,745	3.70	173,000
	1980	60,684	2.77	168,000
	1981	53,601	3.37	181,000
	1982	59,821	5.18	310,000
	1975	198,446	--	490,000
	1976	244,099	--	697,000
	1977	170,080	--	576,000
	1978	142,345	--	615,000
	1979	169,890	--	598,000
	1980	237,785	--	756,000
	1981	214,820	--	671,000
	1982	173,780	--	799,000

<sup>/1</sup> The unusually late cold spring in 1979 resulted in large numbers of lesser scaup being present in the state. These are not locally breeding birds. The 1979 total excludes 158,000 lesser scaup.

The 1982 total also includes a large number of scaup - 120,000.

Table 16. Number of mallard breeding pairs in Minnesota as indicated by spring aerial transects, 1951-1982.

Year	Breeding pairs <sup>a</sup>
1951	42,000
1963	45,000
1964	46,000
1965	35,000
1966	56,000
1967	68,000
1968	57,000
1969	50,000
1970	56,000
1971	48,000
1972	34,000
1973	55,000
1974	52,000
1975	73,000
1976	76,000
1977	109,000
1978	94,000
1979	99,000
1980	114,000
1981	101,000
1982	86,000

<sup>a</sup> Population estimates are adjusted based on air/ground (visibility) factor.

Table 17. U.S. breeding population estimates for 10 species of ducks, 1955-82 (in thousands)<sup>/a</sup> (taken from: U.S. Fish & Wildlife Service/Canadian Wildlife Service. 1982. 1982 Status of waterfowl and fall flight forecast; July 26, 1982. U.S.F.W.S. Admin. Rep. 26pp.).

Year	Mallard	Gadwall	American wigeon	Green-winged teal	Blue-winged teal	Northern shoveler	Pintail	Redhead	Canvasback	Scaup
1955	10,345	1,106	3,333	2,076	6,436	1,965	9,251	733	595	7,100
1956	11,711	1,202	3,712	1,898	6,267	2,084	10,124	928	692	6,595
1957	10,946	1,102	3,208	1,293	5,449	1,744	6,856	684	600	6,535
1958	12,904	687	3,372	1,618	5,799	1,515	6,889	524	713	6,040
1959	10,292	683	3,779	3,153	5,300	1,649	7,228	641	481	8,220
1960	8,206	873	3,165	1,630	4,303	1,859	5,769	542	575	5,566
1961	8,290	1,422	3,219	2,216	4,833	1,625	4,860	437	396	6,764
1962	6,144	1,610	2,721	1,119	3,890	1,633	4,299	664	385	6,398
1963	7,360	1,578	2,209	1,754	4,587	1,435	4,361	396	523	6,564
1964	6,974	1,223	2,630	2,051	4,943	1,685	4,111	560	658	6,326
1965	5,948	1,692	2,695	1,526	4,628	1,607	4,301	568	505	5,383
1966	7,401	1,976	2,901	2,219	5,616	2,272	5,777	747	683	5,421
1967	8,205	1,638	2,637	1,944	4,715	2,244	5,870	846	556	5,877
1968	7,586	2,098	2,783	1,805	3,697	1,811	4,225	502	557	5,971
1969	8,065	1,837	3,192	1,991	4,514	2,150	6,390	759	530	6,338
1970	10,379	1,698	3,752	2,259	5,633	2,269	7,004	834	601	6,930
1971	9,843	1,733	3,425	2,352	5,426	2,052	6,291	693	441	6,149
1972	9,867	1,776	3,428	2,407	5,673	2,505	7,875	489	429	9,527
1973	8,781(1) <sup>/b</sup>	1,198	3,665	2,444	4,866	1,657	5,114	754	696	7,535
1974	7,392(1)	1,562	3,003	2,221	5,437	2,060	7,165	613	493	7,045
1975	8,109(1)	1,672	2,862	2,038	6,441	1,994	6,387	974	706	7,846
1976	8,637(1)	1,478	2,699	1,844	5,023	1,818	6,045	946	686	6,973
1977	8,226(1)	1,546	2,678	1,952	4,626	1,616	4,971	688	702	7,490
1978	7,695(1)	1,593	3,808	2,978	4,497	2,162	5,664	833	423	7,125
1979	8,444(1)	1,889	3,388	2,920	5,278	2,555	6,070	774	606	9,135
1980	8,003(2)	1,459	3,857	2,925	4,903	2,050	5,420	1,146	688	7,690
1981	6,757(2)	1,479	3,555	2,515	4,076	2,403	4,227	825	594	7,253
1982	6,684(1)	1,690	3,159	2,247	3,879	2,540	4,112	674	543	6,549
1955-81 Ave.	8,611	1,474	3,173	2,117	5,069	1,941	6,020	707	575	6,881
Percent Change in 1982 from:										
1981	-1	+14	-11	-11	-5	+6	-3	-18	-9	-10
1955-81 Ave.	-22	+15	NC	+6	-23	+31	-32	-5	-6	-5

<sup>/a</sup> All duck indexes adjusted for visibility bias.

<sup>/b</sup> Percent increase ( ) due to inclusion of Wisconsin.

Table 18. Summary of the number of May (adjusted for visibility) and July ponds in the southern portions of Alberta, Saskatchewan, and Manitoba, 1961-1982 (Taken from: U.S. Fish and Wildlife Service/Canadian Wildlife Service. 1982. 1982 Status of waterfowl and fall flight forecast; July 26, 1982. U.S.F.W.S. Admin. Rep. 26pp.).

Year	May Ponds (thousands)	July Ponds (thousands)	% of Ponds Remaining
1961	2,006	562	28.0
1962	2,531	814	32.2
1963	2,499	1,813	72.5
1964	3,445	1,308	38.0
1965	4,415	2,231	50.5
1966	4,672	1,979	42.4
1967	4,732	1,498	31.7
1968	1,938	803	41.4
1969	3,530	1,658	47.0
1970	4,957	2,613	52.7
1971	4,096	2,017	49.2
1972	4,065	1,313	32.3
1973	2,937	1,736	59.1
1974	6,693	2,753	41.1
1975	6,267	2,410	38.5
1976	5,057	2,137	42.3
1977	2,278	1,391	61.1
1978	3,622	1,520	42.0
1979	4,859	1,803	37.1
1980	2,141	899	42.0
1981	1,443	876	60.7
1982	3,184	1,662	52.2
1961-81 Average	3,723	1,625	44.8
% change in 1982 from:			
1981	+ 121	+ 90	- 14
1961-81 Average	- 14	+ 2	+ 17

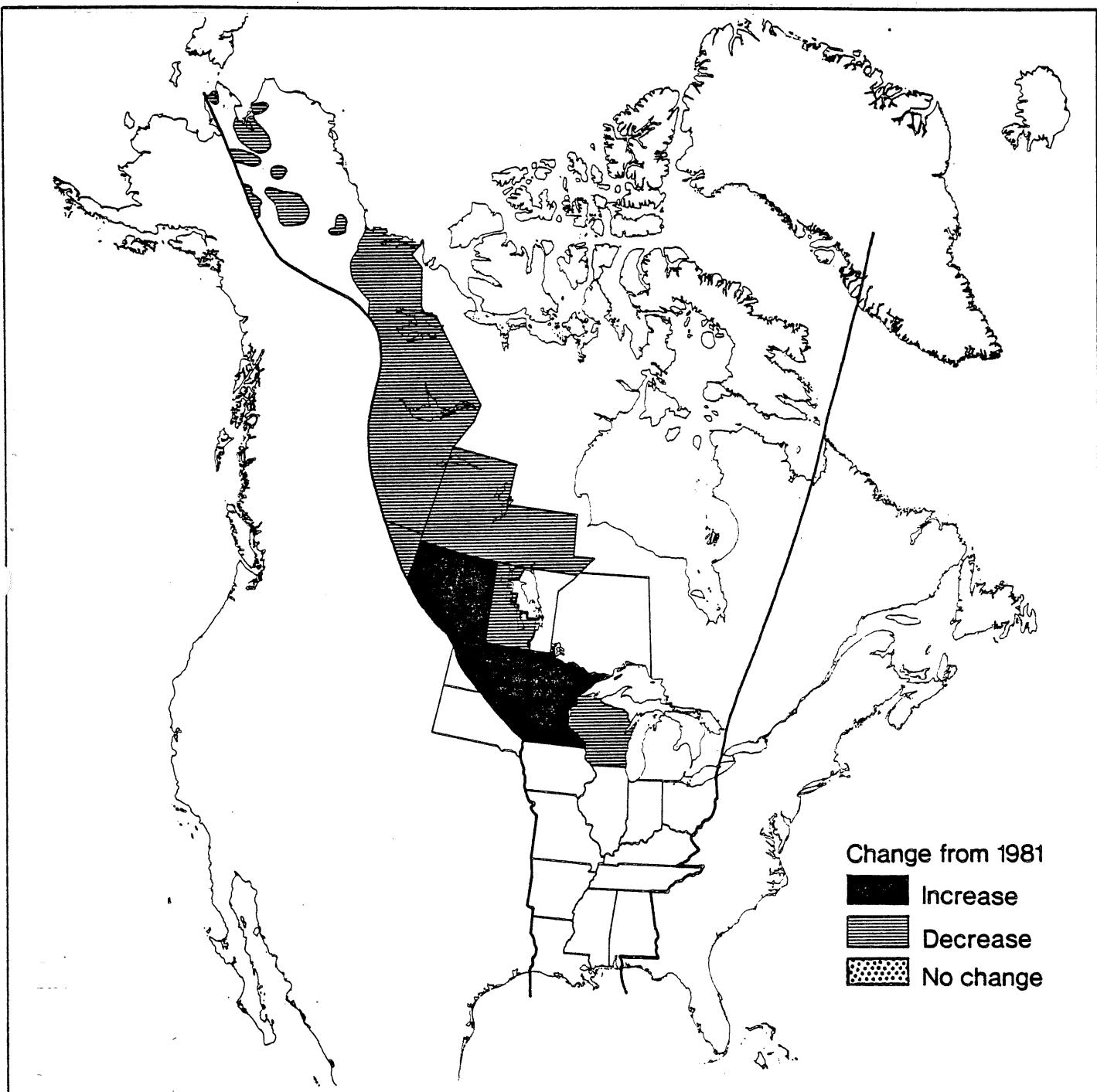


Figure 13. Fall duck flight forecast for the Mississippi Flyway, 1982  
(Taken from: U.S. Fish & Wildlife Service/Canadian Wildlife Service. 1982. 1982 Status of waterfowl and fall flight forecast; July 26, 1982. U.S.F.W.S. Adm. Rep. 26pp.).

