

Status of Wildlife Populations,
Fall 1988 and 1980-1987 Hunting
and Trapping Harvest Statistics

compiled by
Blair Joselyn, Scott Milner and Roger Lake

Section of Wildlife
Minnesota Department of Natural Resources
St. Paul, Minnesota

This report should be cited as follows:

1988. Status of wildlife populations, fall 1988
and 1980-1987 hunting and trapping harvest statistics.
Unpub. Rep., Section of Wildlife, Minn. Dept. Nat. Res.,
St. Paul,

Note: Data in this report may change as a result
of future more comprehensive analysis and
verification being undertaken.

Status of Wildlife Populations, Fall 1988

and

1980-87 Hunting and Trapping Harvest Statistics

This is the 12th year the Wildlife Populations and Research Unit has published this booklet; it is primarily an administrative document intended for DNR personnel. (Since 1984 we have also published a companion volume containing annual summaries of findings/activities from each research project ongoing in the Unit).

Because of heightened interest in the status of waterfowl populations and waterfowl hunting, this year we have included a special section of 48 tables on Waterfowl harvest and population survey data taken from a report compiled by Ken Gamble of the U.S. Fish and Wildlife Service. These tables contain a wide variety of information on the status of waterfowl populations, duck stamp sales, hunter activities, harvest rates of various species, etc. for the 4 flyways which may be of interest as reference material.

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 done by personnel in the Wetland Wildlife Populations and Research Group. Harvest statistics are calculated primarily by personnel in the St. Paul Office.

Blair Joselyn
20 October 1988

CONTENTS

Wildlife populations and censuses	
Farmland wildlife	1
Forest wildlife	27
Registered furbearers	36
Migratory birds	53
Special Section on Waterfowl Harvest and Survey Data	65
Harvest statistics	
Hunting	121
Trapping	146
Registered furbearers	152

Index

August farmland roadside survey
1988 data, 2, 10
historical summary, 11-17

Badger
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
 pelt prices, 151
 survey (August roadside), 6
 trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Bear
 bait-stations
 location of routes, 48
 percentage of baits taken, 49
 hunting
 harvest by county, 140-141
 methods, 144
 registration compliance, 142
 success by hunting method, 144
 success by permit area, 143
 use of bows, baits, and guides, 144
 management units (1987), 143
 scent post survey indices, 26

Beaver
 pelt prices, 151
 survey (fall aerial)
 route locations, 34
 live colonies per mile of census route, 34, 35
 trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Black duck
 hunting
 harvest, Atlantic flyway, 1961-1987, 69
 harvest, Minnesota, 1986-1987, 128
 harvest, Mississippi flyway, 1961-1987, 79
 winter populations
 number observed during mid-winter survey, Mississippi Flyway, 1955-1988, 95

Black duck x mallard
 hunting
 harvest, Minnesota, 128

Bobcat
 carcass examination data, 42
 harvest
 by county, 162, 165
 by method of take, 1979-80 thru 1987-88, 166
 distribution among takers by year, 1979-80 thru 1987-88, 163
 distribution by season 5-day increments, 1987-1988, 163
 registered take, 150
 pelt prices, 151
 population data, 41
 population model, 41
 scent post indices, 26

Bufflehead
 hunting
 harvest, Minnesota, 1986-1987, 128

Canvasback
 breeding populations (North America), 58-59, 62
 hunting
 harvest, Minnesota, 1986-1987, 128
 harvest, Mississippi flyway, 1961-1987, 87

Cat, domestic
 scent post survey indices, 26

Coot, American
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124

Cottontail, eastern (see Rabbit, eastern cottontail)

Coyote
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
 pelt prices, 151
 scent post survey indices, 26
 trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Crane, sandhill
 survey (August roadside), 6

Deer, white-tailed
farmland/transition zone
 car-kills, 20, 23
 management units, 19
 productivity, 21
 spring population densities, estimated from modeling, 22
 survey (August roadside), 5, 6, 8
forest zone
 management units, 46
pre-fawn population densities from pellet counts, 45
 spring population densities estimated from modeling, 47
hunting
 antlerless permits issued, 134
 archery harvest by county, 135-136
 licenses sold (bonus deer), 131
 licenses sold (resident and nonresident firearms), 131, 133
 licenses sold (resident and nonresident archery), 131, 133
 muzzleloader harvest, 132, 137, 138, 139
 registered harvest, 132, 133
 success rates, 132, 134

Dog, domestic
 scent post indices, 26

Dove, mourning
 historical August roadside survey summary, 12, 17
 survey
 August roadside, 5, 6, 8

Duck stamp sales
 Atlantic flyway, 1961-1987, 66
 Central flyway, 1961-1987, 100
 Minnesota (federal and state), 125
 Mississippi flyway, 1961-1987, 70
 Pacific flyway, 1961-1987, 103
 United States, 1961-1987, 107

Ducks
 breeding populations
 Minnesota, 54-55, 60
 North America, 58-59, 62
 fall flight forecast
 Canada and U.S., 63
 Mississippi Flyway, 64
 hunting
 active adult hunters, Mississippi Flyway, 1961-1987, 71
 average daily bag per active adult hunter,
 Mississippi Flyway, 1961-1987, 75
 average days per active adult waterfowl hunter,
 Mississippi Flyway, 1961-1987, 73
 average seasonal bag per active adult hunter,
 Mississippi Flyway, 1961-1987, 74
 days hunted, Mississippi flyway, 1961-1987, 72
 harvest,
 Atlantic Flyway, 1961-1987, 67
 Canada, 1961-1987, 111
 Central Flyway, 1961-1987, 101
 Minnesota, 124, 128

Mississippi Flyway, 1961-1987, 77
nonresidents in Minnesota, 127
Pacific Flyway, 1961-1987, 104
per hunter, Minnesota 1980-87, 124
ranking of 5 most numerically important species, Mississippi Flyway, 1961-1987, 76
top 10 states, 1987, 129
U.S., 108
number of hunters
Minnesota, 124
nonresidents in Minnesota, 127
top 10 states, 1987, 129
season framework, 1979-1987, 113-116
winter populations
number of all ducks observed during mid-winter survey, Mississippi Flyway 1961-1987, 91
number of dabbling ducks observed during mid-winter survey, Mississippi Flyway, 1961-1987, 92
number of diving ducks observed during mid-winter survey, Mississippi Flyway, 1961-1987, 93

Ermine

pelt prices, 151
trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Fisher

carcass examination data, 38
trapping
 take by date and sex, 155
 take by county, 154, 157
 take by county and sex, 156
 registered take, 150
pelt prices, 151
population data, 37
population model, 37

Fox, gray

hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
pelt prices, 151
trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Fox, red

hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
pelt prices, 151
scent post indices, 26

trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Gadwall
 breeding populations (North America), 58-59, 62
 hunting
 harvest, Minnesota, 1986-1987, 129
 harvest, Mississippi Flyway, 1961-1987, 80

Gallinules (see Rails and Gallinules)

Geese, other than Canada
 hunting
 harvest, Minnesota, 125
 number of hunters, 124
 take per hunter, 124

Geese, Canada
 hunting
 harvest, Minnesota, 125
 harvest, Mississippi Flyway, 1961-1987, 90
 number of hunters, Minnesota, 124
 number of hunters, nonresident in Minnesota, 127
 take per hunter, Minnesota, 124
 take per nonresident hunter, 127
 winter population estimates
 all Canada geese, Mississippi Flyway, 1969-1987, 96
 Eastern Prairie Population, 1963-1987, 56, 61, 97
 Mississippi Valley Population, 1969-1987, 98
 giant (Maxima) population, 1969-1987, 99

Goldeneye
 hunting
 harvest, Minnesota, 1986-1987, 128

Grouse, ruffed
 hunting
 harvest, 125
 number of hunters, 124
 number of nonresident hunters, 127
 take per hunter, 124
 take per nonresident hunter, 127
 survey (spring drumming), 28-31

Grouse, sharp-tailed
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
 survey
 August roadside, 6
 spring dancing ground, 32

Grouse, spruce
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124

Hare, snowshoe
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
 survey (in association with ruffed grouse drumming counts), 33

Hunters, deer
 antlerless permits issued, 134
 hunting success, 132, 134
 licenses sold (firearms, archery, bonus), 121

Hunters, resident small game
 harvest, 125
 license sales, 125, 126
 numbers hunting and not hunting, 123
 response to mail surveys, 122, 123
 take per hunter, 124

Hunters, nonresident small game
 harvest of various species, 127
 licenses sold, 127
 response to mail surveys, 127

Hunters, waterfowl
 ducks retrieved per hunter-day (Minnesota), 129
 ducks retrieved per hunter-day (top 10 states), 129
 duck stamp sales (Minnesota), 125
 hunter days (Minnesota), 129
 hunter days (top 10 states), 129
 number,
 Minnesota, 129
 Mississippi Flyway, 1961-1987, 71
 nonresidents in Minnesota, 1980-1987, 127
 top 10 states, 129

Lynx
 pelt prices, 151

Mallard (domestic)
 hunting
 harvest, Minnesota, 128

Mallard (wild)
 breeding populations
 Minnesota, 54, 60
 North America, 59, 62
 hunting
 harvest
 Atlantic Flyway, 1961-1987, 68
 Canada, 1968-1987, 112
 Central Flyway, 1961-1987, 102

Minnesota, 128
Mississippi Flyway, 1961-1987, 78
Pacific Flyway, 1961-1987, 105
United States, 1961-1987, 109
winter populations
 number observed during mid-winter survey, 1961-1987, 94

Marten

 carcass examination data, 44
 pelt prices, 151
 population data, 43
 population model, 43
 trapping
 take by county, 167
 take by county and sex, 168
 take by date and sex, 168
 registered harvest, 150

Merganser, hooded

 hunting
 harvest, Minnesota, 1986-1987, 128

Mink

 pelt prices, 151
 trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Moose

 survey aerial
 area boundaries, 50
 population estimates, 51, 52
 hunting, 1971-1987
 harvest, 145
 license applications, 145
 licenses issued, 145
 party success, 145
 sex ratio of moose killed, 145

Muskrat

 pelt prices, 151
 trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Opossum

 pelt prices, 151
 trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Otter
 carcass examination data, 40
 pelt prices, 151
 population data, 39
 population model, 39
 trapping
 take by county, 158, 159
 take by county and sex, 161
 take by date and sex, 160
 registered take, 150

Partridge, gray
 historical August roadside survey summary, 12, 14
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
 survey (August roadside), 5, 6

Pelt prices of furbearers, 1976-77 thru 1978-88, 151

Pheasant, ring-necked
 historical August roadside survey summary, 12, 13
 hunting
 harvest, 125
 harvest by nonresident hunters, 127
 number of hunters, 124
 number of nonresident hunters, 127
 take per hunter, 124
 take per nonresident hunter, 127
 survey (August roadside)
 agricultural region data, 2
 broods
 observed per 100 miles driven, 5
 mean size, 5
 cocks observed per 100 miles driven, 5
 county data, 2, 3-4
 hens observed per 100 miles driven, 5

Pheasant stamp sales, 125

Pintail
 breeding populations (North America), 58-59, 62
 hunting
 harvest
 Minnesota, 1986-1987, 128
 Mississippi Flyway, 1961-1987, 84
 Pacific Flyway, 106

Ponds, May (North Central U.S. and Prairie Canada), 57, 62

Prairie chicken, greater
 survey
 August roadside, 6
 spring booming ground, 1978-1988, 18

Predator scent post survey
 farmland/transition zone
 indices, 26
 route locations, 25

 forest zone
 indices, 26
 route locations, 25

Rabbit, Eastern cottontail
 historical August roadside survey summary, 12, 15
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
 survey (August roadside), 5, 6, 8

Rabbit, white-tailed jack
 historical August roadside survey summary, 12, 16
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
 survey (August roadside), 5, 6, 8

Raccoon
 hunting
 harvest, 125
 harvest by nonresident hunters, 127
 number of hunters, 124
 number of nonresident hunters, 127
 take per hunter, 124
 take per nonresident hunter, 127
 pelt prices, 151
 trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149
 scent post survey indices, 26

Rails/gallinules
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124

Redhead
 breeding populations (North America), 58-59, 62
 hunting
 harvest, Minnesota, 1986-1987, 128
 harvest, Mississippi Flyway, 1961-1987, 86

Registered furbearers
 harvest, 37-44, 153
 permits issued, 153
 population data, 37-44

Ring-necked duck
hunting
 harvest, Minnesota, 1986-1987, 128
 harvest, Mississippi Flyway, 1961-1987, 89

Ruddy duck
hunting
 harvest, Minnesota, 1986-1987, 128

Scaup
breeding populations, Minnesota, 55
breeding populations, North America, 58-59

Scaup, greater
hunting
 harvest, Minnesota, 1986-1987, 128

Scaup, lesser
hunting
 harvest, Minnesota, 1986-1987, 128
 harvest, Mississippi Flyway, 1961-1987, 88

Scent post survey (see Predator scent post survey)

Scoters
hunting
 harvest, Minnesota, 1986-1987, 128

Shoveler, northern
breeding populations, North America, 58-59, 62
hunting
 harvest, Minnesota, 1986-1987, 128

Skunk, spotted
pelt prices, 151
survey (August roadside), 6
trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Skunk, striped
pelt prices, 151
scent post survey indices, 26
survey (August roadside), 6
trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

Snipe, common
hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124

Squirrel, fox
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
 survey (August roadside), 6

Squirrel, gray
 hunting
 harvest, 125
 number of hunters, 124
 take per hunter, 124
 survey (August roadside), 6

Squirrel, red
 survey (August roadside),

Teal, blue-winged
 breeding populations
 Minnesota, 54, 60
 North America, 58-59
 hunting
 harvest, Minnesota, 1986-1987, 128
 harvest, Mississippi Flyway, 1961-1987, 83
 harvest, United States, 1961-1965, 110

Teal, green-winged
 breeding populations, North America, 58-59, 62
 hunting
 harvest, Minnesota, 1986-1987, 128
 harvest, Mississippi Flyway, 1961-1987, 82

Trappers
 harvest, 150
 license sales, 150
 number trapping, 148
 response to mail surveys, 147
 take per trapper, 149

Turkey, wild
 hunting, 1978-1988
 area of open hunt zone, 130
 harvest, 130
 number of permits available, 130
 number of permit applicants, 130
 number of persons hunting, 130
 success rates, 130

Weasel, long-tailed
 pelt prices, 151
 trapping
 harvest, 150
 number of trappers, 149
 take per trapper, 149

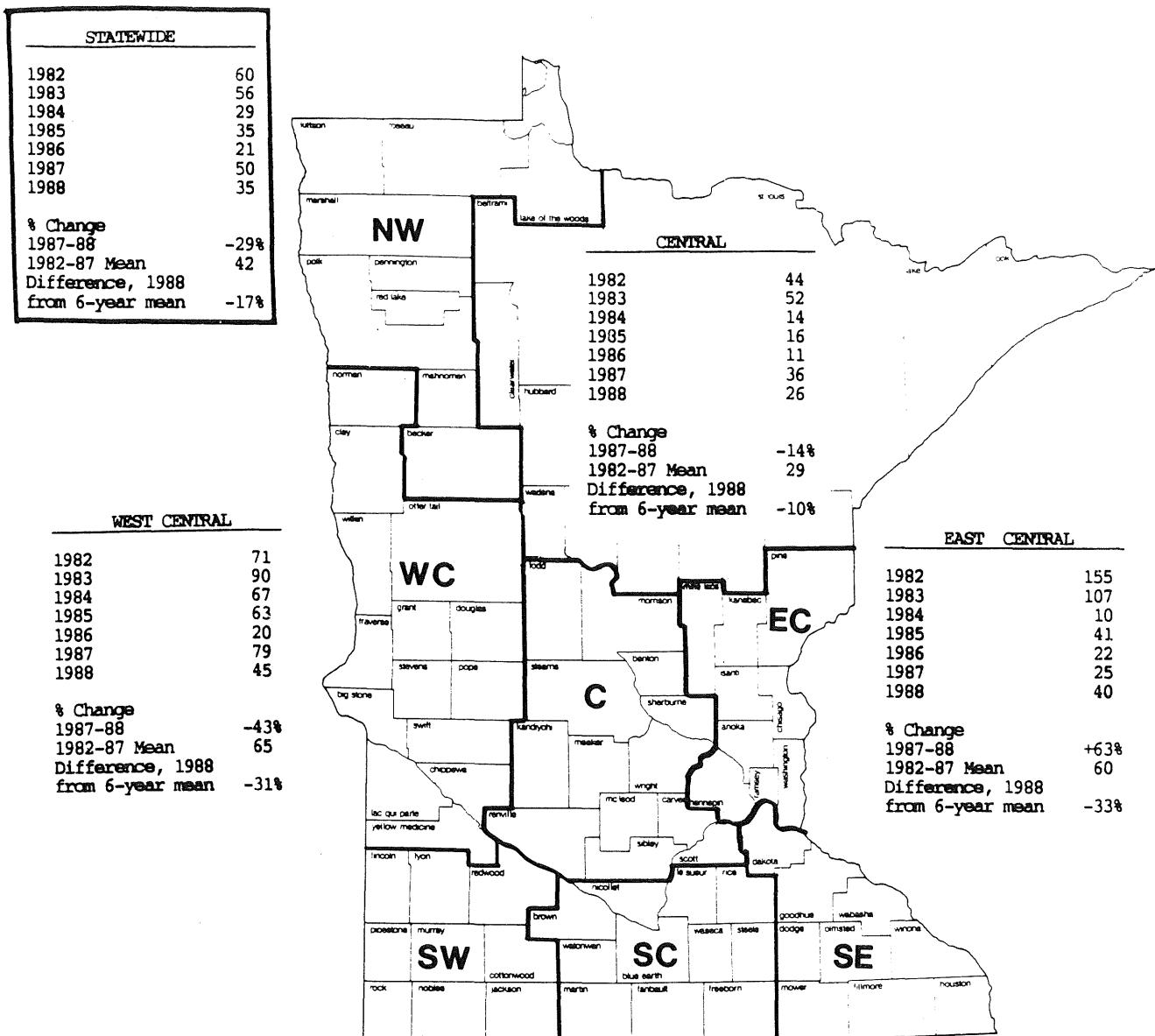
Wigeon, American
breeding populations, North America, 58-59, 62
hunting
 harvest, Minnesota, 1986-1987, 128
 harvest, Mississippi Flyway, 1961-1987, 81

Wolf, gray
scent post survey indices, 26

Woodcock, American
breeding populations, 118
breeding range--states covered in singing ground survey, 117
hunting
 harvest, 125
 indices of daily and seasonal hunting success, 120
 number of hunters, 124
 take per hunter, 124
recruitment, 119

Wood duck
hunting
 harvest, Minnesota, 1986-1987, 128
 harvest, Mississippi Flyway, 1961-1987, 85

FARMLAND WILDLIFE POPULATIONS



SOUTHWEST		SOUTH CENTRAL		SOUTHEAST	
1982	26	1982	49	1982	29
1983	10	1983	25	1983	51
1984	8	1984	26	1984	21
1985	14	1985	30	1985	32
1986	20	1986	24	1986	37
1987	60	1987	42	1987	39
1988	25	1988	32	1988	30

% Change
1987-88 -61%
1982-87 Mean 23
Difference, 1988 from 6-year mean +9%

1982	49	1982	29
1983	25	1983	51
1984	26	1984	21
1985	30	1985	32
1986	24	1986	37
1987	42	1987	39
1988	32	1988	30

% Change
1987-88 -25%
1982-87 Mean 33
Difference, 1988 from 6-year mean -3%

1982	29	1982	29
1983	51	1983	51
1984	21	1984	21
1985	32	1985	32
1986	37	1986	37
1987	39	1987	39
1988	30	1988	30

% Change
1987-88 -23%
1982-87 Mean 35
Difference, 1988 from 6-year mean -14%

Figure 1. Pheasants observed per 100 miles of August census route, 1982-1988, and percent change 1987-1988 for miles censused both years.

Table 1. County, regional, and statewide August ring-necked pheasant census results, 1983-88.

Region and County	Miles censused 1987	Pheasants observed per 100 miles						Percent ^a change 1987-88
		1983	1984	1985	1986	1987	1988	
West Central	925	89.7	66.5	62.9	19.6	79.4	45.3	63.6
Big Stone	75	340	257	283	21	339	94	
Chippewa	50	52	60	38	26	116	48	
Clay	75	43	25	1	0	0	9	
Douglas	50	32	16	2	2	14	14	
Grant	50	0	30	12	10	2	0	
Lac qui Parle	75	212	137	40	24	107	195	
Norman	50	0	0	0	0	0	0	
Ottertail	50	56	124	106	52	140	44	
Pope	75	148	63	97	40	67	61	
Stevens	75	188	84	61	33	113	29	
Swift	75	59	39	111	17	63	18	
Traverse	75	7	57	36	23	69	54	
Wilkin	75	3	3	3	1	0	0	
Yellow Medicine	75	15	1	39	21	40	21	
Central	650	51.5	13.6	16.3	10.7	36.4	32.9	25.7
Benton	50	82	10	60	8	104	29	
Carver	50	22	18	4	0	26	44	
Kandiyohi	75	83	9	25	3	8	59	
McLeod	50	28	0	16	14	--	20	
Meeker	75	19	28	8	5	21	28	
Morrison	50	12	0	0	22	8	2	
Renville	50	2	0	0	0	0	--	
Scott	50	168	6	38	14	72	48	
Sherburne	50	24	0	0	0	48	0	
Sibley	75	44	17	20	19	44	26	
Stearns	100	44	20	19	3	11	15	
Todd	50	110	30	0	44	26	77	
Wright	50	40	18	16	18	100	57	
East Central	425	107.3	10.1	41.3	22.4	24.5	40.0	41.1
Anoka	50	4	2	32	0	4	19	
Chisago	75	265	20	72	25	43	35	
Hennepin	25	60	0	--	0	4	115	
Isanti	75	139	12	27	23	9	57	
Kanabec	50	128	10	32	38	26	18	
Mille Lacs	50	60	26	52	70	42	18	
Pine	50	58	0	66	6	30	65	
Washington	50	26	0	0	4	26	14	
Southwest	450	10.1	8.4	14.3	19.8	60.2	24.7	19.1
Cottonwood	50	2	10	46	0	48	31	
Jackson	50	24	10	18	10	16	8	
Lincoln	50	4	0	4	4	76	0	
Lyon	50	0	0	0	16	22	28	
Murray	50	54	0	6	26	98	40	
Nobles	75	1	0	15	29	41	12	
Pipestone	50	6	28	18	20	46	40	
Redwood	50	0	28	6	16	6	22	
Rock	50	4	4	16	52	198	48	
South Central	775	24.9	25.8	29.6	23.5	41.7	31.6	29.1
Blue Earth	75	29	7	8	1	29	42	
Brown	75	7	33	24	28	24	35	
Fairbault	75	24	8	24	12	49	13	
Freeborn	75	0	25	51	35	72	31	
LeSueur	75	65	40	80	24	83	47	
Martin	50	21	65	15	50	74	33	
Nicollet	75	11	1	12	0	43	6	
Rice	75	25	1	0	16	12	25	
Steele	50	24	98	2	2	68	33	
Waseca	75	32	4	23	81	3	96	
Watonwan	75	35	17	59	11	21	4	

Table 1. Continued.

Region and County	Miles censused 1987	Pheasants observed per 100 miles						Percent ^a change 1987-88
		1983	1984	1985	1986	1987	1988	
Southeast	475	51.4	20.6	31.6	37.4	39.0	30.1	36.0
Dakota	25	98	4	--	62	4		
Dodge	50	96	20	56	12	66		
Fillmore	50	24	38	2	32	14		
Goodhue	50	4	0	2	0	4		
Houston	50	4	0	0	2	14		
Mower	75	55	45	64	72	71		
Olmsted	75	109	29	49	60	41		
Wabasha	50	16	0	16	54	6		
Winona	50	0	32	38	14	114		
Statewide	3,700	56.2	28.7	34.6	21.2	49.9	35.2	38.1

^a Percent change 1987-88 for miles surveyed both years only.

Table 2. Statewide pheasant population parameters calculated from August census results, 1983-88.

Population parameter	1983	1984	1985	1986	1987	1988	1983-87 mean	Percent change 1987-88
Cocks/100 miles driven	5.2	2.5	3.2	2.6	3.6	2.8	3.4	-22%
Hens/100 miles driven	7.1	3.6	4.5	2.5	4.9	3.9	4.5	-22%
Broods/100 miles driven	7.4	4.3	4.8	3.6	7.0	4.7	5.4	-33%
Mean Brood Size	5.9	5.3	5.6	4.5	5.9	6.0	5.4	2%

Table 3. August 1988 roadside census results for selected farmland wildlife species by agricultural region.

Region	Miles censused	Animals seen per 100 miles driven				
		Gray partridge (Hun)	Eastern cottontail	W.t. jack rabbit	Mourning dove	W.t. deer
NW	475	3.8	1.3	0.6	172.8	15.2
WC	925	26.8	2.6	0.8	385.7	3.0
C	650	20.0	3.2	0.5	212.6	3.1
EC	425	3.1	7.6	0.0	112.2	3.3
SW	450	110.7	6.4	2.0	300.0	5.1
SC	775	63.4	3.9	1.0	202.6	2.7
SE	475	40.0	5.9	0.4	178.3	8.6
Statewide ^a	4,175	38.0	4.0	0.8	239.9	5.2

^a Statewide means include the Northwest region.

Table 4. August 1988 roadside census results for selected farmland wildlife species by agricultural region.

Region	Miles censused	Animals seen per 100 miles driven				
		Gray partridge (Hun)	Eastern cottontail	W.t. jack rabbit	Mourning dove	W.t. deer
NW	475	3.8	1.3	0.6	172.8	15.2
WC	925	26.8	2.6	0.8	385.7	3.0
C	650	20.0	3.2	0.5	212.6	3.1
EC	425	3.1	7.6	0.0	112.2	3.3
SW	450	110.7	6.4	2.0	300.0	5.1
SC	775	63.4	3.9	1.0	202.6	2.7
SE	475	40.0	5.9	0.4	178.3	8.6
Statewide ^a	4,175	38.0	4.0	0.8	239.9	5.2

^a Statewide means include the Northwest region.

Table 5. Statewide August roadside census results for selected farmland wildlife species 1984-1988.

Species	Animals per 100 miles driven ^a					Percent ^b change 1987-1988
	1984	1985	1986	1987	1988	
Ring-necked pheasant ^c	28.7	34.6	21.6	49.9	35.2	-29%
Gray partridge (Hun)	20.0	37.0	20.6	34.2	38.0	15%
Mourning dove	279.2	270.1	204.1	262.0	239.9	-12%
Eastern cottontail	2.9	4.4	4.0	7.0	4.0	-43%
White-tailed jack rabbit	0.8	1.2	0.5	0.7	0.8	-3%
White-tailed deer	4.9	5.4	3.9	5.4	5.2	-7%
Sharp-tailed grouse	0.12	0.13	0.00	0.00	0.36	NA
Greater prairie-chicken	0.23	0.00	0.00	0.00	0.00	0%
Sandhill crane	1.14	1.84	1.33	3.44	7.66	118%
Badger	0.00	0.00	0.00	0.05	0.00	-100%
Gray & fox squirrels	1.84	0.86	1.29	1.19	1.62	33%
Gray & red foxes	0.28	0.23	0.42	0.26	0.22	-54%
Striped & spotted skunks	0.49	0.48	0.42	0.30	0.38	33%

^a The mean number of animals per 100 miles are calculated using total miles censused and are not corrected for only miles censused both years.

^b Percent change 1987-88 calculated using only those routes censused both years.

^c Pheasant means do not include the Northwest region.

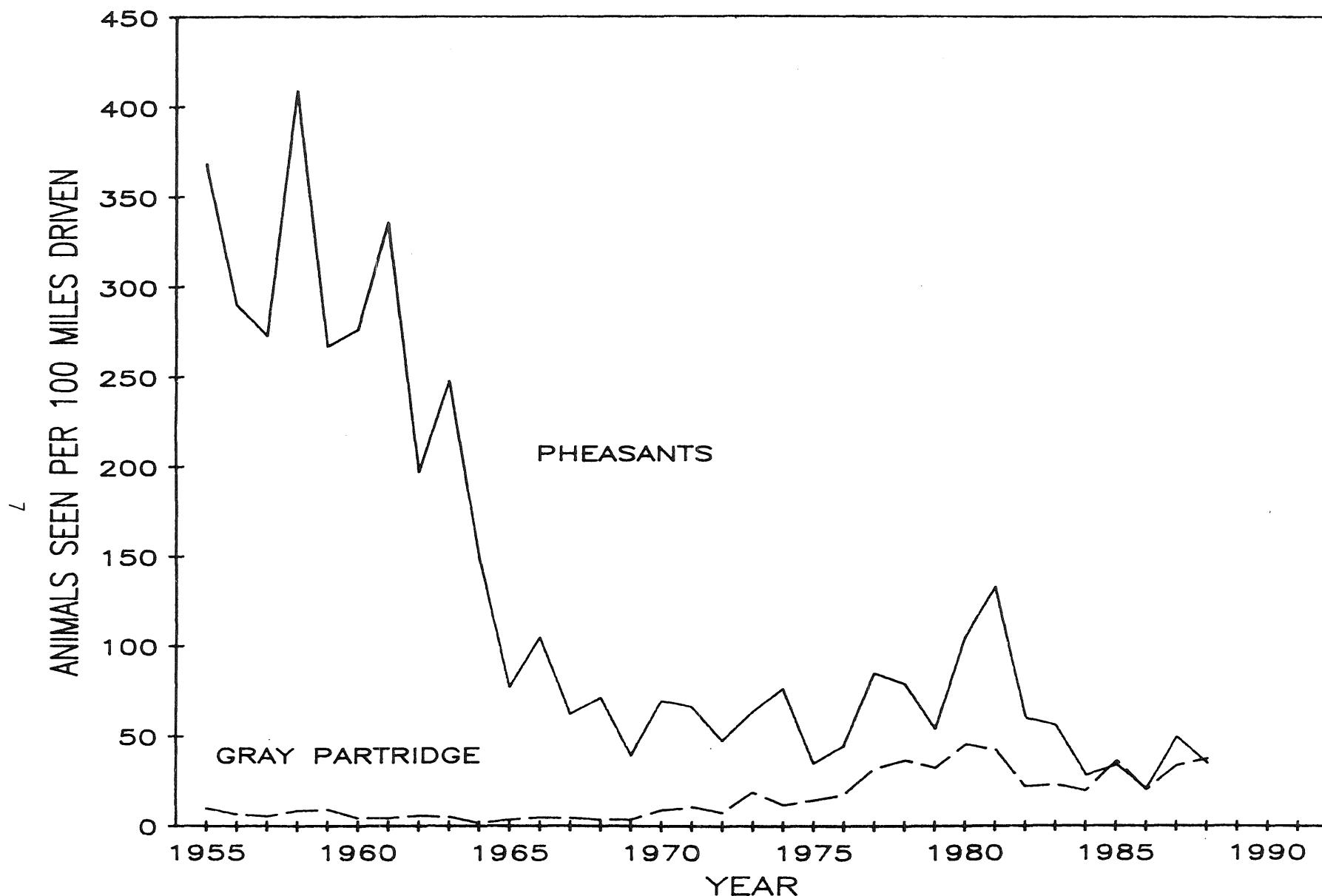


Figure 2. August roadside census indices (animals observed/100 mi.) of pheasants and gray partridge, 1955-88.