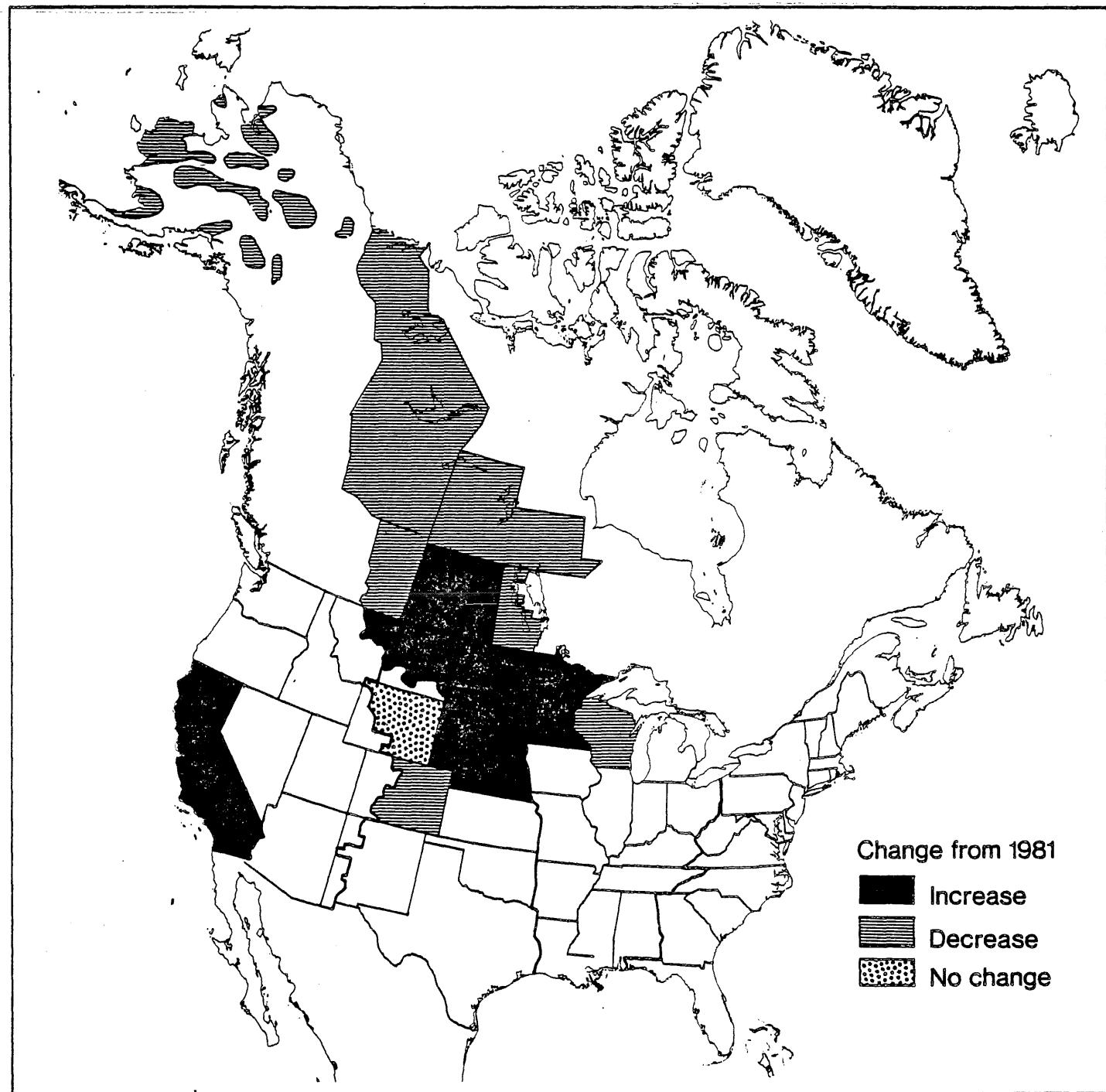


Figure 14. Fall duck flight forecast, 1982 (Taken from: U.S. Fish & Wildlife Service/Canadian Wildlife Service. 1982. 1982 Status of waterfowl and fall flight forecast; July 26, 1982. U.S.F.W.S. Adm. Rep. 26pp.).

Table 19. Winter population estimates (post hunting season) of the Canada goose eastern prairie flock, 1963-1981 (taken from: U.S. Fish & Wildlife Service/Canadian Wildlife Service. 1982. 1982 Status of waterfowl and fall flight forecast; July 26, 1982. U.S.F.W.S. Admin. Rep. 26pp.).

Year	Population
1963	110,000
1964	103,000
1965	104,000
1966	121,000
1967	145,000
1968	134,000
1969	107,000
1970	121,000
1971	152,000
1972	177,000
1973	187,000
1974	188,000
1975	199,000
1976	254,000
1977	270,000
1978	207,000
1979	172,000
1980	151,000
1981	145,000

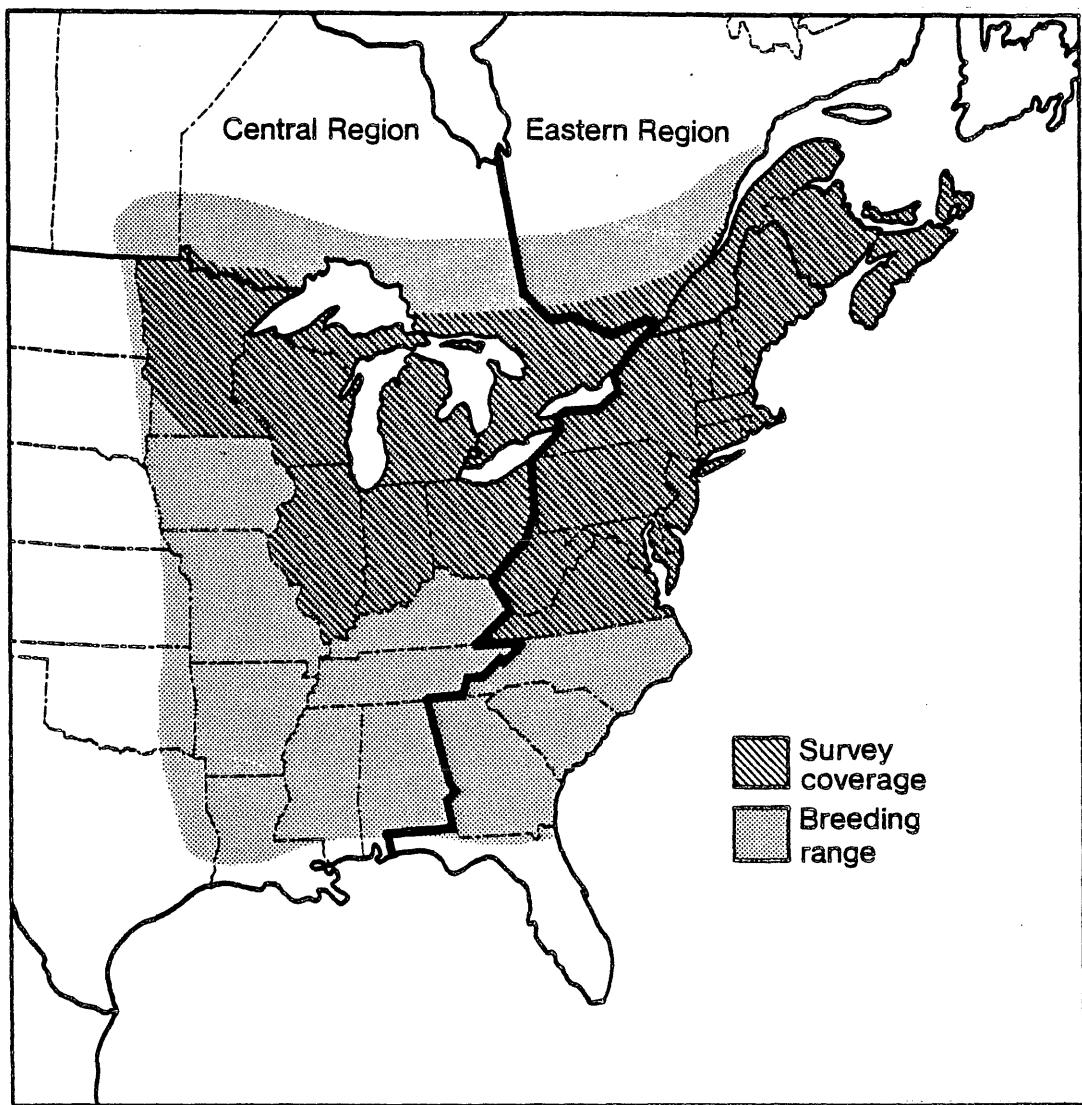


Figure 15. Approximate woodcock breeding range and regions covered by singing ground survey, 1982 (Taken from: Tautin, J. 1982. 1982 Status of American Woodcock. U.S.F.W.S. Adm. Rep., June 1982. Office Migr. Bird Manage., Laurel, Maryland. 14 pp.).

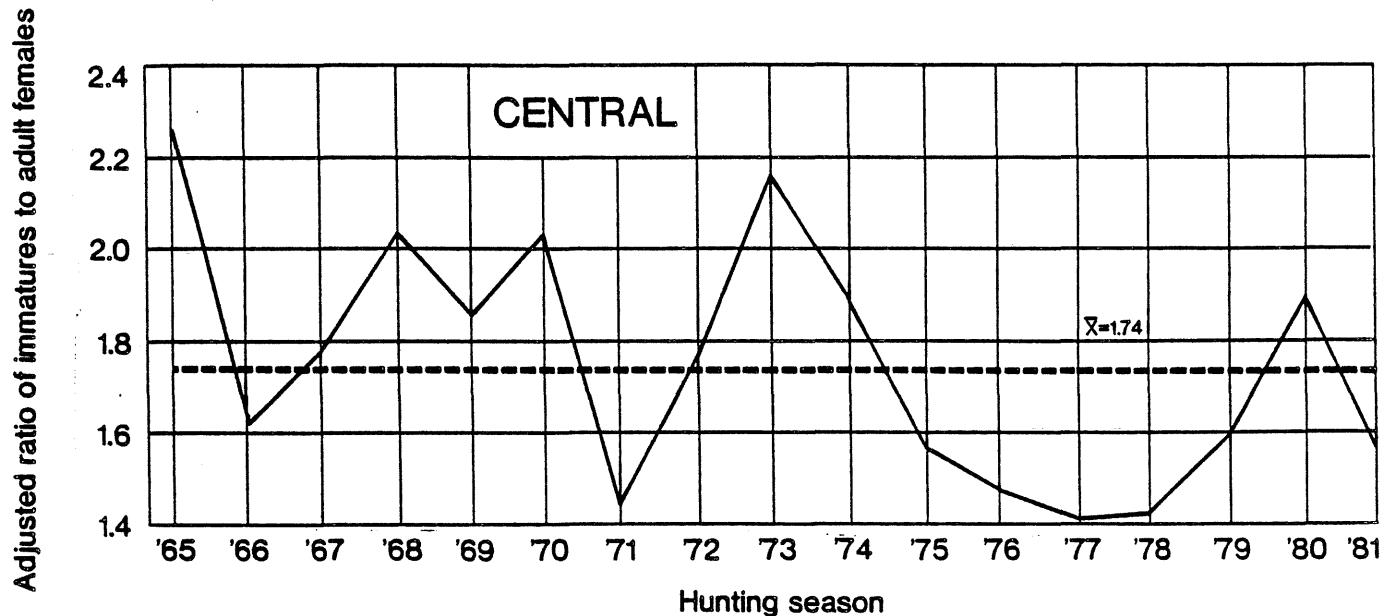


Figure 16. Adjusted indices of woodcock reproductive success, 1965-81, in the U.S. Central Region; base year = 1969 (Taken from: Tautin, J. 1982. 1982 Status of the American Woodcock. U.S.F.W.S. Admin. Rep., June 1982. Office Migr. Bird Manage., Laurel, Maryland. 14 pp.).