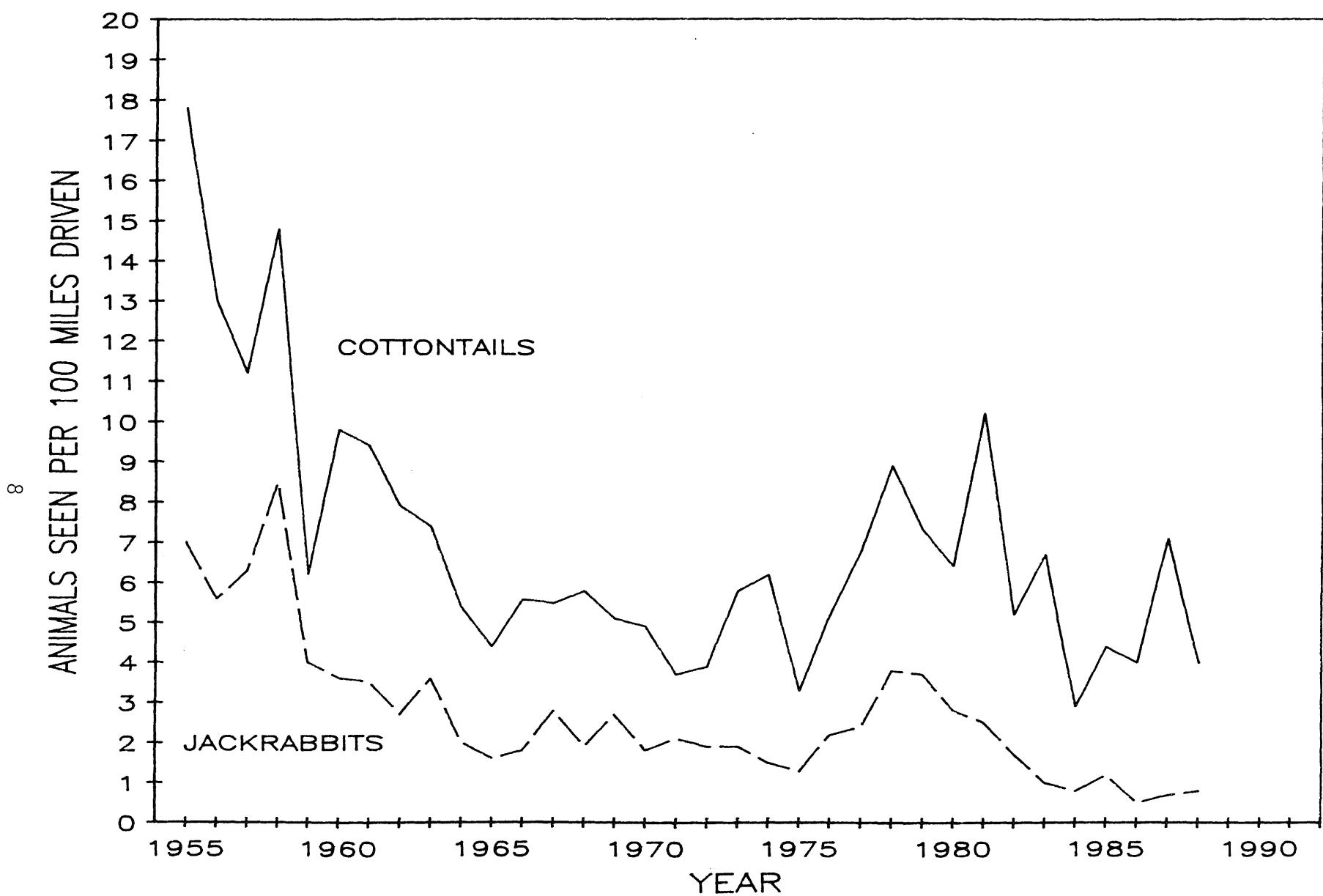


Figure 3. August roadside indices (animals observed/100 mi.) of eastern cottontail and white-tailed jackrabbits, 1955-88.

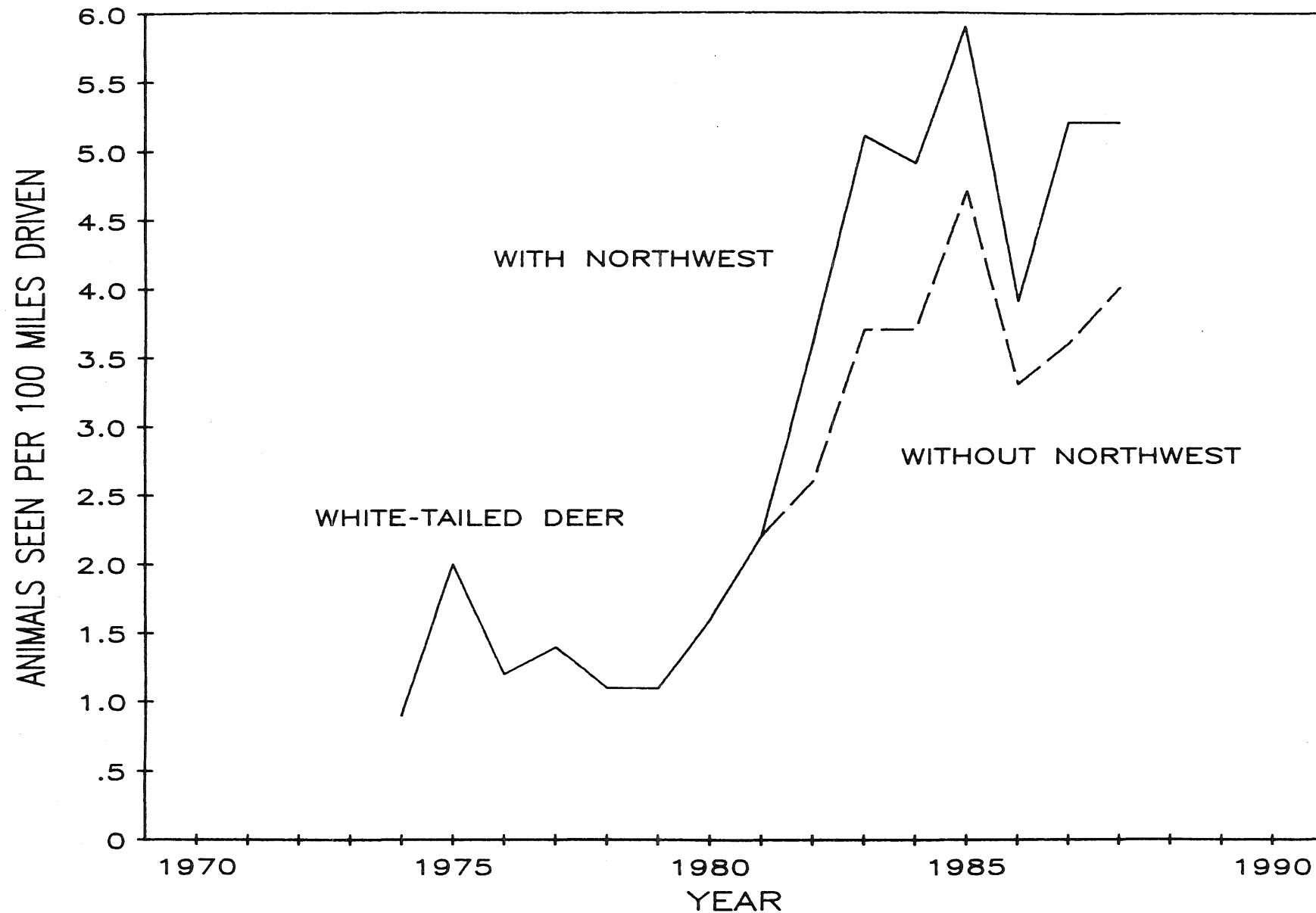


Figure 4. August roadside indices (animals observed/100 mi.) of white-tailed deer, with and without the Northwest agricultural region, 1955-88.

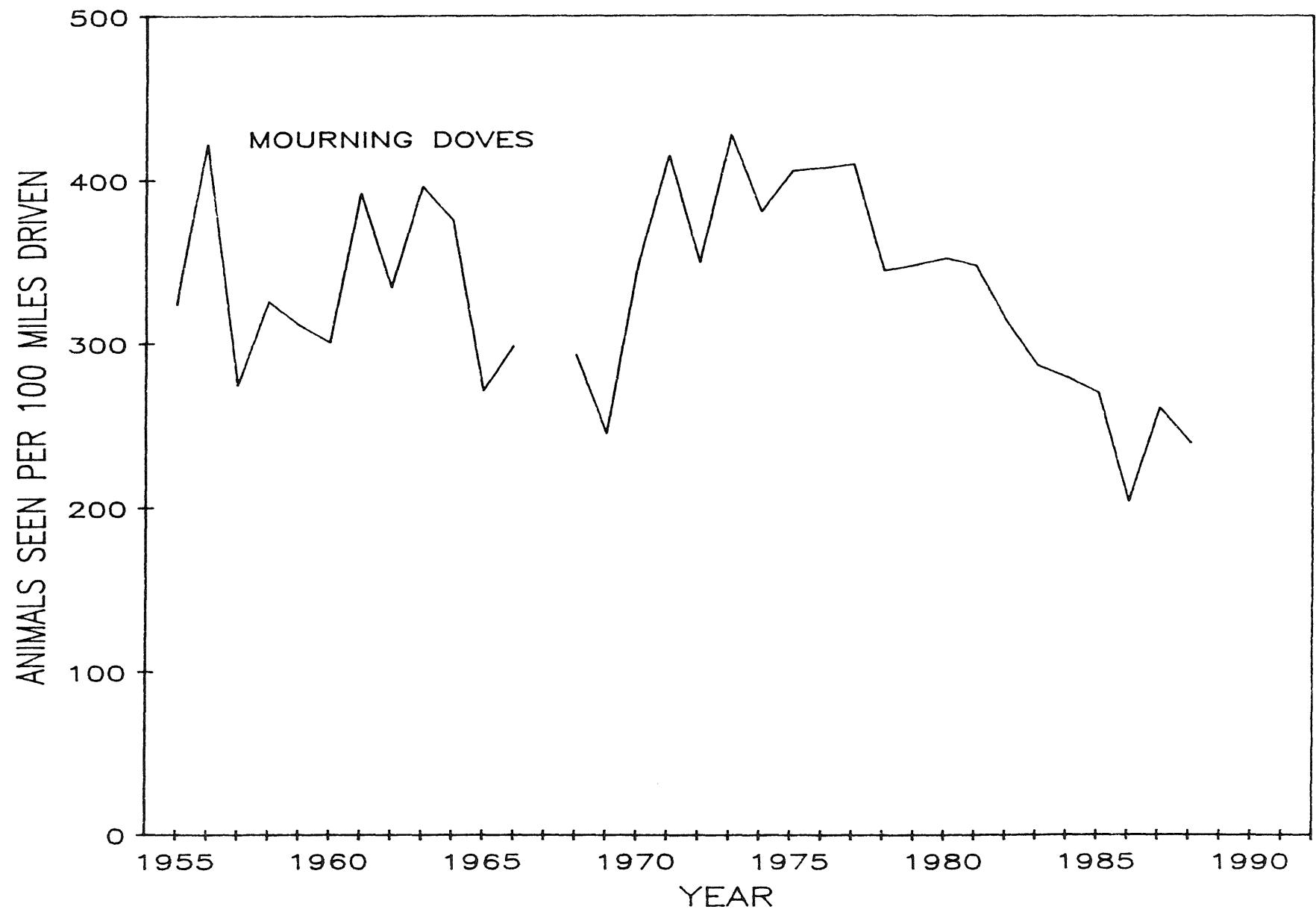


Figure 5. August roadside indices (animals observed/100 mi.) of mourning doves, 1955-88.

August Roadside Survey Historical Summaries

Table 6. August roadside survey results for 5 species, 1955-1988.

Year	Animals seen per 100 miles driven ^a				
	Pheasants ^b	Gray partridge	Cottontails	Jack rabbits	Mourning doves
1955	368.1	9.9	17.8	7.0	324.5
1956	290.0	6.6	13.0	5.6	422.6
1957	272.6	5.5	11.2	6.3	274.5
1958	409.1	8.7	14.8	8.5	326.0
1959	266.8	9.3	6.2	4.0	311.4
1960	276.4	4.4	9.8	3.6	300.8
1961	336.0	4.5	9.4	3.5	392.4
1962	197.2	5.8	7.9	2.7	334.6
1963	248.1	5.1	7.4	3.6	396.5
1964	149.8	1.6	5.4	2.0	375.9
1965	77.2	3.6	4.4	1.6	271.6
1966	105.0	4.9	5.6	1.8	299.6
1967	62.2	4.6	5.5	2.8	
1968	71.4	3.5	5.8	1.9	293.5
1969	39.2	3.7	5.1	2.7	245.6
1970	69.6	9.1	4.9	1.8	348.3
1971	66.1	10.8	3.7	2.1	415.4
1972	47.3	7.5	3.9	1.9	349.8
1973	63.3	19.1	5.8	1.9	428.2
1974	76.3	12.0	6.2	1.5	380.8
1975	34.8	14.6	3.3	1.3	405.8
1976	44.8	17.6	5.2	2.2	407.4
1977	85.0	32.1	6.8	2.4	409.8
1978	79.0	37.0	8.9	3.8	344.5
1979	54.2	32.6	7.3	3.7	347.9
1980	104.9	46.0	6.4	2.8	352.2
1981	133.5	42.9	10.2	2.5	347.6
1982 ^c	60.2	22.2	5.2	1.7	313.6
1983	56.2	23.4	6.7	1.0	286.6
1984	28.7	20.0	2.9	0.8	279.2
1985	34.6	37.0	4.4	1.2	270.1
1986	21.2	20.6	4.0	0.5	204.1
1987	49.9	34.2	7.1	0.7	261.2
1988	35.2	38.0	4.0	0.8	239.9

^a Gaps in data represent no survey.^b Pheasants seen per 100 miles driven do not include the Northwest agricultural region.^c Eight counties in the Northwest agricultural region added to survey for all species except pheasants, 1982-present.

Table 7. Pheasants seen per 100 miles of August roadside survey, summarized by agricultural region, 1955-1988.

Year	Agricultural Region							
	WC	C	EC	SW	SC	SE	NW	Statewide ^a
1955	335	163	140	581	620	212	No Survey	368
1956	249	208	175	357	478	169		290
1957	260	130	135	337	522	180		273
1958	490	262	300	473	593	126		409
1959	307	187	73	510	413	55		267
1960	367	243	203	294	357	38		276
1961	494	267	255	366	381	115		336
1962	264	140	144	215	239	114		197
1963	444	192	157	252	227	135		248
1964	225	83	26	185	211	84		150
1965	121	38	9	90	98	69		77
1966	110	67	26	109	176	102		105
1967	56	30	10	54	126	81		62
1968	65	40	17	78	125	94		71
1969	13	22	20	33	68	102		39
1970	20	27	9	55	109	194		70
1971	40	44	12	59	77	175		66
1972	20	28	44	37	67	105		47
1973	38	35	53	36	75	168		63
1974	51	73	85	60	93	108		76
1975	13	34	75	7	25	79		35
1976	12	28	68	2	83	81		45
1977	46	85	101	6	145	126		85
1978	36	80	178	23	106	77		79
1979	45	62	101	13	53	55		54
1980	79	117	221	20	110	85		105
1981	124	139	268	76	126	95		134
1982	71	44	155	26	49	29	0	60
1983	90	52	107	10	25	51	0	56
1984	67	14	10	8	26	21	0	29
1985	63	16	41	14	30	32	3	35
1986	20	11	22	20	24	37	0	21
1987	79	36	25	60	42	39	0	50
1988	45	33	40	25	32	30	0	35

^a Statewide totals do not include the Northwest agricultural region.

Table 8. Gray partridge seen per 100 miles of August roadside survey,
summarized by agricultural region, 1955-1988.

Year	Agricultural Region							Statewide ^a
	WC	C	EC	SW	SC	SE	NW	
1955	16	8	0	11	10	9	No Survey	10
1956	3	8	0	15	6	8		7
1957	6	5	0	12	7	0		6
1958	20	9	0	10	0	6		9
1959	13	17	0	20	5	0		9
1960	4	7	0	12	1	5		4
1961	6	13	0	2	1	0		5
1962	3	10	0	3	0	22		6
1963	3	11	0	11	1	5		5
1964	1	3	0	2	2	2		2
1965	5	3	0	7	2	4		4
1966	2	4	0	18	0	11		5
1967	3	2	0	8	14	0		5
1968	4	3	0	10	0	5		4
1969	5	3	0	11	0	5		4
1970	7	8	0	33	4	4		9
1971	13	4	0	29	7	10		11
1972	7	3	0	18	2	18		8
1973	8	8	0	67	12	26		19
1974	7	10	0	27	8	20		12
1975	11	2	0	68	9	6		15
1976	11	9	0	59	15	22		18
1977	16	33	0	93	31	32		32
1978	26	23	0	144	31	15		37
1979	43	24	0	80	35	12		33
1980	58	49	0	99	41	28		46
1981	38	27	1	139	44	19		43
1982	24	23	1	70	17	16	4	22
1983	29	19	0	65	23	8	15	23
1984	18	17	0	50	27	16	10	20
1985	31	18	0	95	63	42	2	37
1986	10	5	0	60	45	21	4	21
1987	15	15	0	99	47	67	5	34
1988	27	20	3	111	63	40	4	38

^a Statewide totals include the Northwest agricultural region from 1982 on.

Table 9. Cottontail rabbits seen per 100 miles of August roadside survey,
summarized by agricultural region, 1955-1988.

Year	Agricultural Region							
	WC	C	EC	SW	SC	SE	NW	Statewide ^a
1955	8	15	15	20	20	32	No Survey	18
1956	10	16	12	16	13	13		13
1957	7	10	8	18	14	14		11
1958	13	14	16	22	17	7		15
1959	5	16	6	7	5	2		6
1960	6	14	6	16	12	5		10
1961	6	12	6	14	11	6		9
1962	6	7	4	13	10	8		8
1963	7	4	5	12	9	9		7
1964	5	3	1	12	7	5		5
1965	4	4	1	5	6	6		4
1966	5	3	2	10	8	6		6
1967	6	5	2	7	9	3		6
1968	5	3	4	9	9	6		6
1969	4	4	1	10	8	5		5
1970	4	5	2	7	6	6		5
1971	5	3	2	7	3	2		4
1972	4	5	4	5	4	4		4
1973	5	9	6	7	5	4		6
1974	3	7	14	7	6	6		6
1975	2	4	8	2	2	3		3
1976	4	6	7	2	6	8		5
1977	5	7	13	6	5	8		7
1978	5	9	21	12	7	5		9
1979	5	8	8	13	8	4		7
1980	4	7	10	7	7	4		6
1981	7	10	18	10	8	12		10
1982	5	7	8	3	7	5	2	5
1983	7	6	13	6	4	12	2	7
1984	2	2	4	4	4	5	0	3
1985	2	4	5	7	6	8	0	4
1986	2	5	6	6	5	5	0	4
1987	6	7	12	8	7	11	1	7
1988	3	3	8	6	4	6	1	4

^a Statewide totals include the Northwest agricultural region from 1982 on.

Table 10. Jack rabbits seen per 100 miles of August roadside survey,
summarized by agricultural region, 1955-1988.

Year	Agricultural Region							Statewide ^a
	WC	C	EC	SW	SC	SE	NW	
1955	9	3	2	13	11	2	No Survey	7
1956	6	4	2	10	8	2		6
1957	5	5	1	20	6	1		6
1958	7	6	1	20	12	1		9
1959	1	1	0	15	8	1		4
1960	4	5	0	10	3	0		4
1961	4	5	0	7	4	0		4
1962	4	2	0	5	3	1		3
1963	10	2	0	2	3	1		4
1964	3	1	0	4	2	1		2
1965	2	2	0	4	1	0		2
1966	2	2	0	5	1	1		2
1967	5	1	0	4	4	0		3
1968	2	1	0	7	2	1		2
1969	3	1	1	10	2	1		3
1970	4	2	0	2	1	0		2
1971	5	2	0	3	1	0		2
1972	4	1	0	2	2	1		2
1973	4	0	0	3	2	0		2
1974	4	2	0	2	1	0		2
1975	3	1	0	2	0	0		1
1976	4	1	0	5	2	1		2
1977	4	3	0	5	2	1		2
1978	3	3	1	13	3	1		4
1979	5	5	1	6	3	1		4
1980	4	1	1	8	2	3		3
1981	2	2	0	7	2	3		3
1982	3	1	1	5	1	1	2	2
1983	2	1	0	0	1	1	1	1
1984	2	1	0	2	0	1	0	1
1985	2	0	0	3	2	1	1	1
1986	0	0	0	1	1	0	1	1
1987	1	0	0	1	1	1	1	1
1988	1	1	0	2	1	0	1	1

^a Statewide totals include the Northwest agricultural region from 1982 on.

Table 11. Mourning doves seen per 100 miles of August roadside survey,
summarized by agricultural region, 1955-1988.

Year	Agricultural Region ^a							Statewide ^b
	WC	C	EC	SW	SC	SE	NW	
1955	335	275	116	539	396	197	No Survey	325
1956	347	553	278	592	461	286		423
1957	303	246	168	243	383	200		275
1958	350	297	192	270	456	293		326
1959	377	307	221	358	447	94		311
1960	274	334	122	337	430	187		301
1961	377	373	136	481	563	317		392
1962	338	338	215	313	396	314		335
1963	636	273	212	506	435	313		397
1964	681	257	167	400	395	217		376
1965	312	245	185	460	217	271		272
1966	363	210	152	505	311	229		300
1967								
1968	411	208	125	261	254	385		294
1969	268	280	125	477	132	195		246
1970	601	218	113	527	204	274		348
1971	580	257	182	366	259	752		415
1972	600	234	169	308	230	314		350
1973	602	280	288	480	392	329		428
1974	588	321	242	352	269	382		381
1975	654	303	153	546	338	260		406
1976	600	373	224	536	367	282		407
1977	699	308	168	680	282	224		410
1978	502	326	174	431	276	282		345
1979	601	406	138	380	198	213		348
1980	696	302	140	422	235	182		352
1981	634	285	153	514	213	179		348
1982	557	243	175	304	278	213	225	314
1983	517	289	131	278	214	193	189	287
1984	531	233	129	267	183	269	176	279
1985	501	245	93	243	213	151	234	270
1986	325	180	115	204	161	180	177	204
1987	441	222	105	257	207	255	194	261
1988	386	213	112	300	203	178	173	240

^a Gaps in data represent no survey.

^b Statewide totals include the Northwest agricultural region from 1982 on.

Table 12. Greater prairie-chicken spring booming ground counts for 14 northwestern counties, 1978-88 (counts coordinated and summarized by AWM Terry Wolfe, Crookston).

County	No. of booming males (No. of booming grounds)										
	1978	1979	1980	1981	1982	1983	1984 ^b	1985	1986	1987	1988
Becker	26 (4)	102 (9) ^a	156 (16) ^a	159 (16) ^a	133 (13) ^a	174 (17)	96 (9) ^a	41 (3)	99 (11)	53 (7)	19 (3)
Cass	9 (1)	14 (2) ^a	17 (6) ^a	63 (15) ^a	68 (16) ^a	65 (15)	54 (15) ^a	58 (14)	52 (14)	60 (15)	59 (13)
Chippewa	8 (1)	2 (1)	2 (1)	2 (1)	0	2 (1)	0	0	0	0	0
Clay	261 (21)	205 (17) ^a	186 (17) ^a	196 (16) ^a	216 (12) ^a	161 (15)	110 (7)	127 (7) ^a	86 (9) ^a	87 (9)	-
Hubbard	0	0	0	4 (1)	3 (1)	3 (1)	5 (1)	16 (6) ^a	16 (4)	22 (5)	24 (4)
Mahnomen	71 (4)	81 (7)	203 (21)	223 (20)	294 (22)	316 (22)	149 (19)	134 (15)	102 (17)	63 (9)	29 (5)
Marshall	0	0	0	3 (1)	7 (2)	3 (1) ^a	2 (2)	0	0	0	0
Norman	130 (9)	213 (13)	230 (9)	210 (9)	273 (15)	194 (11) ^a	119 (8)	86 (7)	128 ^a (10)	87 (9)	111 (9)
Ottertail	8 (2)	19 (5)	13 (2)	9 (2)	12 (1)	10 (3)	7 (1)	5 (1)	0 ^a	0	21 (3)
Pennington	0	8 (1) ^a	0	2 (1)	6 (1)	5 (1)	4 (1) ^a	3 (1)	0	0	0
Polk	140 (16)	192 (18) ^a	269 (27)	254 (26)	283 (29)	232 (26)	146 (22) ^a	162 (18)	96 (17) ^a	72 (8)	72 (10)
Red Lake	7 (1)	8 (1)	8 (1)	19 (2)	19 (2)	14 (2)	12 (2)	2 (1)	0	0	0
Wadena	0 (10) ^a	27 (3) ^a	10 (3)	60 (12) ^a	64 (11)	18 (6)	19 (2)	34 (9) ^a	17 (7) ^a	105 (20)	99 (16)
Wilkin	180 (14)	77 (4)	164 (14)	206 (23) ^a	269 (20)	223 (18)	60 (6)	149 (15) ^a	81 (9) ^a	99 (8)	58 (3)
Total males/ground	841 (74)	948 (81)	1,258(117)	1,410(144)	1,648(146)	1,420(139)	783 (95)	817 (97)	677 (98)	648 (90)	492 (66)
	11.4	11.7	10.8	9.8	11.2	10.2	8.2	8.4	6.9	7.2	7.4

^a 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.

^b Part of the reason for the low number of chickens is incomplete counts of known grounds. This was the case for Polk County and a few others. However, even after allowing for uncounted grounds, chicken numbers were down.

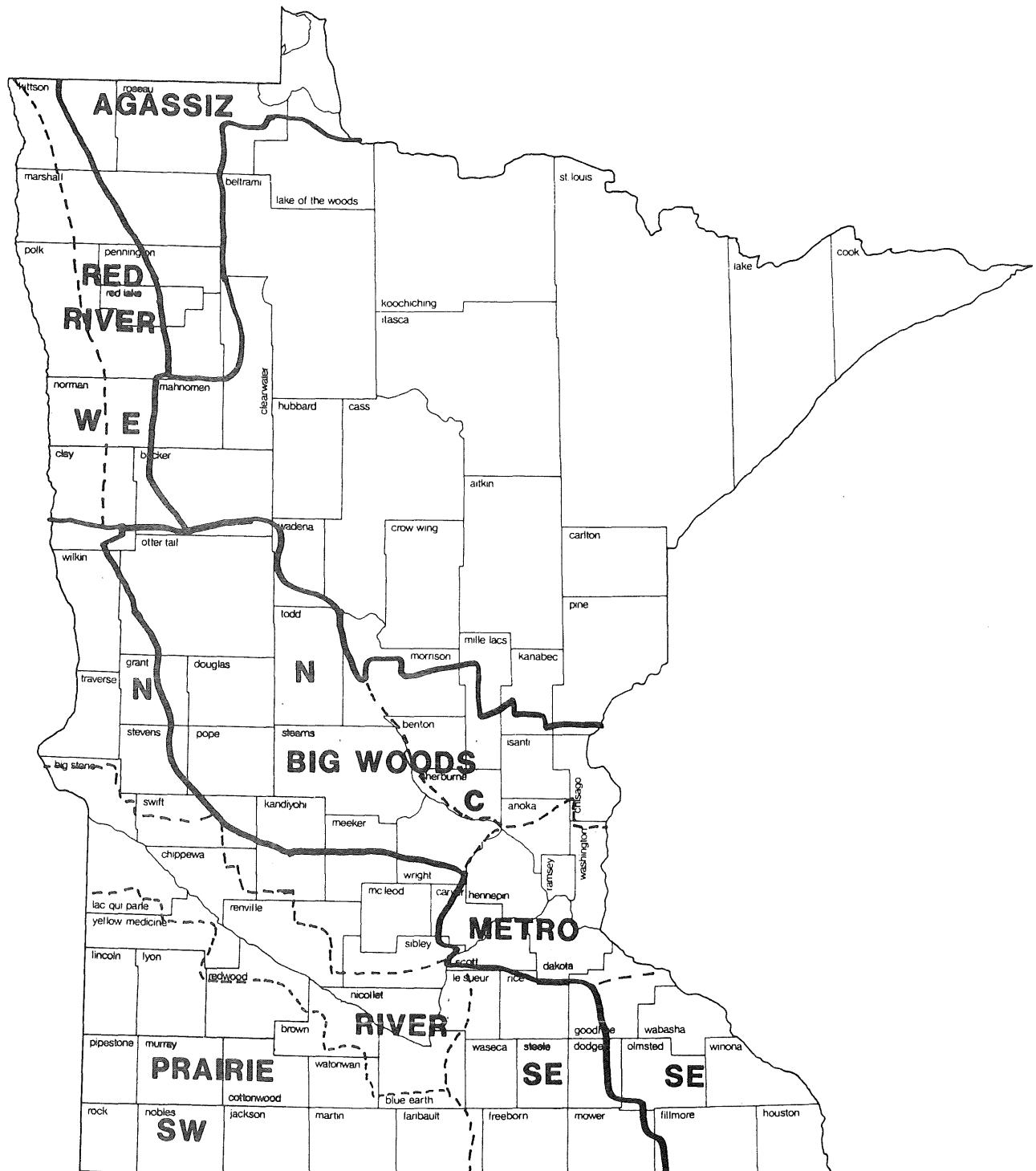


Figure 6. Deer management units and sub-units in the Farmland Zone.

Table 13. Number of car-killed deer confiscated in the Deer Management Units and sub-units of Minnesota's farmland zone, 1980-87. Data are adjusted for miles driven to the base year of 1972.