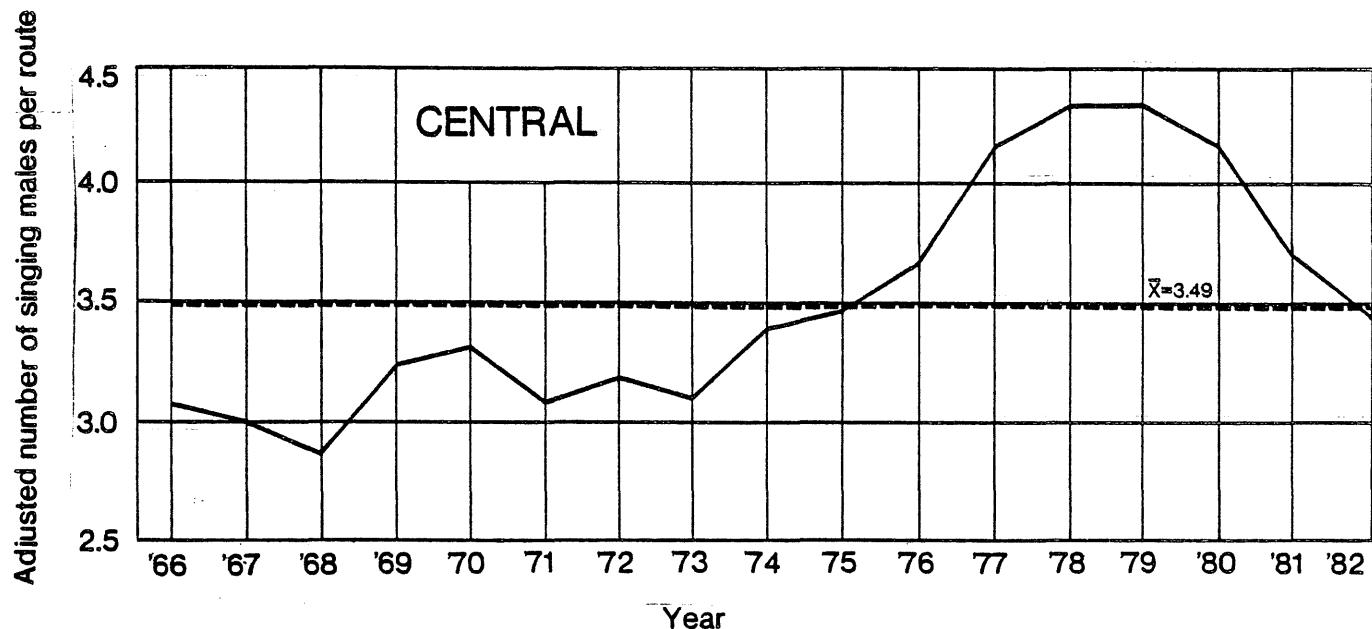


Figure 17. Adjusted indices of the woodcock breeding population, 1966-82, in the U.S. Central Region; base year = 1970 (Taken from: Tautin, J. 1982. 1982 Status of the American Woodcock. U.S.F.W.S. Adm. Rep., June 1982. Office Migr. Bird Manage., Laurel, Maryland. 14 pp.).

Table 20. Woodcock breeding population indices in the U.S. Central Region as indicated by singing-ground surveys in 1981 and 1982 (Taken from: Tautin, J. 1982. 1982 Status of American woodcock. U.S.F.W.S. Adm. Rep., June 1982. Office Migr. Bird Manage., Laurel, Maryland. 14 pp.).

State or Province	Number of routes conducted		Comparable routes <sup>a</sup>	Woodcock heard per comparable route		Percent change
	1981	1982		1981	1982	
Illinois	16	11	98	0.15	0.09	-40.0
Indiana	22	21	59	0.58	0.29	-50.0
Michigan	116	121	107	4.36	4.51	+ 3.4
Minnesota	82	77	99	2.65	2.67	+ 0.1
Ohio	36	31	80	1.08	0.78	-27.8
Ontario	72	107	83	5.90	4.69	-20.5
Wisconsin	58	85	82	1.91	2.05	+ 7.3
Totals	402	447	603			
	Weighted Averages <sup>b</sup>			3.26	3.04	- 6.7

<sup>a</sup> Includes routes carried as constant zero routes.

<sup>b</sup> Computed for States or Provinces where one comparable route represents less than 2,000 sq. mi. (5,180 sq. km.) and more than 0.5 birds were heard per route. Data from Illinois and Indiana did not meet these criteria.

Table 21. Doves/100 miles of August roadside census route,  
1960-1982.

Year	Miles censused	I	III	DNR	Region <sup>a</sup>	VI
1960	3,389	262	164	392	192	214
1961	3,557	395	229	566	305	313
1962	3,303	252	252	411	286	279
1963	2,921	262	251	455	250	317
1964	3,437	477	275	452	191	216
1965	3,375	311	217	303	184	375
1966	3,325	339	170	376	189	261
1967	0	-	-	-	-	-
1968	3,490	392	150	292	210	500
1969	3,350	315	154	263	148	122
1970	3,000	688	197	338	246	108
1971	2,900	642	138	337	242	858
1972	3,000	757	214	280	216	260
1973	2,975	661	364	408	289	379
1974	3,000	636	439	351	197	441
1975	2,725	687	180	465	199	273
1976	3,325	635	226	471	290	231
1977	3,250	703	199	500	242	221
1978	3,475	519	299	342	187	375
1979	3,325	725	340	352	209	177
1980	3,625	618	205	430	191	167
1981	3,735	625	231	409	155	148
1982	3,700	410	189	328	214	224

<sup>a</sup> No counts are conducted in the forested Region II or in forested portions of Region I.



HUNTING

HARVEST STATISTICS



Table 22. Resident small game hunter response to mail surveys, 1977-1981.

Year	Number mailed	Number not delivered	<u>Delivered questionnaires completed and returned</u>	
			Number	Percent
1977	4,941	288	3,867	83.1
1978	6,492	360	5,385	87.8
1979	5,696	443	4,504	85.7
1980	6,434	385	4,963	82.0
1981	6,656	399	5,419	86.6

<sup>a</sup> Includes individual and combination sportsman, regular small game, and senior licenses.

Table 23. Use of resident small game hunter licenses<sup>a/</sup>, 1977-1981.

	Returns from mail survey	Projections from license sales
1977		
Hunted	3,345 ( 86.5%)	262,387
Did not hunt	<u>522</u> ( 13.5%)	<u>40,951</u>
	<u>3,867</u> (100.0%)	<u>303,338</u>
1978		
Hunted	4,746 ( 88.1%)	293,121
Did not hunt	<u>639</u> ( 11.9%)	<u>39,593</u>
	<u>5,385</u> (100.0%)	<u>332,714</u>
1979		
Hunted	3,964 ( 88.0%)	296,766
Did not hunt	<u>540</u> ( 12.0%)	<u>40,468</u>
	<u>4,504</u> (100.0%)	<u>337,234</u>
1980		
Hunted	4,288 ( 86.4%)	311,717
Did not hunt	<u>675</u> ( 13.6%)	<u>49,066</u>
	<u>4,963</u> (100.0%)	<u>360,783</u>
1981		
Hunted	4,461 ( 82.3%)	306,843
Did not hunt	<u>958</u> ( 17.7%)	<u>65,992</u>
	<u>5,419</u> (100.0%)	<u>372,835</u>

<sup>a</sup> Includes individual and combination sportsman, regular small game, and senior licenses.

Table 24. Estimated number of hunters and estimated take per hunter for various species, 1977-1981.

Species	Estimated number of hunters (thousands)					Estimated take per hunter				
	1977	1978	1979	1980	1981	1977	1978	1979	1980	1981
Ducks	132	148	155	128	138	7.2	9.5	9.4	9.3	8.4
Canada geese	48	53	57	51	47	1.2	1.3	1.5	1.4	1.4
Other geese	*	*	*	27	15	*	*	*	1.2	1.0
Coots	11	20	24	19	13	3.9	4.5	5.0	3.1	4.0
Snipe	5	6	8	12	7	2.5	3.4	2.4	1.9	2.9
Rails/gallinules	1	2	2	*	1	1.3	2.3	2.9	*	1.6
Woodcock	20	22	22	25	23	2.8	2.6	2.8	2.7	2.8
Pheasant	132	156	143	147	173	3.0	3.0	2.3	3.2	3.3
Ruffed grouse	128	149	151	150	145	4.9	4.6	4.7	6.3	3.9
Spruce grouse	13	17	18	25	15	2.0	1.2	1.5	1.3	1.7
Sharp-tailed grouse	19	21	24	27	16	2.3	2.0	2.3	2.1	2.2
Hungarian partridge	29	37	33	38	32	2.7	3.5	3.3	2.7	3.4
Gray squirrel <sup>a</sup>	82	82	80	78	70	8.7	6.6	5.1	6.6	5.9
Fox squirrel <sup>a</sup>	82	82	80	78	48	8.7	6.6	5.1	6.6	4.6
Cottontail rabbits	59	60	50	56	60	5.0	4.6	3.8	4.4	4.4
Jack rabbits	17	23	18	22	17	2.5	3.9	2.5	2.4	2.7
Snowshoe hare	25	25	28	37	25	7.3	6.4	4.9	7.8	4.4
Raccoon	16	18	16	20	19	7.0	6.5	6.0	4.4	7.0
Red fox	14	17	13	17	19	1.4	1.5	1.6	1.7	1.9
Gray fox	2	4	4	8	4	1.4	0.8	1.1	0.4	1.0
Coyote	2	4	3	8	4	2.2	1.0	1.1	0.5	0.9
Badger	- No open season -				7	1	- No open season -			0.7
										1.1

\* No estimate made.

<sup>a</sup> Estimates for gray and fox squirrels prior to 1981 are for both species combined.

Table 25. Resident small game hunting license sales and estimated hunter harvest, 1977-1981.

	1977	1978	1979	1980	1981
Small game license sales	303,338	332,714	337,234	360,783	372,835
Estimated harvest <sup>a</sup> (thousands)					
Ducks <sup>b</sup>	950	1,408	1,462	1,199	1,167
Canada geese <sup>b</sup>	58	72	85	72	71
Other geese <sup>b</sup>	*	*	*	33	16
Coots <sup>b</sup>	42	89	123	58	49
Snipe	13	22	19	23	21
Rails/gallinules	1	5	7	*	2
Woodcock	57	58	60	67	63
Pheasant	397	468	328	466	573
Ruffed grouse	630	692	709	941	576
Spruce grouse	27	20	27	34	24
Sharp-tailed grouse	44	43	54	56	34
Hungarian partridge	79	132	108	101	110
Gray squirrel <sup>c</sup>	712	540	403	514	409
Fox squirrel <sup>c</sup>					216
Cottontail rabbits	296	272	188	249	263
Jack rabbits	44	90	45	52	45
Snowshoe hare	179	163	136	286	109
Raccoon	109	121	97	88	136

Continued

Table 25. Continued.

	1977	1978	1979	1980	1981
Red fox	20	25	21	28	37
Gray fox	3	3	4	3	4
Coyote (brush wolf)	4	4	3	4	4
Badger	- - - - No open season - - - -				5
					2

\* No estimate made.