DMU Sub-DMU	1980	1981	1982	1983	1984	1985	1986	1987	\bar{X} 1980's	% Chg. 1985-86
<u>RED RIVER</u>	206	281	344	333	323	339	366	194	298	-47.0%
<u>AGASSIZ</u>	172	272	287	335	261	281	246	160	252	-35.0%
<u>BIG WOODS</u>	3,431	4,186	4,612	4,939	5,469	4,958	5,582	4,741	4,959	-15.0%
North	1,133	1,399	1,565	1,715	1,610	1,502	1,641	1,388	1,494	-15.0%
Central	661	893	885	904	1,065	934	961	771	884	-15.6%
Metro ^a	1,126	1,219	1,296	1,391	1,803	1,692	2,031	1,744	1,757	-14.1%
SE	511	676	866	929	990	830	949	838	824	-11.7%
<u>PRAIRIE</u>	2,577	2,666	2,990	3,078	3,268	2,809	3,146	3,046	2,948	-3.1%
North	392	392	394	469	349	400	440	476	414	+8.3%
River	764	842	864	947	1,021	829	865	790	865	-8.6%
SW	833	871	992	967	1,009	851	915	965	925	+5.5%
SE	589	561	740	695	890	729	926	815	743	-11.9%
<u>FARMLAND^b</u>	6,387	7,402	8,232	8,684	9,321	8,385 ^c	9,338 ^c	8,138 ^c	8,237	-12.9% ^c
<u>FOREST^d</u>	2,072	4,019	3,192	3,108	3,494	3,252	3,163	2,748	3,131	-13.1%
<u>STATEWIDE^e</u>	8,459	11,424	11,424	11,792	12,815	11,639	12,503	10,891	11,368	-12.9%

^a Does not include Ramsey County.

^b Farmland subtotals from regional enforcement summaries.

^c Does not equal sum of DMU's due to rounding error.

^d Forest subtotals = Statewide - Farmland

^e Statewide data from summaries distributed by Division of Enforcement in St. Paul.

Table 14. Productivity of deer in the Big Woods and Prairie Deer Management Units (DMU), 1981-87.

	Age class	Pregnancy rate	Fetuses per pregnancy	Proportion of population	Gross productivity ^a
BIG WOODS					
1987 (N=162)	Fawn	46%	1.05	35%	
	Yearling	95%	1.72	23%	
	Adult	94%	1.97	42%	1.32 fawns/doe
1986 (N=173)	Fawn	37%	1.10	35%	
	Yearling	82%	1.82	23%	
	Adult	91%	1.92	42%	1.22 fawns/doe
1985 (N=140)	Fawn	50%	1.13	35%	
	Yearling	100%	1.72	23%	
	Adult	95%	1.90	42%	1.35 fawns/doe
1984 (N=174)	Fawn	22%	1.24	35%	
	Yearling	95%	1.67	23%	
	Adult	95%	1.79	42%	1.17 fawns/doe
1983 (N=182)	Fawn	55%	1.20	35%	
	Yearling	94%	1.89	23%	
	Adult	94%	1.88	42%	1.38 fawns/doe
1982 (N=253)	Fawn	43%	1.17	35%	
	Yearling	91%	1.75	23%	
	Adult	96%	1.90	42%	1.31 fawns/doe
1981 (N=169)	Fawn	65%	1.08	35%	
	Yearling	94%	1.70	23%	
	Adult	94%	2.02	42%	1.41 fawns/doe
PRAIRIE					
1987 (N=70)	Fawn	54%	1.07	35%	
	Yearling	100%	1.94	23%	
	Adult	85%	2.00	42%	1.36 fawns/doe
1986 (N= 73)	Fawn	42%	1.13	35%	
	Yearling	85%	1.84	23%	
	Adult	92%	1.88	42%	1.25 fawns/doe
1985 (N= 66)	Fawn	38%	1.00	35%	
	Yearling	92%	1.58	23%	
	Adult	94%	1.97	42%	1.24 fawns/doe
1984 (N= 89)	Fawn	23%	1.14	35%	
	Yearling	91%	1.90	23%	
	Adult	86%	1.87	42%	1.17 fawns/doe
1983 (N= 92)	Fawn	61%	1.38	35%	
	Yearling	91%	2.00	23%	
	Adult	100%	2.07	42%	1.58 fawns/doe
1982 (N=132)	Fawn	43%	1.22	35%	
	Yearling	77%	1.80	23%	
	Adult	98%	2.02	42%	1.33 fawns/doe
1981 (N=132)	Fawn	44%	1.08	35%	
	Yearling	94%	1.88	23%	
	Adult	97%	1.91	42%	1.35 fawns/doe

^a Gross productivity calculated as pregnancy rate x fetuses/pregnancy weighted by the proportion of each age class in the population.

Table 15. Spring deer densities estimated from population modeling in DMU's of Minnesota's farmland zone, 1980-87.^a

DMU	Deer per square mile								Goal	1987 Percent of goal ^b
	1980	1981	1982	1983	1984	1985	1986	1987		
<u>Red River</u>	1.8	2.7	3.2	3.3	3.2	3.1	2.6	2.5	2.0	125%
<u>Agassiz</u>	3.6	5.3	6.2	6.6	6.5	6.2	5.7	5.0	5.4	92%
<u>Big Woods</u>										
North	3.3	4.2	5.0	5.4	5.3	5.0	4.7	4.2	4.2	100%
Central	4.3	5.4	6.2	6.7	7.0	7.0	6.8	6.0	6.5	92%
Metro	1.5	1.7	1.9	2.1	2.3	2.5	2.4	2.4	2.5	96%
SE	5.2	7.0	8.3	9.2	9.2	8.4	8.4	8.4	7.4	114%
<u>Prairie</u>										
North	1.6	1.7	1.9	2.0	1.9	1.9	1.7	1.7	1.7	100%
River	2.5	2.7	3.0	3.1	3.0	3.0	2.6	2.3	2.6	88%
SW	1.6	1.8	2.1	2.2	2.1	2.1	2.0	1.9	2.0	95%
SE	1.7	1.9	2.1	2.2	2.1	2.1	2.1	1.9	2.0	95%
<u>Farmland Zone</u>	2.6	3.4	3.8	4.0	4.0	3.9	3.7	3.4	3.4	100%

^a Historical density figures may differ from those previously published due to periodic recalculation as more accurate modeling information is available.

^b Percent = (1987/Goal) x 100.

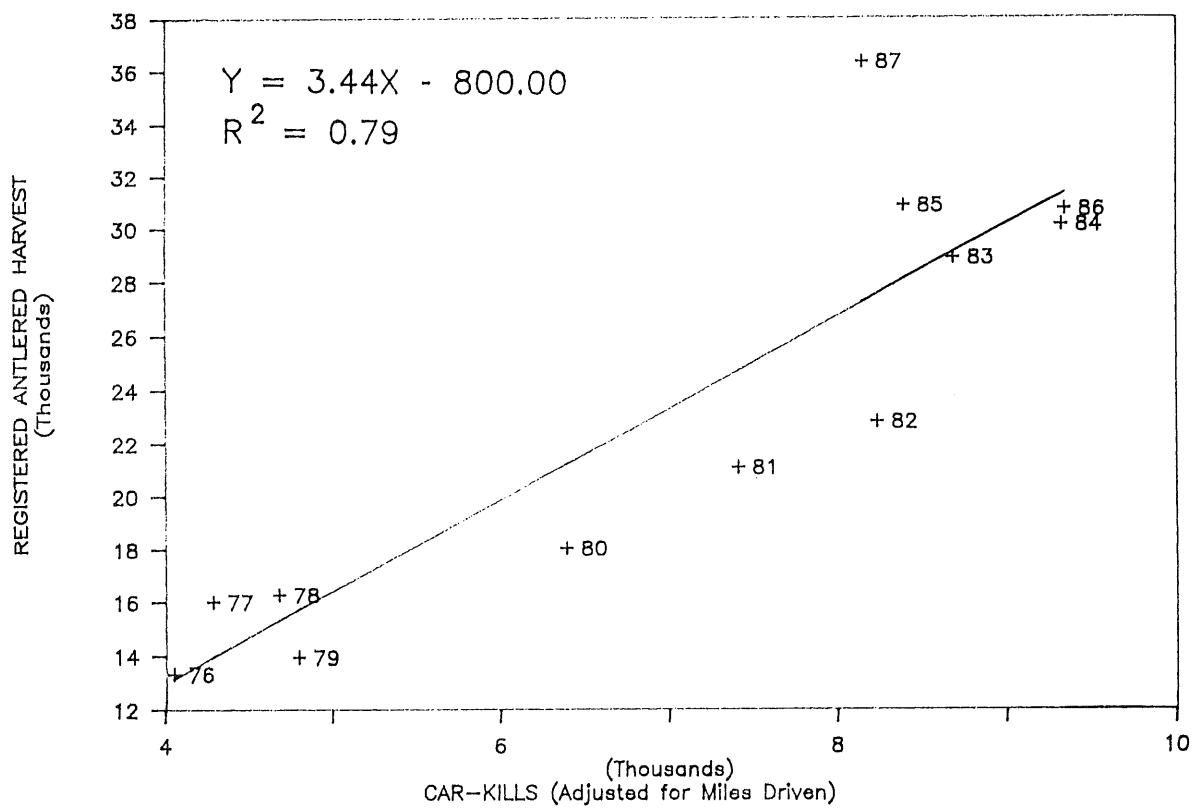


Figure 7. The relationship between annual car-kills and registered antlered deer harvest in the Farmland Zone, 1976 to present.

Predator Scent Post Survey

(Note: this survey is organized and coordinated by the Forest Wildlife Populations and Research Group, Grand Rapids. Results are presented at this location in the book because of the statewide nature of the data)

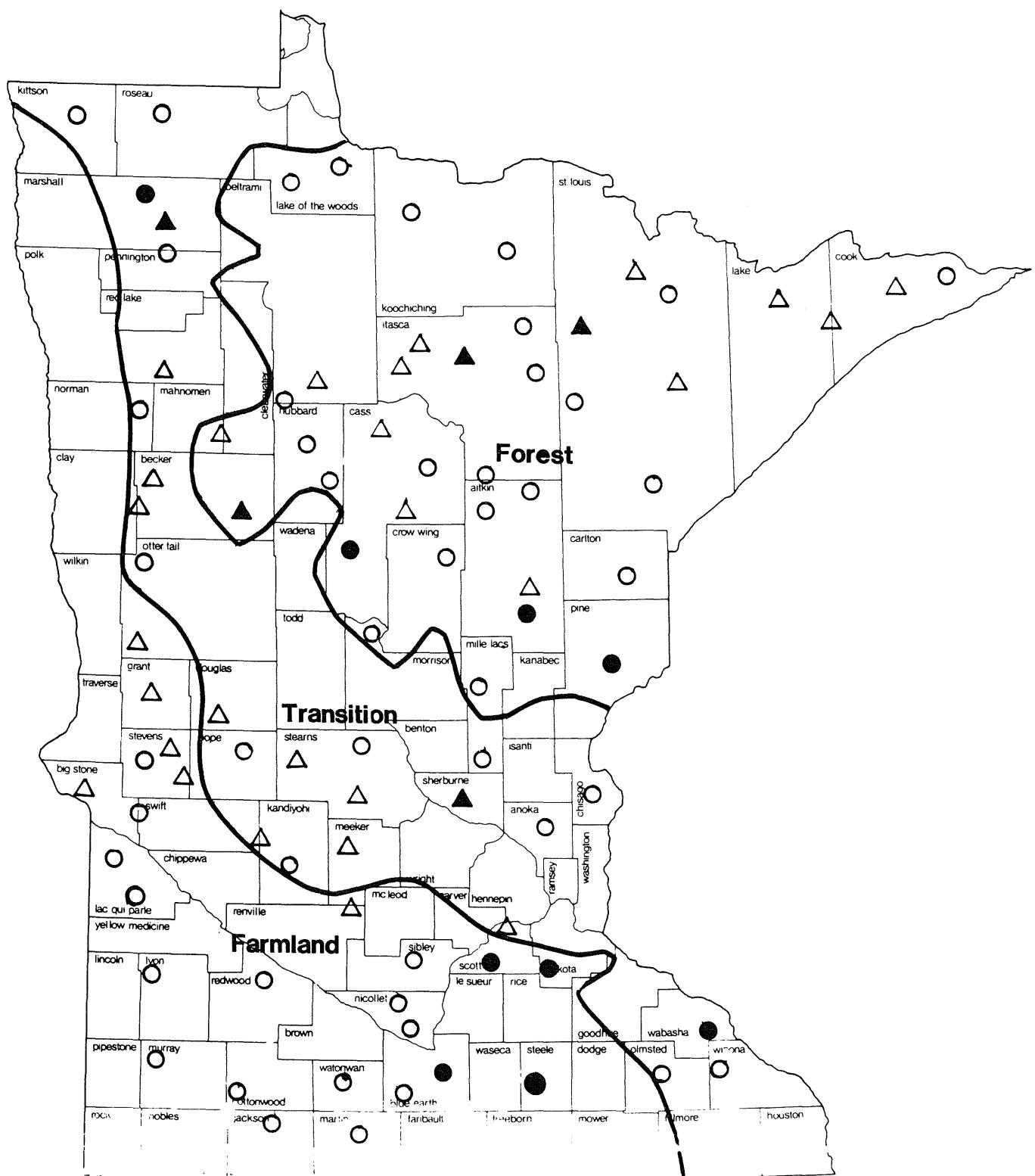


Figure 8. Approximate locations of predator scent post routes run by DNR (○) and non-DNR cooperators (Δ) in the Forest, Transition and Farmland survey zones, 1987. Shaded symbols indicate routes not completed in 1987.

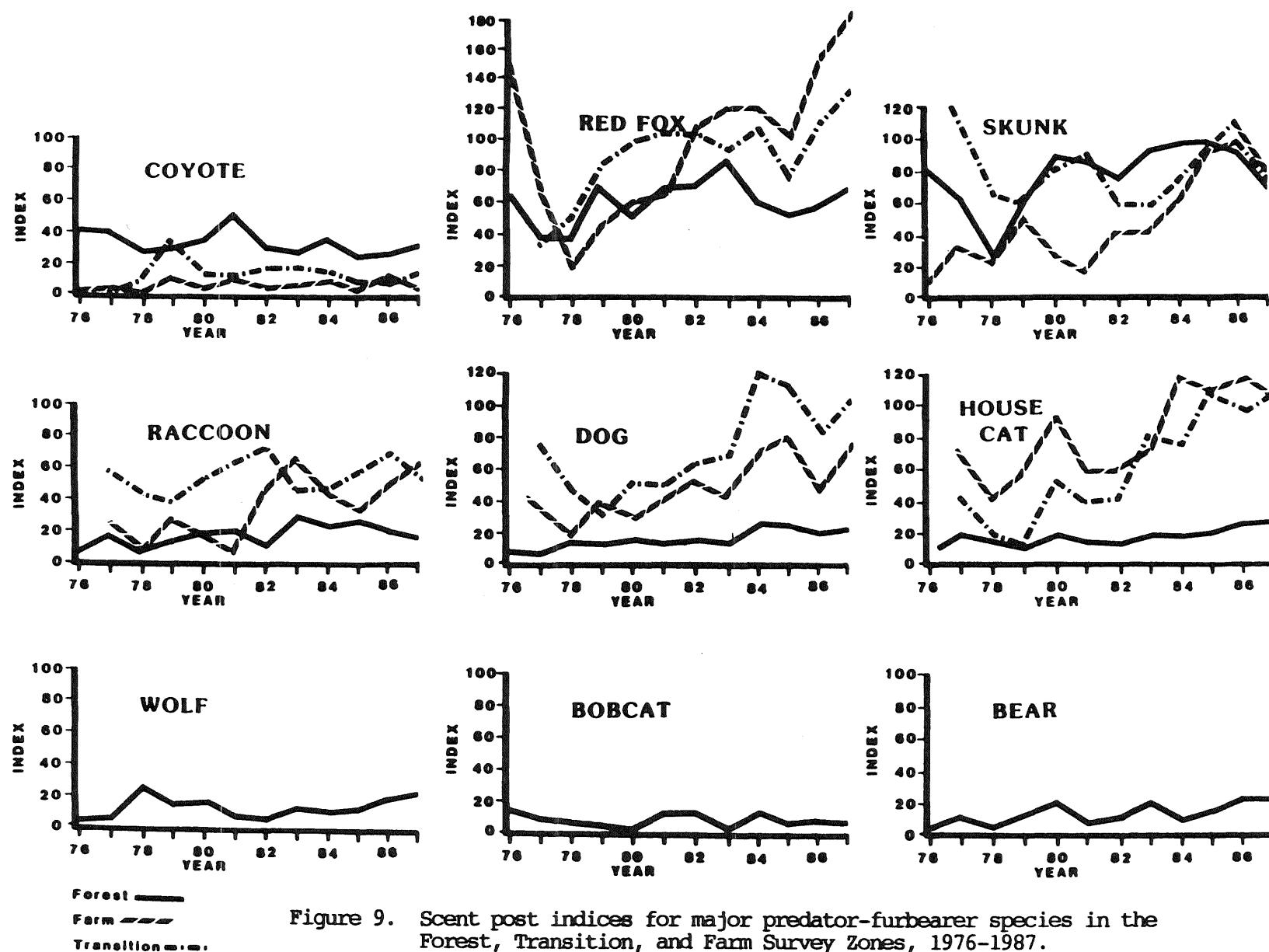


Figure 9. Scent post indices for major predator-furbearer species in the Forest, Transition, and Farm Survey Zones, 1976-1987.