<sup>a</sup> Estimates based upon response of hunters to questionnaires.

<sup>b</sup> U.S. Fish and Wildlife harvest estimates for 1981 are:

Ducks	-	845,843	Other geese	-	17,777
Canada geese	-	61,797	Coots	-	37,867

<sup>c</sup> Harvest estimates for gray and fox squirrels prior to 1981 are for both species combined.

Table 26. Mail surveys of nonresident small game hunters, 1978-1981.

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Nonresident licenses issued	4,122	3,902	3,981	4,271
Questionnaires				
Number mailed	691	622	222	280
Number not delivered	58	74	85	66
Number returned	558 (88.2%)	491 (89.6%)	117 (85.4%)	214 (76.4%)
Total nonresidents and percent of all nonresidents hunting:				
Ducks	1,800 (45%)	2,100 (53%)	2,000 (49%)	2,055 (48%)
Canada goose	600 (15%)	700 (19%)	600 (15%)	718 (17%)
Ruffed grouse	1,600 (38%)	1,500 (39%)	2,000 (51%)	1,656 (39%)
Pheasant	900 (21%)	800 (19%)	800 (19%)	1,436 (34%)
Raccoon <sup>a</sup>	800 (19%)	400 (11%)	200 ( 6%)	125 ( 3%)
Total nonresident take:				
Ducks	15,000	20,000	17,000	19,000
Canada goose	1,000	1,000	1,000	2,000
Ruffed grouse	7,000	9,000	16,000	7,000
Pheasant	3,000	2,000	2,000	5,000
Raccoon	11,000	3,000	1,000	1,000

<sup>a</sup> Nonresident raccoon hunters were required to purchase a nonresident raccoon hunting license for the first time in 1979 in addition to the nonresident small game license. There is a season bag limit of eight raccoons under this license.

Raccoon take per hunter:	<u>Resident</u>	<u>Nonresident</u>
1978	6	14
1979	6	6
1980	4	5
1981	7	7

Table 27. Species composition of the Minnesota waterfowl harvest, 1980 and 1981 (Taken from: Carney, S.M., M.F. Sorenson, and E.M. Martin. 1982. Waterfowl harvest and hunter activity in the United States during the 1981 hunting season. U.S.F.W.S. Adm. Rep. Office Migr. Bird. Manage., Laurel, Maryland. 27 pp.).

Species	1980		1981		Percent change
	Harvest	Pct of harvest	Harvest	Pct of harvest	
Mallard	258,000	31.79	262,900	31.08	2
Domestic mallard	300	0.04	300	0.03	0
Black duck	2,800	0.34	2,000	0.24	-40
Black x mallard	500	0.06	800	0.09	60
Gadwall	23,600	2.91	24,000	2.84	2
American Widgeon	46,000	5.67	44,600	5.27	-3
Green-winged teal	48,900	6.02	59,500	7.03	22
Blue-winged/cinnamon teal	43,300	5.33	66,500	7.86	54
Northern shoveler	8,000	0.99	10,200	1.21	28
Pintail	18,700	2.31	20,300	2.40	9
Wood duck	125,700	15.49	111,700	13.21	-13
Redhead	24,800	3.06	21,300	2.52	-16
Canvasback	6,700	0.83	5,600	0.66	-20
Greater scaup	900	0.11	3,800	0.45	422
Lesser scaup	47,400	5.84	93,300	11.03	97
Ring-necked duck	127,000	15.65	86,400	10.22	-47
Goldeneye	9,700	1.20	8,000	0.94	-21
Bufflehead	10,600	1.31	10,500	1.24	-1
Ruddy duck	2,700	0.33	5,200	0.61	93
Scoter	1,200	0.15	1,900	0.22	58
Hooded merganser	3,700	0.46	6,700	0.79	81
Other mergansers	<100	0.00	500	0.06	>500
Other ducks	800	0.10	<100	0.00	>-800
Total	811,300	100.00	846,000	100.00	+4

Table 28. Top 10 states in number of adult waterfowl hunters, 1981, and number of hunter-days and retrieved duck kill, in each (Taken from: Carney, S.M., M.F. Sorenson, and E.M. Martin. 1982. Waterfowl harvest and hunter activity in the United States during the 1981 hunting season. U.S.F.W.S. Adm. Rep. Office Migr. Bird Manage., Laurel, Maryland. 27 pp.).

State	Number of adult waterfowl hunters	Number of hunter-days	Retrieved duck kill	Ducks retrieved per hunter-day
Minnesota	145,447	1,067,502	845,834	0.79
Louisiana	115,257	963,032	1,590,681	1.65
Texas	108,448	663,928	828,013	1.25
Wisconsin	105,694	902,761	588,168	0.65
California	97,660	790,937	1,120,691	1.42
Washington	64,575	441,991	432,848	0.98
New York	63,511	369,889	247,611	0.67
Pennsylvania	61,460	335,402	134,523	0.40
Illinois	60,722	648,507	403,636	0.62
North Dakota	47,414	318,178	289,835	0.91
Mississippi Flyway	704,934	6,037,177	5,483,549	0.91
United States	1,724,888	13,160,504	12,026,141	0.91

Table 29. Summary of turkey harvest, 1978-1982.

Year	Season	Number of turkeys taken		
		North zones <sup>a</sup>	South zones <sup>a</sup>	Total
1978	1	25	14	39
	2	19	12	31
	3	15	9	24
	Total	59	35	94
1979	1	31	14	45
	2	18	9	27
	3	16	10	26
	4	7	11	18
	Total	72	44	116
1980	1	15	19	34
	2	17	7	24
	3	11	13	24
	4	11	5	16
	Total	54	44	98
1981	1	17	24	41
	2	13	16	29
	3	5	19	24
	4	5	14	19
	Total	40	73	113
1982	1	9	20	29
	2	11	23	34
	3	6	16	22
	4	7	14	21
	Total	33	73	106

<sup>a</sup> The North Zones are located from Red Wing to and including the Whitewater WMA; the South Zones extend from the southern edge of Whitewater WMA to the Iowa Border. The zone boundaries have changed annually and are presented in this manner for comparison.

Table 30. Deer license sales and registered harvest statistics, 1972-1981.

Year	Number of licenses sold			Number of deer registered				Percent success		
	Firearms	Archery	Muzzle-loader	Firearms	Archery	Muzzle-loader	Total	Firearms	Archery	Muzzle-loader
1972	257,998	21,985	---	73,448	1,601	---	75,049	28.5	7.3	---
1973	295,691	29,169	---	67,106	1,935	---	69,041	22.7	6.6	---
1974	316,301	31,821	---	64,997	2,176	---	67,173	20.5	6.8	---
1975	327,596	32,640	---	63,604	2,265	---	65,869	19.4	6.9	---
1976	263,874	19,733	---	28,613	1,167	---	29,780	10.8	5.9	---
1977	288,616	29,826	1,000	45,918	2,600	32	48,550	15.9	8.7	3.2
1978	314,468	32,308	3,145	47,372	2,608	346	50,326	15.1	8.1	11.0
1979	309,623	35,659	3,128	44,340	2,578	318	47,236	14.2	7.3	10.1
1980	344,020	42,270	2,089	68,539	3,641	294	72,474	19.9	8.6	14.1
1981	372,546	50,359	2,238	93,027	5,535	385	98,947	25.0	11.0	17.2

<sup>a</sup> No special muzzleloader seasons were held before 1977. Data on numbers of hunters and percent success are estimates.

Table 31. Deer harvest summary based upon response to mail survey of 12,476 Firearms Deer License holders, 1981.

Sub DMU	Number of		Kill			Success rate
	hunters	hunter-days	registered	estimated	H-D/kill	
Rainy River C	5,430	28,860	1,973	1,972	14.6	36.3%
Rainy River E	11,190	60,720	2,586	3,635	16.7	32.5%
Superior W	8,290	42,070	1,810	2,451	17.1	29.6%
Superior E (42)	3,770	19,240	560	592	32.5	15.7%
Superior E (43)	4,975	26,270	889	958	27.4	19.2%
Itasca NE	26,720	167,250	4,070	5,381	31.1	20.1%
Itasca SW	32,390	175,530	6,929	7,156	24.5	22.1%
Itasca SE	26,810	164,330	5,263	6,537	25.2	24.3%
Itasca NW	22,100	112,950	5,604	6,396	17.7	28.9%
Mille Lacs E	34,650	178,440	7,852	8,368	21.3	24.2%
Rainy River W	5,970	30,250	3,235	3,043	9.9	50.9%
Bemidji	13,180	63,380	4,552	5,100	12.5	38.7%
Mille Lacs W	18,570	79,690	5,330	5,917	13.5	31.9%
Mille Lacs C	20,750	102,490	3,749	5,268	19.5	25.4%
Agassiz	11,100	41,840	4,720	4,902	8.6	44.2%
Big Woods E	15,140	60,850	4,093	3,804	16.0	26.9%
Big Woods M	5,280	19,530	1,055	1,155	16.9	21.9%
Big Woods SE	26,660	93,300	6,539	9,185	10.1	34.5%
Red River E	7,000	15,770	2,055	2,846	5.6	40.7%
Big Woods N	35,790	76,600	9,951	11,214	6.8	31.4%
Red River W	1,210	2,440	218	451	5.5	37.4%
Prairie N	8,500	15,590	1,492	2,564	6.1	30.2%
Prairie River	11,550	21,250	2,821	3,437	6.1	29.7%
Prairie SW	12,060	21,590	3,976	4,452	4.9	36.9%
Prairie SE	6,240	13,610	1,225	1,352	10.1	21.6%
Statewide <sup>a</sup>	359,999	1,633,840	93,027	108,135	15.1	26.9%

<sup>a</sup> Statewide total number of hunters ≠ sum of units because some hunters hunt in more than a single Sub DMU. Of the 372,546 license buyers, 3.5% did not hunt.

Table 32. Antlerless permit holders' use of tags, 1981 Firearm Deer Season.

Sub DMU	Permits issued	Antlerless	Deer tagged <sup>a</sup> Legal bucks	Permit hunter success
Rainy River C	838	520 (62.1%)	58 ( 6.9%)	69.0%
Rainy River E	1,500	914 (60.9%)	50 ( 3.3%)	64.1%
Superior W	1,500	839 (55.9%)	153 (10.2%)	66.1%
Superior E (42)	0	0	0	0 %
Superior E (43)	0	0	0	0 %
Itasca NE	4,000	1,728 (43.2%)	272 ( 6.8%)	50.0%
Itasca SW	3,000	1,896 (63.2%)	153 ( 5.1%)	68.4%
Itasca SE	3,000	1,512 (50.4%)	189 ( 6.3%)	56.8%
Itasca NW	2,500	1,408 (56.3%)	158 ( 6.3%)	62.7%
Mille Lacs E	3,200	1,885 (58.9%)	224 ( 7.0%)	65.9%
Zone 1	19,538	10,702 (54.8%)	1,257 ( 6.4%)	61.2%
Rainy River W	3,000	1,437 (47.9%)	564 (18.8%)	66.7%
Bemidji	3,000	1,719 (57.3%)	108 ( 3.6%)	60.9%
Mille Lacs W	3,100	1,913 (61.7%)	335 (10.8%)	72.5%
Mille Lacs C	400	218 (54.5%)	36 ( 9.1%)	63.6%
Zone 2	9,500	5,287 (55.6%)	1,043 (11.0%)	66.6%
Big Woods E	4,721	1,497 (31.7%)	316 ( 6.7%)	38.3%
Big Woods M	1,421	536 (37.7%)	54 ( 3.8%)	41.5%
Big Woods SE	8,950	4,609 (51.5%)	376 ( 4.2%)	55.6%
Agassiz	4,633	2,182 (47.1%)	264 ( 5.7%)	52.9%
Zone 3	19,725	8,824 (44.7%)	1,010 ( 5.1%)	49.9%

Continued

Table 32. Continued.

Sub DMU	Permits issued	Deer tagged <sup>a</sup>		Permit hunter success
		Antlerless	Legal bucks	
Red River E	1,800	1,089 (60.5%)	88 ( 4.9%)	65.4%
Big Woods N	11,650	5,895 (50.6%)	641 ( 5.5%)	56.1%
Zone 4	13,450	6,984 (51.9%)	729 ( 5.4%)	57.3%
Red River W	252	63 (25.0%)	0 0	0
Prairie N	1,901	933 (49.1%)	87 ( 4.6%)	53.7%
Prairie River	4,167	1,771 (42.5%)	267 ( 6.4%)	48.9%
Prairie SW	4,221	2,275 (53.9%)	443 (10.5%)	64.5%
Prairie SE	1,733	610 (35.2%)	24 ( 1.4%)	36.6%
Zone 5	12,274	5,652 (46.0%)	821 ( 6.7%)	52.7%
Statewide	74,487	37,449 (50.2%)	4,860 ( 6.5%)	56.8%

<sup>a</sup> Determined by mail survey of 12,476 Firearms Deer License holders; arbitrarily assumes all permit holders hunted.

Table 33. Archery deer harvest by county, 1976-1981.

County	1976	1977	1978	1979	1980	1981
Aitkin	1	24	30	34	68	110
Anoka	22	31	45	74	105	169
Becker	1	19	14	10	33	46
Beltrami	3	50	35	29	63	97
Benton	0	3	1	6	7	18
Big Stone	21	32	9	10	25	38
Blue Earth	31	34	48	35	73	80
Brown	12	23	25	27	36	46
Carlton	2	8	6	6	24	30
Carver	12	12	6	9	24	30
Cass	0	5	17	30	48	108
Chippewa	50	108	76	71	114	138
Chisago	8	19	26	31	38	68
Clay	6	49	21	19	44	75
Clearwater	2	12	8	3	17	21
Cook	1	1	2	0	1	12
Cottonwood	70	93	79	60	71	87
Crow Wing	1	5	19	32	47	123
Dakota	15	13	13	21	20	46
Dodge	17	21	14	17	19	26
Douglas	7	34	40	31	32	64
Faribault	18	20	30	31	51	46
Fillmore	14	21	49	22	46	50
Freeborn	25	28	40	38	37	47
Goodhue	12	32	37	34	57	63
Grant	1	6	8	10	19	18
Hennepin	12	11	19	35	78	69
Houston	1	20	36	25	46	55
Hubbard	5	26	32	42	56	97
Isanti	11	20	25	32	46	83
Itasca	0	59	59	36	98	171
Jackson	40	34	28	34	26	47
Kanabec	0	4	13	7	11	35
Kandiyohi	18	26	57	41	41	95
Kittson	1	11	13	1	8	12

Table 33. Continued.

County	1976	1977	1978	1979	1980	1981
Koochiching	0	15	19	23	28	33
Lac qui Parle	39	54	28	38	53	87
Lake	1	7	8	8	18	40
Lake of the Woods	0	11	6	9	12	13
LeSueur	7	12	9	13	27	38
Lincoln	39	69	32	57	50	72
Lyon	56	57	57	36	84	94
McLeod	17	6	15	63	32	40
Mahnomen	0	3	0	1	5	4
Marshall	7	31	15	18	38	39
Martin	20	26	36	25	40	35
Meeker	17	29	25	37	43	44
Mille Lacs	0	12	10	8	21	40
Morrison	1	4	18	19	30	66
Mower	35	43	35	27	46	55
Murray	82	63	48	49	81	130
Nicollet	9	28	28	40	61	80
Nobles	23	27	51	34	43	79
Norman	1	11	10	11	15	20
Olmsted	17	17	20	25	24	55
Ottertail	10	58	54	60	98	133
Pennington	0	3	1	3	9	12
Pine	2	36	45	73	123	166
Pipestone	17	7	21	34	32	40
Polk	0	24	24	32	42	50
Pope	3	32	24	31	49	49
Ramsey	0	0	3	0	1	2
Red Lake	0	5	0	4	2	1
Redwood	36	43	38	38	50	81
Renville	19	29	20	20	35	55
Rice	17	22	19	31	38	45
Rock	16	6	34	16	14	38
Roseau	2	35	22	32	62	77
St. Louis	3	66	77	42	87	180
Scott	16	22	15	41	44	50

Table 33. Continued.

County	1976	1977	1978	1979	1980	1981
Sherburne	3	24	47	60	89	128
Sibley	10	14	15	22	33	41
Stearns	24	58	52	49	81	134
Steele	7	16	20	7	14	19
Stevens	1	1	10	13	9	11
Swift	53	45	25	23	42	67
Todd	8	29	33	45	52	95
Traverse	8	16	9	7	12	21
Wabasha	10	28	19	20	15	18
Wadena	0	9	10	14	21	45
Waseca	21	20	21	20	26	46
Washington	14	16	20	15	39	75
Watonwan	16	16	16	16	31	34
Wilkin	1	2	2	2	15	26
Winona	38	43	76	72	96	116
Wright	15	8	26	29	45	71
Yellow Medicine	39	49	32	34	35	47
Unknown	30	61	10	2	20	25
Camp Ripley	a	327	190	148	a	153
St. Croix State Park	a	a	128	a	a	a
Nonresident	b	b	b	38	b	b
Totals	1250	2609	2608	2577	3641	5535

<sup>a</sup>No special hunt.

<sup>b</sup>Included in county totals.

Table 34. Deer harvest in 1981 special muzzleloader season.

Open area	Adult		Fawn		Unknown	Total
	Male	Female	Male	Female		
Carlos Avery WMA	8	25	8	12	0	53
Lac Qui Parle WMA*	10	36	26	19	0	91
Lake Shetek SP*	16	1	1	1	0	19
McCarthy Lake WMA	0	0	1	0	0	1
Meadowbrook WMA	0	0	1	2	0	3
Mille Lacs WMA	3	32	8	11	0	54
Moose Willow WMA	3	10	1	2	0	16
Red Lake WMA	1	8	4	1	0	14
Roseau River WMA	0	1	3	0	0	4
Snake Creek DMF	0	6	0	1	0	7
Talcot Lake WMA*	3	4	6	3	0	16
Thief Lake WMA	1	3	6	2	0	12
Walnut Lake WMA*	3	2	0	0	0	5
Whitewater WMA	7	30	33	20	0	90
Total	58	158	98	74	0	385

\* Hunting by special permit only.

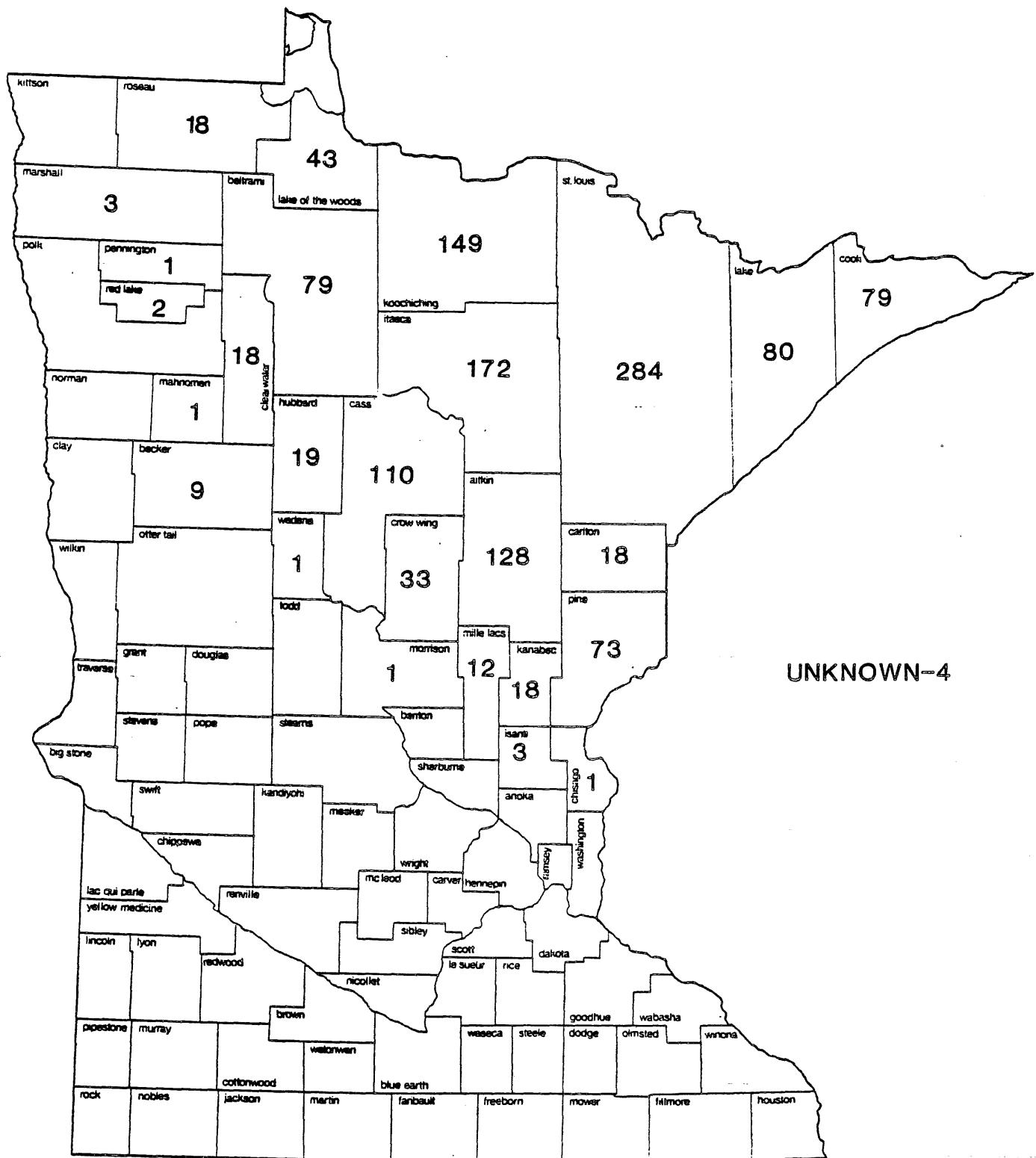


Figure 18. Registered black bear harvest by county, 1981.

Table 35 Minnesota black bear harvest by county, 1976-1981.