FOREST WILDLIFE POPULATIONS

Table 16. Mean number of ruffed grouse drums per stop by census zone, 1964-88.

Year	Census Zone					Range-wide mean
	Northwest	North	Northeast	Central hardwoods	Southeast	
1964	0.4	0.7	0.9	0.3	1.3	0.6
1965	1.2	1.2	0.7	0.5	1.4	1.0
1966	1.4	1.4	0.6	0.7	1.9	1.0
1967	2.4	1.8	1.2	1.0	1.0	1.7
1968	3.2	2.3	1.6	1.0	1.3	2.0
1969	3.1	2.5	1.4	1.4	2.3	2.2
1970	1.9	3.1	0.9	1.6	2.1	2.2
1971	1.4	3.5	1.2	1.6	3.7	2.4
1972	2.1	3.7	1.0	2.0	3.1	2.6
1973	0.3	1.5	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	0.9	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
1983	0.6	1.1	0.6	0.8	1.4	0.9
1984	1.0	1.1	0.6	0.5	1.4	0.8
1985	0.7	1.2	0.6	0.6	1.5	0.9
1986	1.7	1.1	0.5	0.6	2.5	1.0
1987	1.6	1.6	0.7	0.8	1.0	1.2
1988	1.3	2.0	1.0	1.0	1.1	1.4

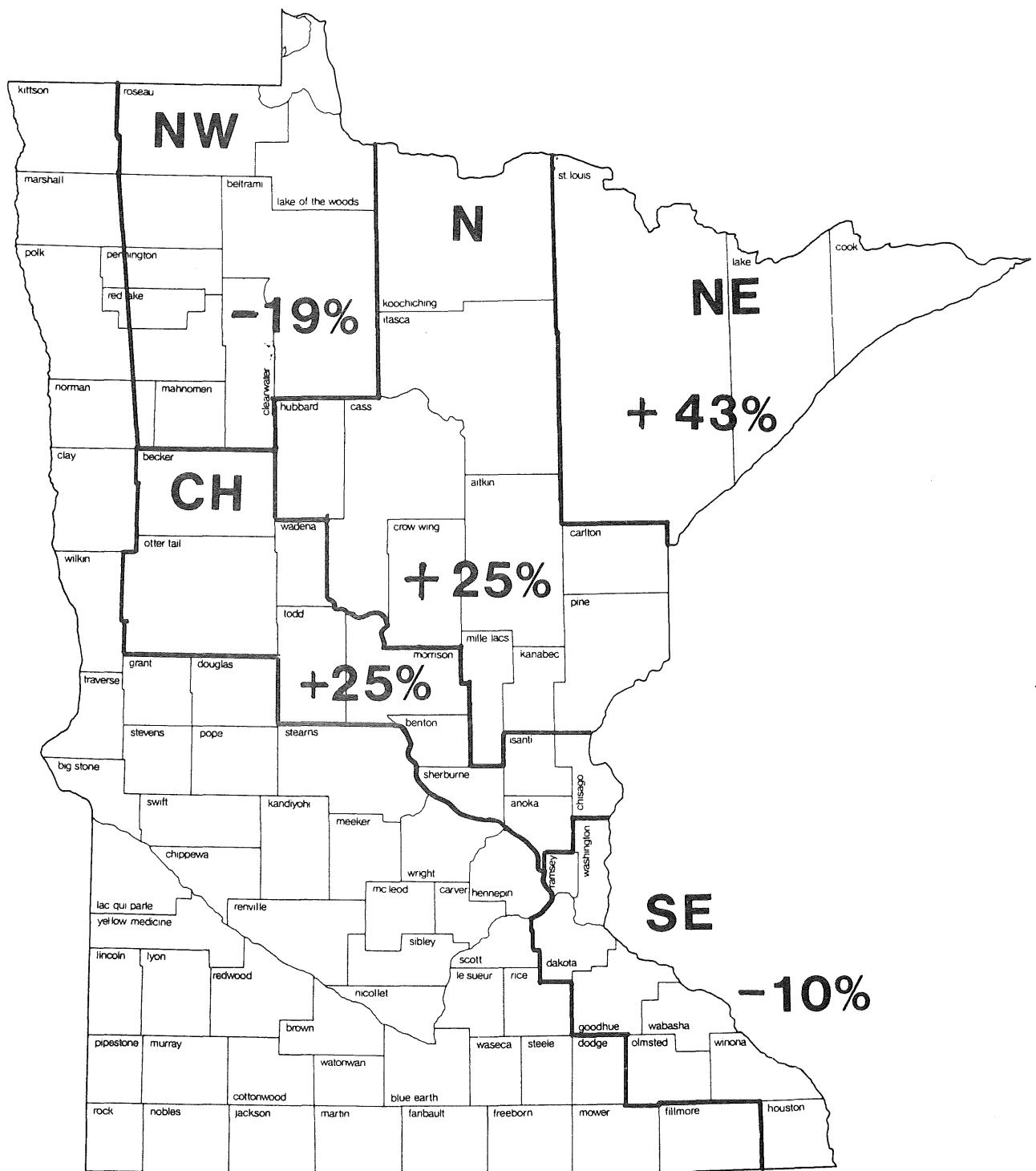


Figure 10. Changes from 1987-88 in average numbers of ruffed grouse drums per stop on roadside counts.

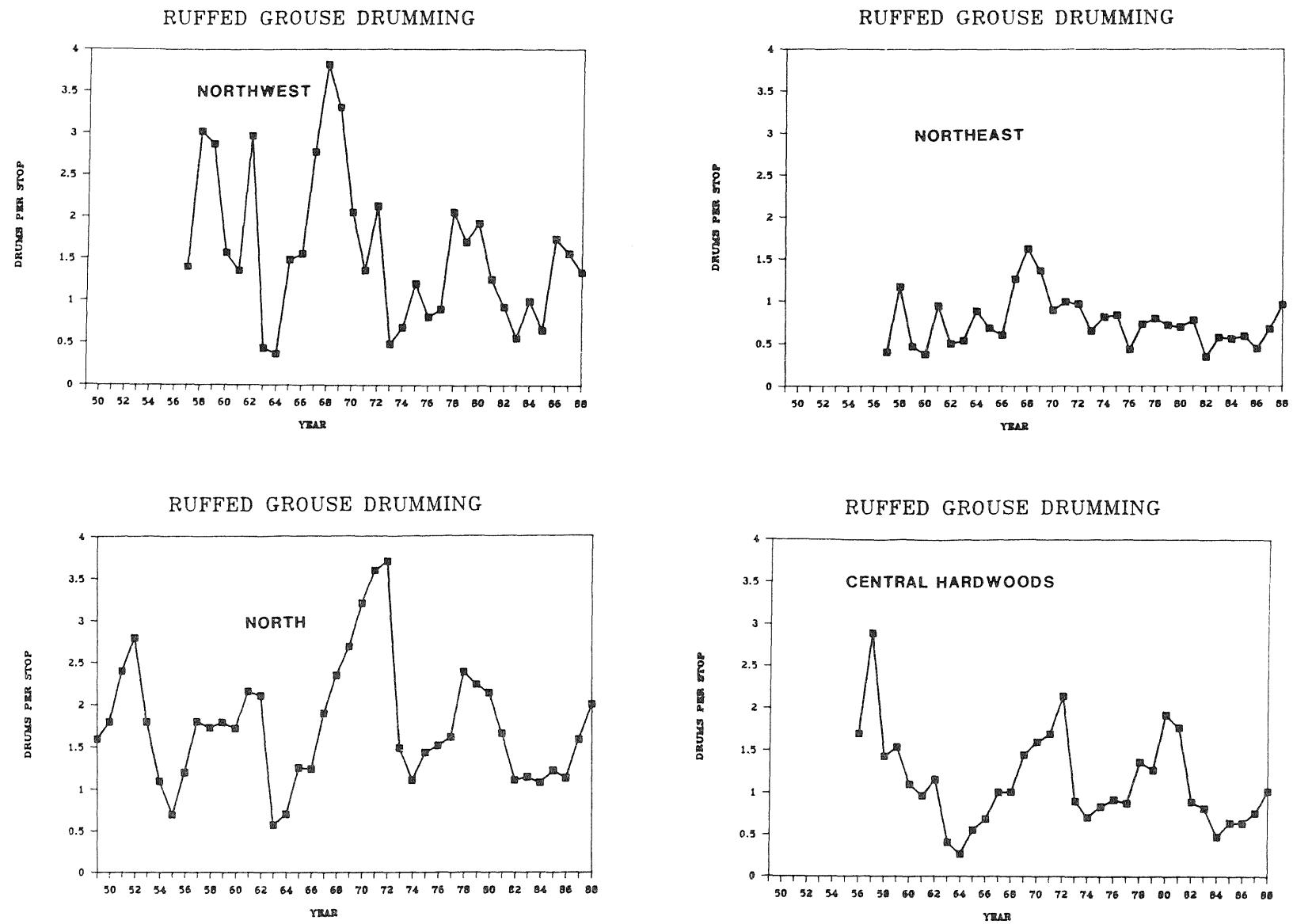


Figure 11. Ruffed grouse drumming trends in the Northwest, Northeast, North and Central Hardwoods survey zones, 1949-1988.

RUFFED GROUSE DRUMMING

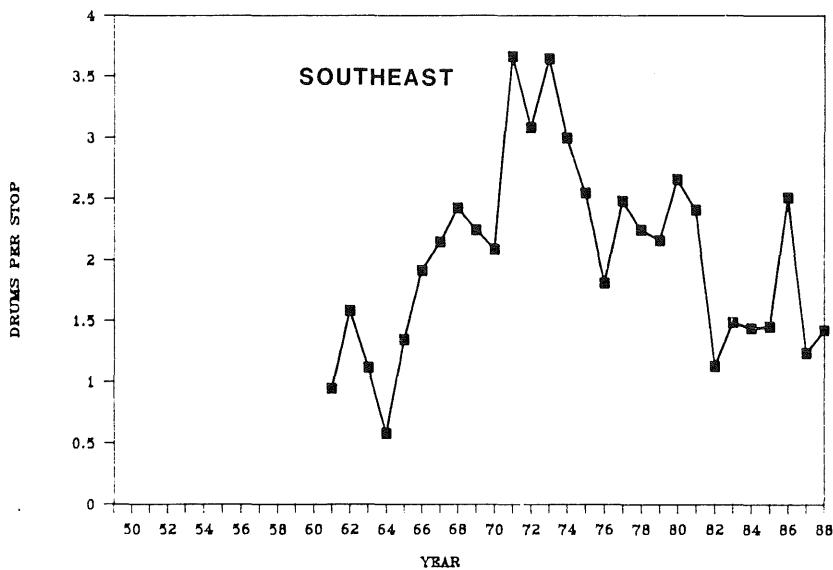


Figure 12. Ruffed grouse drumming trends in southeastern Minnesota, 1961-1987.

RUFFED GROUSE DRUMMING

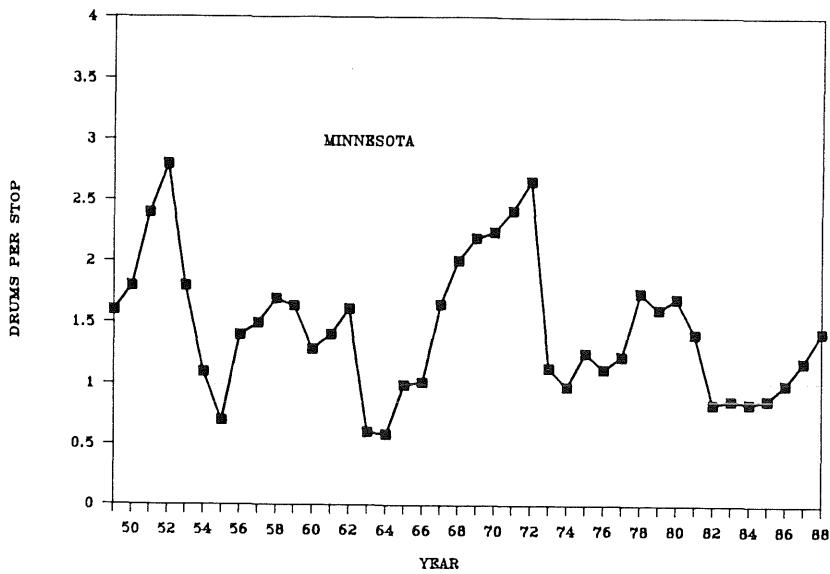


Figure 13. Ruffed grouse drumming trends range-wide 1949-87.

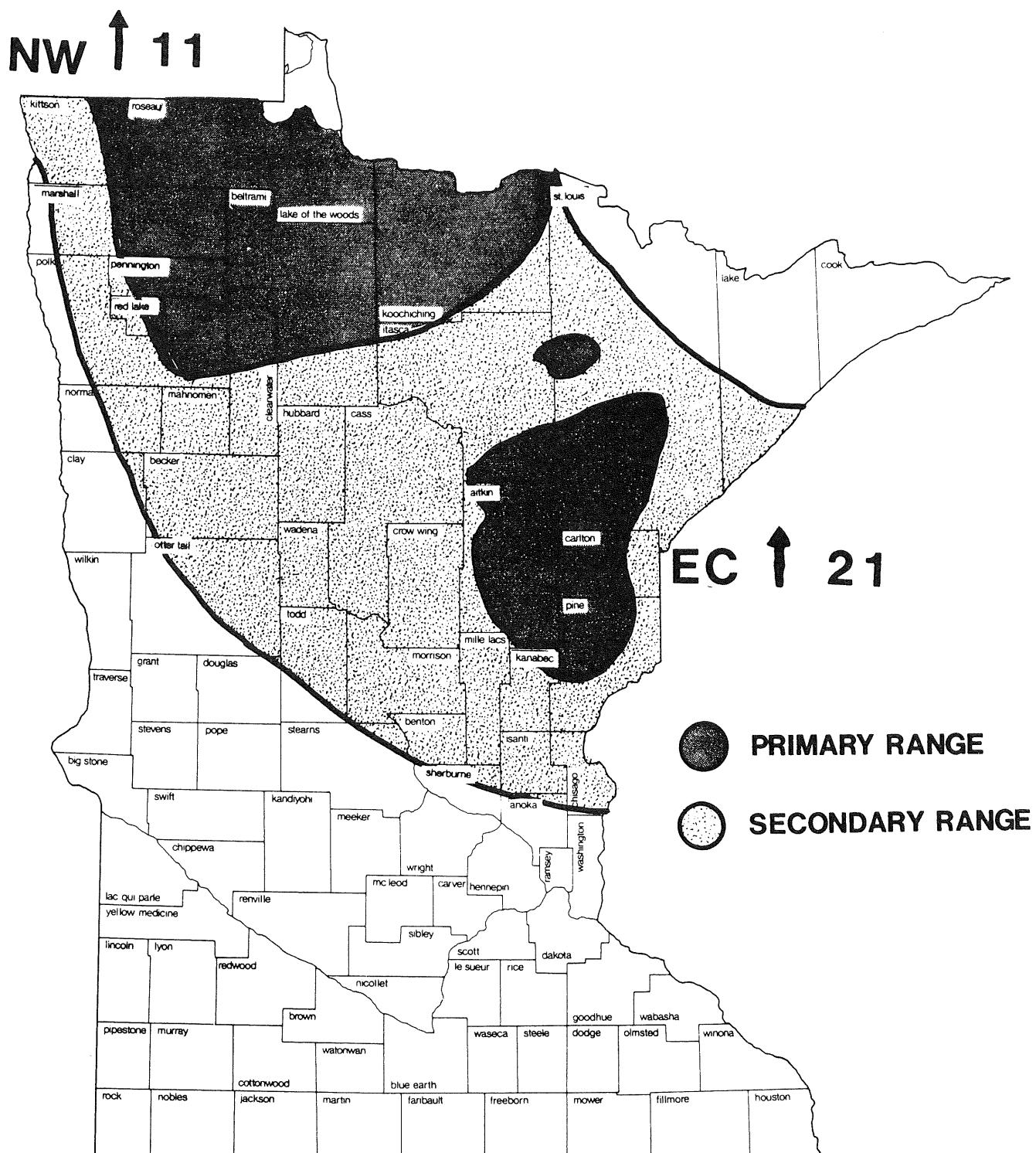


Figure 14. Changes in numbers of dancing male Sharp-tailed grouse on survey areas, 1987-1988.