County	1976	1977	1978	1979	1980	1981
Aitkin	29	65	103	55	92	128
Becker	2	8	12	13	7	9
Beltrami	15	36	44	42	28	79
Carlton	8	12	14	7	17	18
Cass	28	56	51	57	69	110
Chisago	0	1	0	0	0	1
Clearwater	3	4	2	12	3	18
Cook	26	72	98	72	148	79
Crow Wing	6	7	9	12	9	33
Hubbard	5	8	23	16	14	19
Isanti	0	0	0	0	1	3
Itasca	80	134	158	108	212	172
Kanabec	10	20	28	10	12	18
Kittson	4	0	0	1	0	0
Koochiching	29	41	91	89	137	149
Lake	31	50	78	40	74	80
Lake of the Woods	2	8	16	12	30	43
Mahnomen	0	1	3	0	0	1
Marshall	0	1	0	1	2	3
Mille Lacs	1	10	7	5	5	12
Morrison	0	0	4	3	1	1
Norman	0	0	1	0	0	0
Pennington	0	0	0	0	0	1
Pine	21	36	58	31	62	73
Polk	0	0	0	0	1	0
Red Lake	0	0	0	0	3	2
Roseau	16	4	8	4	18	18
St. Louis	91	124	210	148	289	284
Wadena	0	0	1	0	0	1
Wilkin	0	0	0	1	0	0
Unknown	12	3	9	4	13	4
Total	419	701	1028	743	1247	1359

Table 36. Moose hunt quota statistics and harvest data, 1971-1981.

Year	Area	Number 4-person licenses issued	Total number license applications	Chances for permit	Harvest	Party Success(%)	Sex of moose	
							M	F
1971	NW	250	9,264	1:23	240	96.0	159 (66%)	81 (34%)
	NE	150			134	89.3	87 (65%)	47 (35%)
1973	NW	335	13,560	1:26	306	91.3	213 (76%)	91 (24%)
	NE	185			159	86.0	131 (83%)	24 (13%)
1975	NW	475	15,792	1:20	449	94.5	259 (58%)	188 (42%)
	NE	275			227	82.5	227 (65%)	147 (35%)
1977	NW	630	16,586	1:18	598	94.9	348 (58%)	250 (42%)
	NE	300			243	81.0	243 (71%)	172 (29%)
1979	NW	395	19,023	1:28	330	83.5	196 (59%)	134 (41%)
	NE	290			236	81.4	158 (67%)	78 (33%)
1981	NW	505	20,521	1:23	455	90.1	283 (62%)	172 (38%)
	NE	375			309	82.4	218 (71%)	91 (29%)

TRAPPING  
HARVEST STATISTICS



Table 37. Trapper response to mail surveys, 1977-1981.

Year	Number mailed	Number not delivered	Delivered questionnaires completed and returned	
			Number	Percent
1977	807	29	689	88.6
1978	803	23	711	91.2
1979	1,011	29	888	90.4
1980	1,345	110	1,072	86.8
1981	1,345	36	1,167	89.2

Table 38. Use of trapper licenses, 1977-1981.

		Returns from mail survey	Projections from license sales
1977	Trapped	510 ( 74.0%)	8,841
	Did not trap	179 ( 26.0%)	3,103
		<u>689 (100.0%)</u>	<u>11,944</u>
1978	Trapped	597 ( 84.0%)	10,933
	Did not trap	114 ( 16.0%)	2,083
		<u>711 (100.0%)</u>	<u>13,016</u>
1979	Trapped	760 ( 85.6%)	15,512
	Did not trap	128 ( 14.4%)	2,609
		<u>888 (100.0%)</u>	<u>18,121</u>
1980	Trapped	918 ( 85.6%)	20,548
	Did not trap	154 ( 14.4%)	3,457
		<u>1,072 (100.0%)</u>	<u>24,005</u>
1981	Trapped	972 ( 83.3%)	19,725
	Did not trap	195 ( 16.7%)	3,954
		<u>1,167 (100.0%)</u>	<u>23,679</u>

Table 39. Estimated number of trappers and estimated take per trapper for various furbearers, 1977-1981.

	Estimated number of trappers (thousands)					Estimated take per trapper				
	1977	1978	1979	1980	1981	1977	1978	1979	1980	1981
Muskrat	5	8	13	19	16	41.6	38.3	55.5	75.7	62.5
Mink	6	7	10	15	13	6.6	6.7	6.5	6.5	5.7
Short-tailed weasel	<1	1	2	2	1	1.7	2.5	3.7	3.1	3.2
Long-tailed weasel	<1	1	1	1	1	3.2	3.7	2.3	2.9	2.8
Raccoon	5	7	10	11	12	6.2	5.3	6.6	5.4	6.2
Striped skunk	3	4	6	8	7	9.6	8.7	7.6	7.0	8.1
Spotted skunk	<1	<1	<1	<1	<1	8.6	1.9	2.0	7.1	1.6
Badger	1	2	2	2	2	1.8	2.2	1.6	1.6	1.8
Opossum	<1	1	1	<1	<1	3.4	3.1	2.0	1.7	2.1
Red fox	4	5	6	7	8	5.8	6.8	6.5	6.3	6.8
Gray fox	<1	1	1	2	2	2.4	2.7	2.5	2.8	2.7
Coyote (brush wolf)	<1	1	1	1	1	3.2	3.7	3.4	3.6	2.4

Table 40. Minnesota trapper license sales and estimated annual harvest, 1977-1981.

	1977	1978	1979	1980	1981
Trapper license sales	11,944	13,016	18,121	24,005	23,679
Beaver license sales	2,531	4,026	6,692	8,503	6,602
Estimated harvest <sup>a</sup> (thousands)					
Muskrat	210	316	707	1,419	989
Mink	37	47	66	96	76
Short-tailed weasel	1	3	7	7	3
Long-tailed weasel	1	2	3	3	4
Raccoon	32	37	65	61	72
Striped Skunk	29	38	47	53	54
Spotted Skunk or civet	1	<1	<1	1	<1
Badger	2	4	3	3	3
Opossum	3	2	1	<1	1
Red fox	21	36	39	42	53
Gray fox	2	3	4	5	5
Coyote (brush wolf)	3	5	5	4	3
Beaver (spring season)	closed	20	22	22	16
Beaver (fall season)	13	33	54	51	30
Registered harvest					
Otter	492	636	1,186	1,111	485
Lynx <sup>b</sup>	21	28	42	16	17
Bobcat <sup>b</sup>	103	304	291	210	260
Fisher	2,150	2,426	3,032	closed	862

<sup>a</sup> Based upon trappers' response to mail surveys.

<sup>b</sup> Registered harvest for lynx and bobcat, includes animals taken by hunting.

Table 41. Average price/pelt (dollars) paid to hunters and trappers in Minnesota, 1972-1981.

Species	Average pelt prices paid trappers in Minnesota (dollars)									
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Muskrat	2.25	2.00	2.50	3.00	4.03	4.25	4.56	5.90	5.62	3.47
Mink <sup>a</sup> (male)	(22.00)	(17.50)	(9.50)	(13.00)	27.40	22.15	36.69	42.83	37.55	34.35
Mink (female)					10.07	8.86	14.80	18.61	16.04	17.22
S.T. Weasel	0.50	0	0.75	0.75	0.41	0.44	0.47	0.56	0.64	0.59
L.T. Weasel	0.50	0	0.75	0.75	0.87	0.85	1.01	0.94	0.84	0.96
Raccoon	10.00	11.00	12.50	21.00	23.54	22.30	45.83	36.42	27.44	32.35
Striped Skunk	0	2.00	2.50	2.50	2.95	2.78	4.13	4.14	4.74	3.46
Spotted Skunk	0	2.00	2.00	2.50	5.02	5.42	7.37	3.48	6.06	2.58
Badger	6.00	8.50	9.00	18.00	18.66	21.07	39.55	24.02	18.39	18.14
Opossum	1.50	0	0	1.50	1.72	2.11	2.10	2.12	2.52	1.58
Red Fox	24.00	30.00	24.00	50.00	49.52	52.97	72.21	55.43	50.81	51.48
Gray Fox	6.50	10.00	12.00	19.00	24.75	25.51	45.44	42.51	37.87	26.74
Coyote	18.50	20.00	12.00	29.00	41.32	34.03	56.62	39.76	31.37	41.28
Lynx	40.00	65.00	65.00	162.00	183.00	137.86	269.44	199.19	94.91	180.33
Bobcat	b	15.00	35.00	80.00	78.77	73.98	163.76	117.74	78.55	73.35
Beaver <sup>a</sup> (fall-winter)	(17.20)	(15.15)	(15.80)	(12.25)	(15.79)	(13.45)	(17.64)	32.74	17.88	14.48
Beaver (spring)								28.71	19.58	c
Otter	30.00	32.50	45.00	32.50	36.99	41.23	58.85	63.37	32.78	29.80
Fisher <sup>a</sup> (male)	-----	No Open Season-----				(71.23)	131.89	107.67	89.51	94.42
Fisher (female)							147.23	127.79	104.29	110.08
Marten	-----	-----	No Open Season-----							
Timber Wolf	45.00	50.00	-----	-----	No Open Season-----					

<sup>a</sup> Differences in pelt prices were not calculated before 1975 for mink, 1979 for beaver, and 1978 for fisher.

<sup>b</sup> Not calculated.

<sup>c</sup> Not yet available.

FURBEARER REGISTRATION STATISTICS



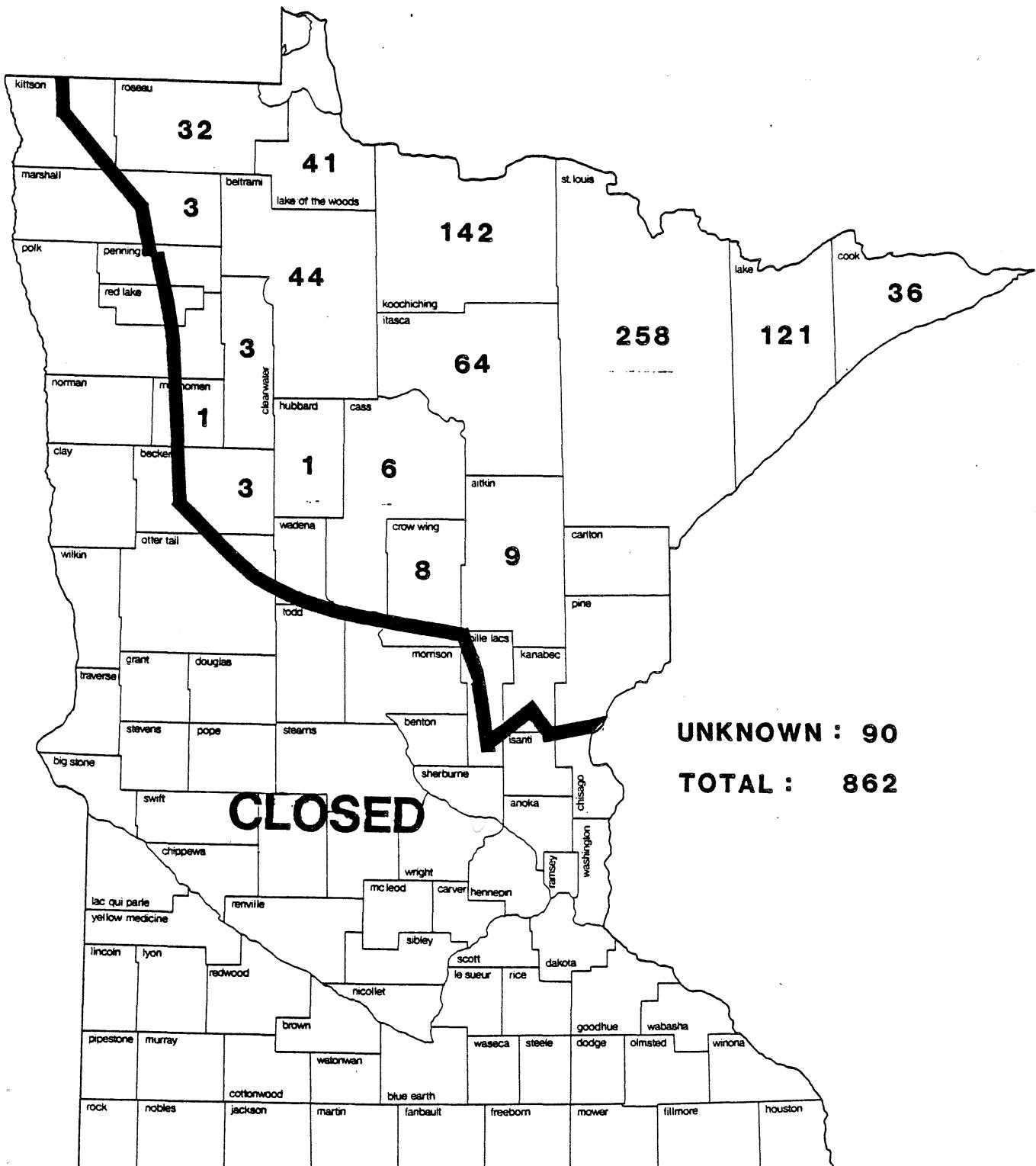


Figure 19. Fisher harvest by county, 1981 season.

Table 42. Fisher harvest by county and sex, 1981 season.

County	Sex			Total
	Male	Female	Unknown	
Aitkin	6	3	0	9
Becker	2	1	0	3
Beltrami	24	20	0	44
Cass	3	3	0	6
Clearwater	2	1	0	3
Cook	17	19	0	36
Crow Wing	5	3	0	8
Hubbard	1	0	0	1
Itasca	29	35	0	64
Koochiching	55	87	0	142
Lake	48	73	0	121
Lake of the Woods	20	21	0	41
Mahnomen	0	1	0	1
Marshall	1	2	0	3
Roseau	13	19	0	32
St. Louis	113	144	1	258
Unknown	0	0	90	90
Total	339	432	91	862

Table 43. Comparison of fisher harvest by county, 1977-1981./a

County	1977-78	1978-79	1979-80	1981
Aitkin	0	0	18	9
Becker	0	0	14	3
Beltrami	120	136	204	44
Carlton	closed	closed	4	0
Cass	8	24	27	6
Clearwater	6	10	9	3
Cook	141	78	60	36
Crow Wing	closed	closed	9	8
Hubbard	0	1	3	1
Isanti	closed	closed	27	closed
Itasca	351	317	396	64
Koochiching	333	419	556	142
Lake	298	343	313	121
Lake of the Woods	42	65	143	41
Mahnomen	closed	closed	7	1
Marshall	3	3	25	3
Pennington	2	4	6	0
Pine	closed	closed	1	closed
Polk	0	0	3	0
Red Lake	0	0	3	0
Roseau	38	51	95	32
St. Louis	808	975	1,106	258
Unknown	0	0	3	90
Total	2,150	2,426	3,032	862

/a There was no fisher season during the 1980-81 furbearer season.

Table 44. Fisher harvest by date and sex, 1981 season.

Date	Sex			Total	% of total	Cumulative percent
	Male	Female	Unknown			
12/01	7	6	0	13	1.5	1.5
12/02	43	49	0	92	10.7	12.2
12/03	53	50	0	103	11.9	24.1
12/04	39	52	0	91	10.6	34.7
12/05	41	59	1	101	11.7	46.4
12/06	33	60	0	93	10.8	57.2
12/07	38	37	0	75	8.7	65.9
12/08	22	47	0	69	8.0	73.9
12/09	29	31	0	60	7.0	80.9
12/10	31	38	0	69	8.0	88.9
Unknown	0	0	96	96	11.1	100.0
Total	336	429	97	862	100.0	100.0

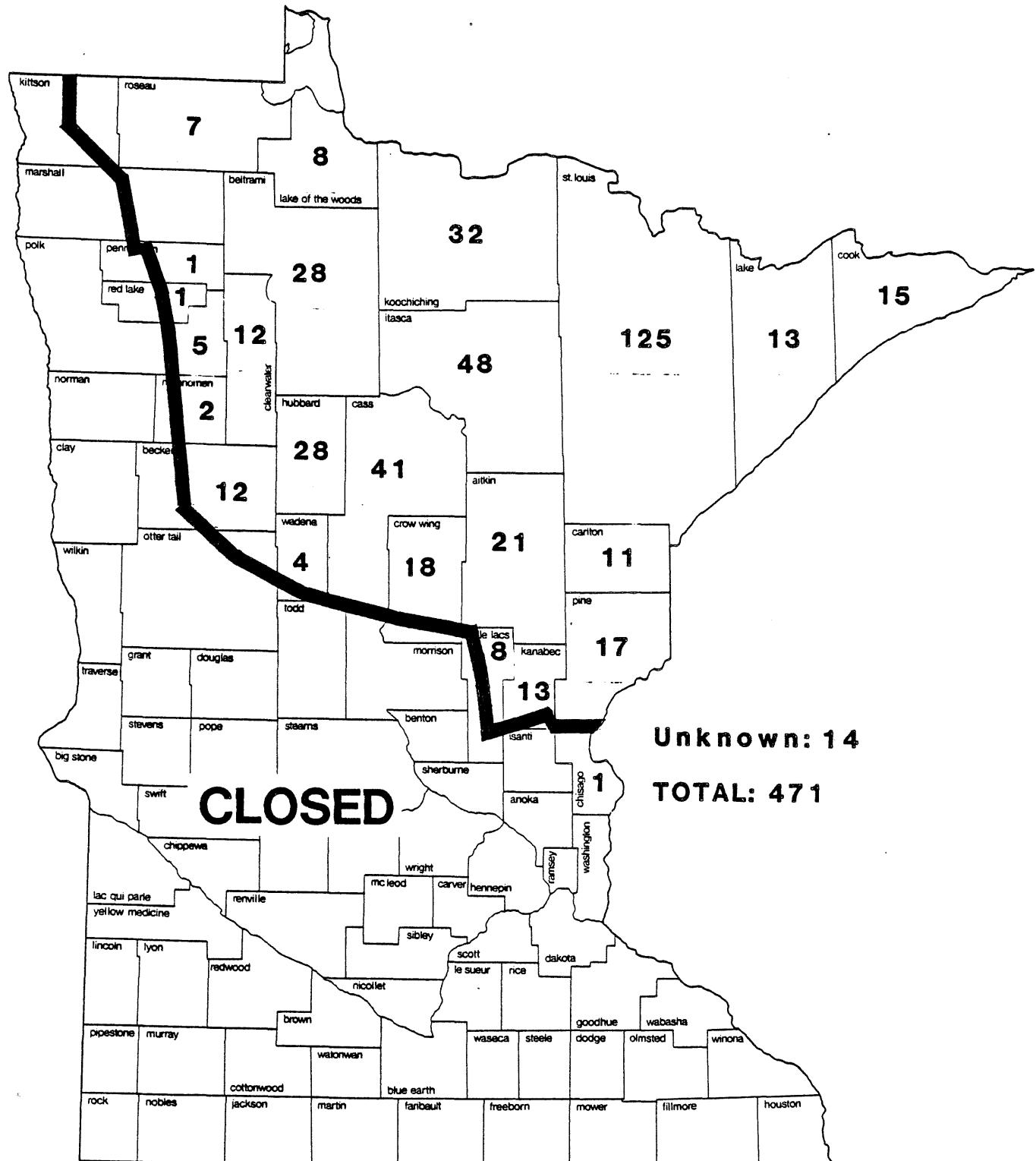


Figure 20. Otter harvest by county, 1981 season.

Table 45. Otter harvest by county and sex, 1981 season.

County	Sex			Total
	Male	Female	Unknown	
Aitkin	10	11	0	21
Becker	3	9	0	12
Beltrami	15	13	0	28
Carlton	2	9	0	11
Cass	19	22	0	41
Chisago (closed)	1	0	0	1
Clearwater	6	6	0	12
Cook	9	6	0	15
Crow Wing	12	6	0	18
Hubbard	15	13	0	28
Itasca	30	18	0	48
Kanabec	6	7	0	13
Koochiching	18	13	1	32
Lake	10	3	0	13
Lake of the Woods	5	3	0	8
Mahnomen	0	2	0	2
Mille Lacs	5	3	0	8
Pennington	0	1	0	1
Pine	10	7	0	17
Polk	2	3	0	5
Red Lake	1	0	0	1
Roseau	3	4	0	7
St. Louis	71	54	0	125
Wadena	3	1	0	4
Unknown	0	0	14	14
Total	256	214	15	485

Table 46. Comparison of otter harvest by county, 1978-1981.

County	1-15 Dec. 1978	15-29 Nov. 1979	15-29 Nov. 1980	14-28 Nov. 1981
Aitkin	37	87	74	21
Becker	closed	36	31	12
Beltrami	35	102	47	28
Carlton	14	34	17	11
Cass	119	96	69	41
Chisago	closed	closed	closed	1 (closed)
Clearwater	11	30	16	12
Cook	10	27	28	15
Crow Wing	21	46	37	18
Hubbard	10	30	47	28
Itasca	153	212	133	48
Kanabec	closed	5	23	13
Koochiching	48	87	92	32
Lake	20	82	81	13
Lake of the Woods	5	28	29	8
Mahnomen	closed	8	0	2
Marshall	3	0	0	0
Mille Lacs	0	7	2	8
Ottertail	closed	3	0	0
Pennington	0	0	1	1
Pine	14	34	45	17
Polk	7	6	6	5
Red Lake	0	1	0	1
Roseau	4	12	13	7
St. Louis	125	212	319	125
Wadena	0	0	1	4
Unknown	0	1	0	14
Total	636	1,186	1,111	485

Table 47. Otter harvest by date and sex, 1981 season.