Table 17. Number of snowshoe hares seen per 100 km of ruffed grouse drumming route in the North, Northwest, and Northeast survey zones, 1974-88.

Year	Hares seen per 100 km
1974	0.4
1975	0.0
1976	2.0
1977	2.8
1978	9.0
1979	8.8
1980	14.1
1981	9.8
1982	1.8
1983	0.7
1984	0.2
1985	0.3
1986	0.2
1987	0.5
1988	0.5

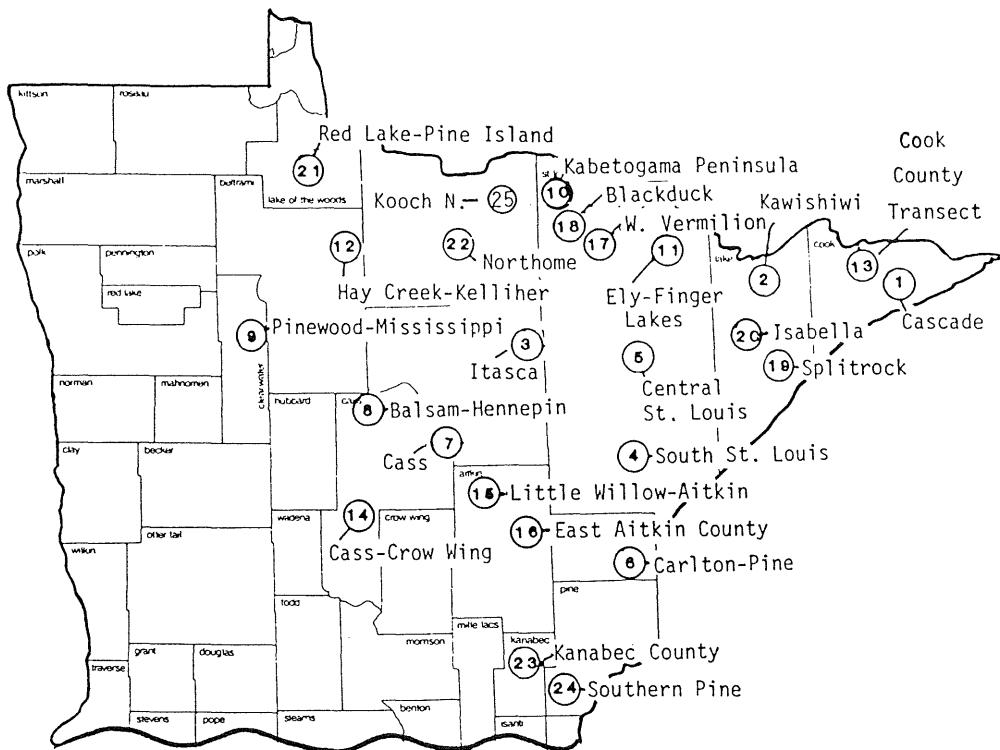


Figure 15. Location of beaver survey routes in Minnesota, 1987. Routes 16, 20, and 24 were not flown in 1987.

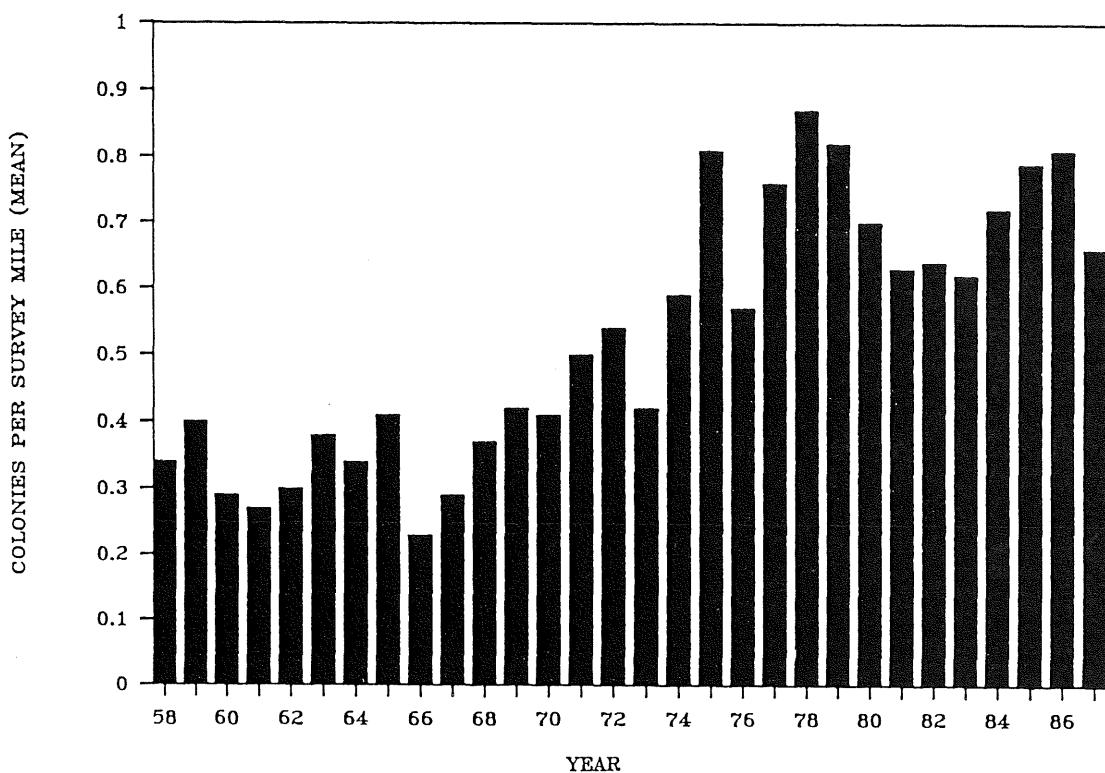


Figure 16. Number of beaver colonies per mile of survey route (range-wide means), 1958-1987.

Table 18. Live beaver colonies per mile of census route in northern Minnesota, 1975-87. Twenty routes were not flown in 1986 due to budget constraints.

Number	Route name	Year												
		1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1	Cascade	1.12	0.52	0.39	1.07	-	0.42	0.43	0.40	0.35	0.44	0.46	-	0.37
2	Kawishiwi	0.95	-	0.73	0.97	0.68	0.75	0.50	0.72	0.65	0.70	0.78	-	1.03
3	Itasca	0.80	0.60	0.74	1.04	0.66	0.63	0.48	0.43	0.57	0.51	0.67	-	0.22
4	South St. Louis	0.74	0.63	0.76	0.99	-	0.64	0.74	-	0.58	0.57	0.33	-	0.54
5	Central St. Louis	1.23	-	-	1.02	0.95	0.90	0.95	0.65	0.79	0.57	1.05	-	1.02
6	Carlton & Pine	0.56	0.26	0.69	0.89	0.60	0.83	0.67	0.22	0.56	0.65	0.45	-	0.49
7	Cass	0.80	0.57	0.83	1.03	1.00	0.95	0.53	0.63	0.89	0.99	1.23	-	0.59
8	Balsam-Hennepin	0.40	0.28	0.51	0.39	0.55	0.44	0.43	0.60	0.58	0.54	-	-	0.74
9	Pinewood-Mississippi	0.32	0.33	0.55	0.32	-	0.38	0.39	0.49	0.48	-	-	-	0.38
10	Kabetogama Peninsula	2.21	2.39	2.14	2.91	3.05	2.52	3.55	2.66	2.89	3.30	2.93	2.92	2.98
11	Ely-Finger Lakes	1.85	-	1.41	1.59	1.26	1.06	0.98	1.17	1.32	1.02	1.28	-	1.00
12	Hay Creek-Kelliher	0.48	0.46	0.68	0.44	-	0.43	0.48	0.70	0.55	-	-	-	0.49
13	Cook County Transect	0.57	0.36	0.30	0.49	-	0.23	0.40	0.33	0.48	0.35	0.31	-	0.31
14	Cass-Crow Wing	0.67	0.43	0.59	0.70	0.68	0.78	0.61	0.74	0.68	0.76	0.87	0.69	0.64
15	Little Willow-Aitkin	0.35	-	0.42	0.45	0.47	0.44	0.38	0.40	0.40	0.31	0.59	-	0.23
16	East Aitkin County	0.62	0.47	0.89	1.14	0.96	0.72	0.52	0.86	0.82	0.81	0.90	-	-
17	West Vermilion	0.93	0.54	1.03	1.25	1.12	0.96	1.05	0.86	0.34	1.07	0.73	0.95	0.80
18	Blackduck	1.41	0.97	1.24	1.54	1.31	1.09	1.22	0.91	0.71	1.21	1.53	-	0.84
19	Splitrock	1.45	1.21	1.14	1.45	-	1.07	-	-	0.55	0.65	0.56	-	1.15
20	Isabella	0.80	0.73	0.66	0.66	0.68	0.60	0.65	-	0.15	-	-	-	-
21	Red Lake-Pine Island	0.51	0.44	0.63	0.44	0.73	0.40	0.41	0.50	0.39	-	-	-	0.37
22	Northome	0.61	0.53	0.75	0.75	0.85	0.86	0.91	0.97	1.06	1.37	0.95	0.80	0.75
23	Kanabec County	0.61	0.65	0.84	0.59	0.55	0.70	0.48	0.55	0.65	0.53	0.76	-	0.52
24	Southern Pine	0.91	0.88	0.85	0.74	0.88	0.93	0.58	0.76	0.69	0.72	0.86	-	-
DNR Region I		0.43	0.38	0.59	0.40	0.64	0.41	0.43	0.57	0.50	0.54	-	-	-
DNR Region II		1.01	0.77	0.89	1.14	1.05	0.86	0.90	0.81	0.76	0.90	0.90	-	-
DNR Region III		0.75	0.63	0.78	0.77	0.78	0.84	0.55	0.67	0.73	0.75	0.93	-	-

Registered furbearer population data

The following 4 tables and 4 figures are summaries of data compiled and analyzed by Bill Berg and Dave Kuehn on the four registered furbearers. This information was utilized by the Furbearer Management Committee in setting the 1988-89 seasons on these species.

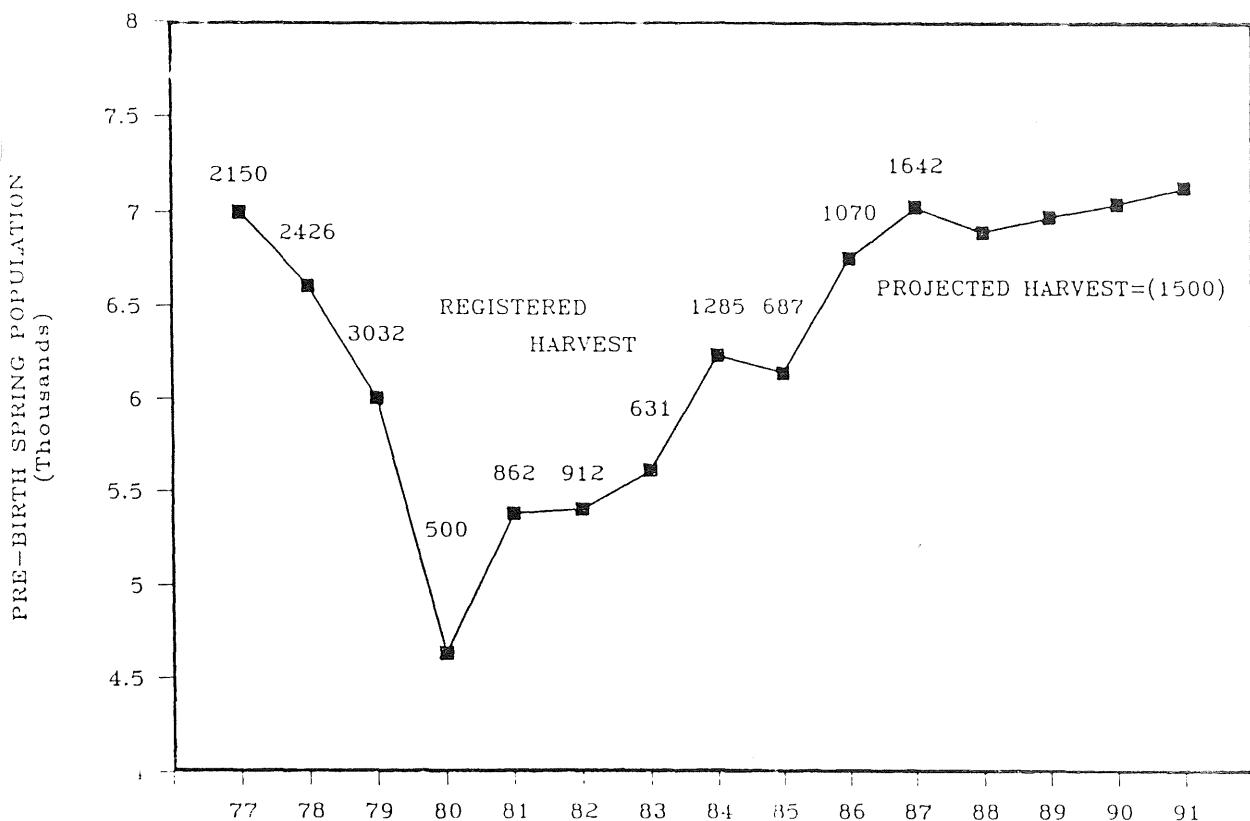


Figure 17. Fisher population model, 1977-1991, with projected harvests of 1,500 after 1987. Respective non-harvest mortality is 30% and 25% for juveniles in summer and winter. Juvenile non-harvest mortality was increased 5-10% in summer and winter, 1983-1987 to compensate for decreased prey availability. All registered harvests were increased 25% for accidentally trapped fisher.