Date	Sex			Total	% of total	Cumulative percent
	Male	Female	Unknown			
11/14	9	7	0	16	3.3	3.3
11/15	28	27	0	55	11.3	14.6
11/16	30	24	0	54	11.1	25.7
11/17	16	24	0	40	8.3	34.0
11/18	27	18	0	45	9.3	43.3
11/19	15	6	0	21	4.3	47.6
11/20	20	16	0	36	7.4	55.0
11/21	15	13	0	28	5.8	60.8
11/22	9	3	0	12	2.5	63.3
11/23	23	13	0	36	7.4	70.7
11/24	8	9	0	17	3.5	74.2
11/25	15	15	0	30	6.2	80.4
11/26	9	8	1	18	3.7	84.1
11/27	15	13	0	28	5.8	89.9
11/28	14	12	0	26	5.4	95.3
Unknown	1	4	18	23	4.7	100.00
Total	254	212	19	485	100.0	100.0

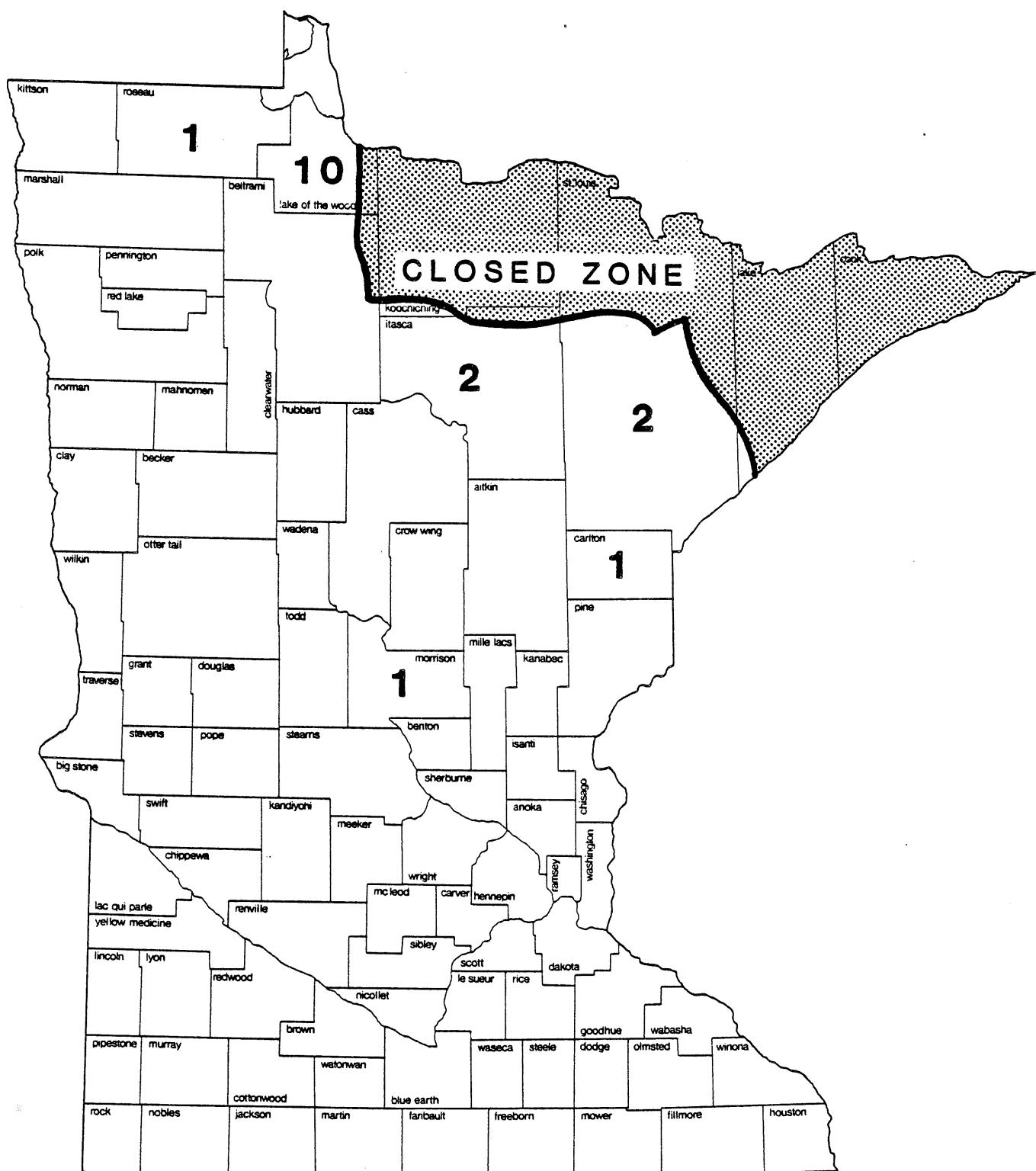


Figure 21. Canada lynx harvest 1 Dec. 1981 - 23 Jan. 1982.  
Northeast zone closed to taking of bobcat and lynx.

Table 48. Comparison of lynx harvest by county, 1977-1982.

County	1977-78	1978-79	1979-80	1980-81	1981-82 <sup>/a</sup>
Beltrami	0	0	1	0	0
Carlton	0	0	0	0	1
Cook	2	6	0	0	0
Crow Wing	0	1	0	0	0
Itasca	2	0	3	1	2
Kittson	1	0	0	0	0
Koochiching	0	6	10	2	0
Lake	11	10	11	2	0
Lake of the Woods	0	0	8	5	10
Mahnomen	0	0	1	0	0
Morrison	0	0	0	0	1
Roseau	0	1	3	3	1
St. Louis	5	4	5	2	2
Unknown	0	0	0	3	0
Total	21	28	42	16	17

<sup>/a</sup> Northeast zone closed to taking of bobcat and lynx included: Cook county; most of Koochiching and Lake counties; and portions of Beltrami, Itasca, Lake of the Woods, and St. Louis counties.

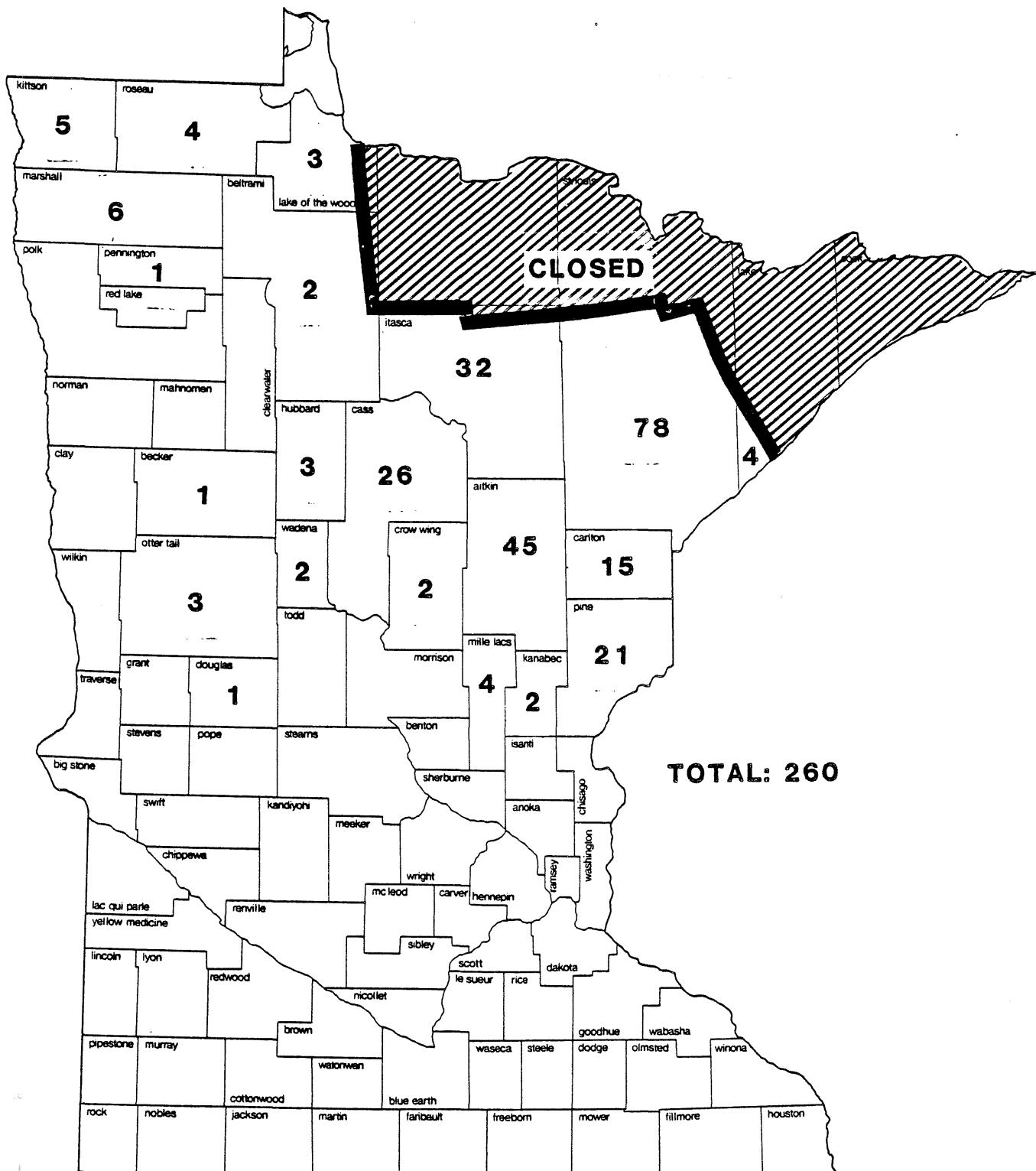


Figure 22. Bobcat harvest by county, 1981 season.

Table 49. Comparison of bobcat harvest by county, 1977-1981.

County	1977-78	1978-79	1979-80	1980-81	1981-82/ <sup>a</sup>
Aitkin	20	51	42	36	45
Becker	0	8	6	9	1
Beltrami	5	15	10	0	2
Brown	0	0	1	0	0
Carlton	2	17	22	32	15
Cass	8	34	26	9	26
Clearwater	1	4	2	1	0
Cook	2	10	1	0	0
Crow Wing	0	2	3	1	2
Douglas	0	0	0	0	1
Hubbard	2	14	13	6	3
Itasca	18	37	24	10	32
Kanabec	4	7	6	0	2
Kittson	0	1	0	1	5
Koochiching	5	9	8	3	0
Lake	1	4	7	3	4
Lake of the Woods	0	1	6	3	3
Marshall	6	6	3	0	6
Mille Lacs	2	2	3	0	4
Ottertail	0	0	2	0	3
Pennington	0	0	0	1	1
Pine	2	18	40	27	21
Roseau	1	7	4	0	4
St. Louis	20	50	62	65	78
Wadena	0	0	0	0	2
Unknown	0	0	0	3	0
Confiscated	4	7	0	0	0
Total	103	304	291	210	260

/a Northeast zone closed to taking of bobcat and lynx included: Cook county; most of Koochiching and Lake counties; and portions of Beltrami, Itasca, Lake of the Woods, and St. Louis counties.

Table 50. Distribution of bobcat harvest by 5-day increments, 1981-82 season.

Interval	How taken			Total	% of total	Cumulative percent
	Trapped	Hunted	Unknown			
Dec. 1-5	41	8	2	51	19.6	19.6
Dec. 6-10	23	5	0	28	10.7	30.3
Dec. 11-15	32	6	1	39	15.0	45.3
Dec. 16-20	19	2	1	22	8.5	53.8
Dec. 21-25	17	3	0	20	7.7	61.5
Dec. 26-30	19	1	0	20	7.7	69.2
Dec. 31-Jan. 4	17	4	0	21	8.1	77.3
Jan. 5-9	11	2	2	15	5.8	83.1
Jan. 10-14	10	3	0	13	5.0	88.1
Jan. 15-19	14	3	0	17	6.5	94.6
Jan. 20-23/a	5	3	0	8	3.1	97.7
Unknown	0	0	6	6	2.3	100.00
Total	208	40	12	260	100.00	100.00

/a 4-day interval.