Bill Berg and Dave Kuehn, Forest Wildlife Populations and Research Group, Minnesota Department of Natural Resources, 1201 East Highway 2, Grand Rapids, MN 55744

The registered harvest of 1,642 fisher during the 16 day, Nov. 28-Dec. 13 trapping season was up 53% from 1986, and was the highest since the limited harvest framework began in 1981 (Table 19).

Rather than collecting entire carcasses, age and sex was determined from the collection of heads or mandibles; 1,534 ages were obtained in 1987. The proportion of juveniles in 1987 (63%) approximated the 1981-86 average (64%). As in most previous seasons, females predominated in all age classes (Table 19); the overall sex ratio from carcasses and registration was identical (43% males). The juvenile to mother (females > 2.7 years old) of 4.7::1 was the lowest since carcass examinations (Table 19).

The proportion of the modeled autumn population trapped (21%) was the highest since the restrictive framework began. With continued post-1987 harvests approximating 1,500, the spring pre-birth population will restabilize at about 7,000 animals.

Table 19. Harvest, carcass collection, and pelt price data for fisher seasons in Minnesota, 1977 to 1987. Fisher taken in 1980-81 were on Indian Reservations.

	1977-78 12/1- 1/31	1978-79 12/1- 1/31	1979-80 12/1- 1/31	1980-81 Closed	1981-82 12/1- 12/10	1982-83 12/1- 12/11	1983-84 12/1- 12/11	1984-85 12/1- 12/16	1985-86 11/30- 12/15	1986-87 11/29- 12/4	1987-88 11/28- 12/13
Season											
Limit	3	3	3	----	1	1	1	1	1	1	1
Registered take	2,150	2,426	3,032	(423)	862	912	631	1,289	678	1,068	1,642
% of available autumn population harvested ^a	26%	30%	42%	9%	17%	17%	10%	18%	10%	14%	21%
No. carcasses examined ^b	562	577	467	----	843	1,073	662	1,270	712	1,186	1,542
% juveniles	69%	70%	65%	----	66%	66%	69%	63%	63%	59%	63%
% 1.7 yr.	16%	16%	15%	----	24%	19%	18%	20%	20%	24%	15%
% ≥ 2.7 yrs.	14%	14%	21%	----	10%	15%	13%	17%	18%	18%	22%
Juv:ad. female ratio	8.4:1	7.1:1	5.6:1	----	10.5:1	9.4:1	8.8:1	7.2:1	5.4:1	5.3:1	4.7:1
% male juveniles	54%	44%	54%	----	48%	46%	45%	52%	46%	48%	46%
% male 1.7 yrs.	28%	35%	45%	----	43%	41%	40%	45%	40%	50%	40%
% male ≥ 2.7 yrs.	43%	28%	44%	----	37%	52%	40%	45%	34%	37%	37%
Pelt price: males	\$71	\$132	\$108	\$90	\$94	\$70	\$71	\$70	\$74	\$84	---
females		\$147	\$128	\$104	\$110	\$99	\$121	\$122	\$130	\$162	---
Snowshoe hare index ^c	9.0	8.8	14.1	9.8	1.8	0.7	0.2	0.3	0.2	0.5	0.5

^a Estimated from population model.

^b May exceed registration totals due to accidental catches, etc.

^c Number of snowshoe hares seen per 100 km of ruffed grouse drumming route during the spring after fisher season.

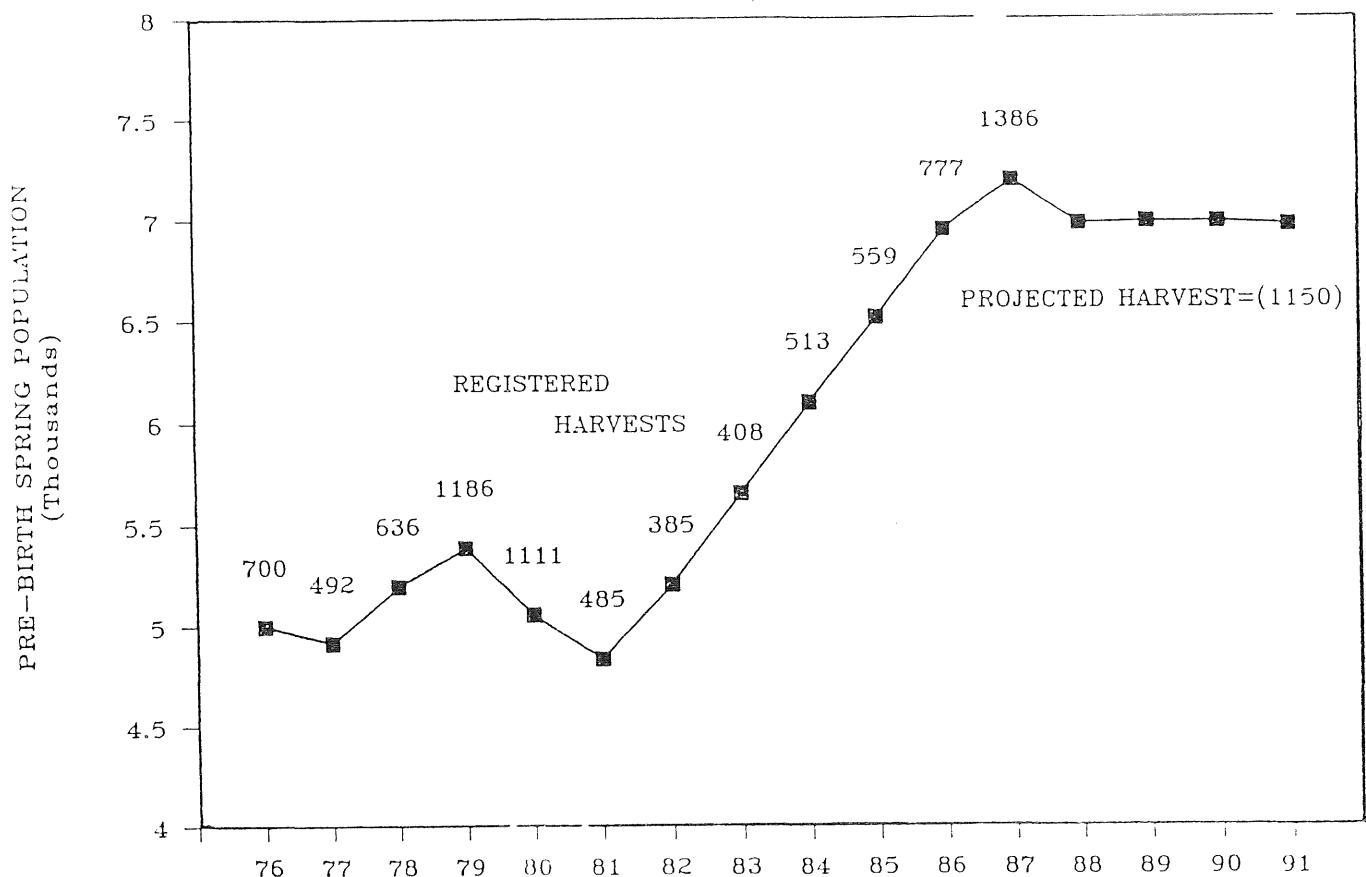


Figure 18. Otter population model, 1976-1991. Registered harvests until 1987 are followed by post-1987 projected harvests of 1,150. Respective non-harvest summer and winter mortality is 25% and 15% for juveniles, 10% and 10% for yearlings, and 6% and 6% for adults. Harvest mortality was increased 20% over registrations (10% in 1987-88) to compensate for accidental take.

Bill Berg and Dave Kuehn, Forest Wildlife Populations and Research Group, Minnesota Department of Natural Resources, 1201 East Highway 2, Grand Rapids, MN 55744

The registered harvest during the Oct. 24-Nov. 29 otter trapping season was 1,386, up 78% from 1986, and also the highest since registration began in 1977. This increase is concurrent with general observations of very abundant otter, and with documented range increases.

For the first time since 1978, no otter carcasses were collected in 1987 due to the generally stable age and sex structure data from previous collections (Table 20). Data for the population model were derived from mean sex and age data prior to 1987, combined with the 1987 registration data.

In 1987, approximately 17% of the modeled autumn populations of 9,100 otters was harvested (1978-86 range 7%-20%). Given that future registered harvests approximate 1,200, the pre-birth (spring) modeled population will stabilize at about 7,000 otter (Fig. 18).

Table 20. Otter harvest and carcass examination sex-age data in Minnesota, 1976-1986. Carcasses were not collected after 1986.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Season dates	12/1-5	11/15-29	11/15-29	11/14-28	11/13-27	11/12-26	11/17-12/1	11/16-12/15	10/24-11/29	10/24-11/29
Registered harvest	636	1,186	1,111	485	385	408	513	559	777	1,386
% of autumn population harvested ^a	11%	20%	20%	9%	7%	7%	8%	8%	11%	--
No. carcasses examined	49	36	88	471	389	433	549	572	745	--
% juveniles	61.2	69.4	54.5	55.0	50.6	42.3	47.9	43.4	45.2	--
% yearlings	26.5	19.4	14.7	19.7	25.6	30.9	23.3	22.9	23.3	--
% male juveniles	59.4	72.0	39.6	55.6	56.7	55.7	47.1	53.3	45.1	--
% males ≥ 1.7 yrs.	47.1	36.4	57.5	53.3	65.1	56.8	50.0	50.0	48.1	--
Mean pelt price:										
otter	\$59	\$63	\$33	\$30	\$26	\$25	\$22	\$21	\$24	--
beaver (autumn)	\$18	\$33	\$18	\$14	\$11	\$12	\$12	\$15	\$20	--

^a From population modeling; includes an additional 20% accidental harvest over registered total.

BOBCAT, 1987-88

Bill Berg and Dave Kuehn, Forest Wildlife Populations and Research Group,
Minnesota Department of Natural Resources, 1201 East Highway 2, Grand
Rapids, MN 55744

During the Nov. 28-Jan. 3 trapping and hunting season, 214 bobcats were taken, an increase of 34% from 1986-87 (Table 21).

A total of 163 bobcat carcasses were aged; several others could not be aged because heads had been removed. Thirty-three percent were juveniles, compared to a 1977-86 mean of 36% (Table 10). Males comprised 44% of the juveniles (1977-86 $\bar{x} = 55\%$), while both the yearling and adult sex ratios approximated 1:1:1. The overall sex ratio from carcasses was 48% males, compared to 36% males from registration data. The juvenile to mother (≥ 2.7 year old females) was 1.4:1 (Table 21).

In 1987-88 approximately 11% of the available modeled autumn population of 2,300 bobcats was harvested. Projected harvests of 260 in 1988-89, 280 in 1989-90, and 300 thereafter stabilize the pre-birth spring population at approximately 1,700 (Fig. 19).

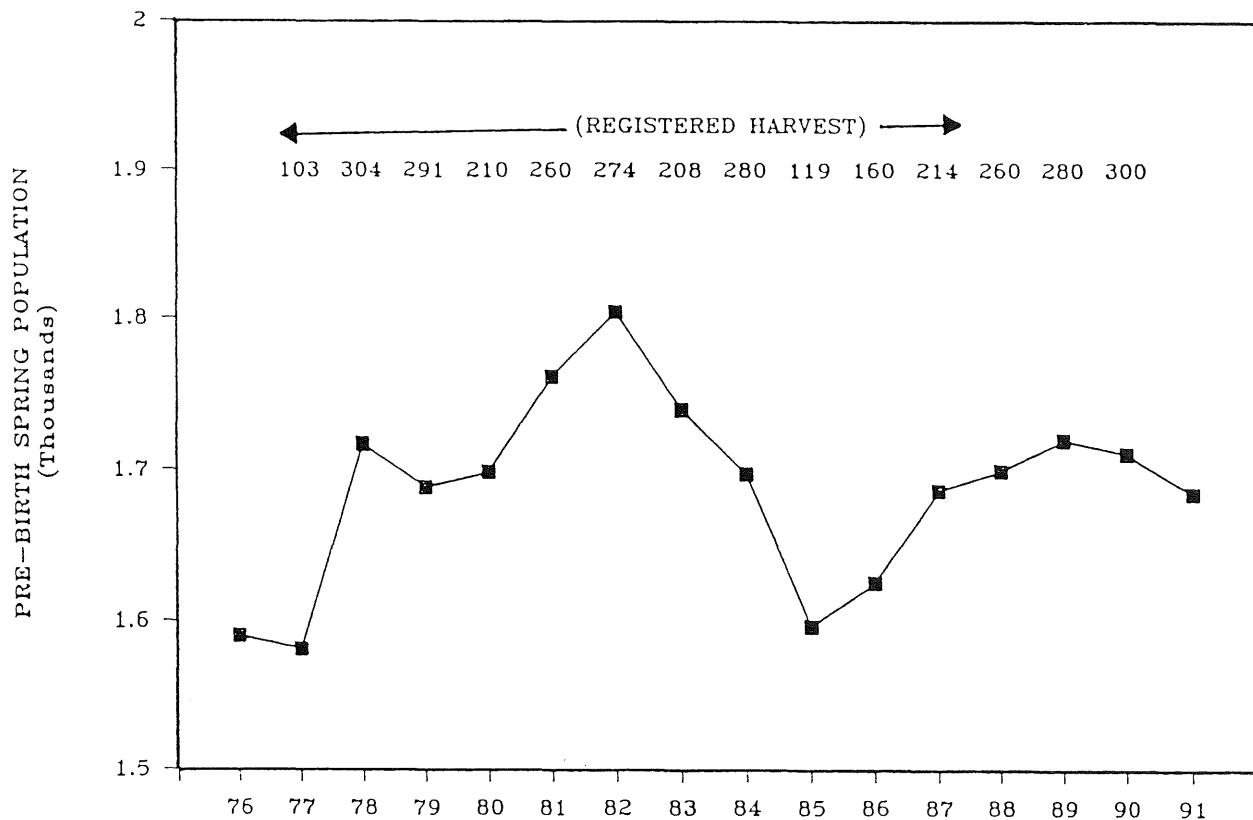


Figure 19. Bobcat population model, 1976-1991, with registered harvests to 1987, and projected harvests thereafter. Respective non-harvest mortality for juveniles is 30% in summer and 25% in winter, and for yearlings and adults, 10% in summer and 10% in winter. Juvenile non-harvest mortality was further increased by 5%-20% in 1982-1987 for decreased prey availability. All registration totals were increased by 10% to compensate for unregistered animals.

Table 21. Bobcat harvest, age structure, and population index data, 1977-78 to 1987, and 1977-86 mean.

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1977-86 ^X
Registered take	103	304	291	210	260	274	208	280	119	160	214	---
Mean pelt price	\$74	\$164	\$118	\$79	\$73	\$66	\$61	\$76	\$70	\$120	---	---
Carcasses aged	34	113	75	48	230	261	205	288	99	132	163	---
% juveniles	35%	54%	37%	31%	37%	35%	37%	37%	33%	26%	33%	36%
% male juveniles	50%	61%	54%	80%	59%	47%	56%	52%	41%	53%	44%	55%
% 1.7 yrs. old	18%	15%	12%	33%	23%	15%	18%	13%	19%	17%	16%	18%
% male 1.7 yrs.	33%	53%	44%	69%	63%	49%	56%	66%	41%	32%	52%	50%
% > 2.7 yrs. old	47%	31%	52%	35%	40%	50%	37%	50%	48%	58%	51%	45%
% male > 2.7 yrs.	41%	60%	53%	56%	55%	47%	51%	44%	43%	51%	48%	50%
Overall % males	41%	59%	52%	66%	58%	48%	45%	51%	42%	51%	48%	51%
Juv :: > 2.7 yr. females	1.2	4.4	1.6	1.9	2.1	1.3	1.5	1.4	1.2	0.9	1.4	1.4 ⁴
% autumn population taken ¹	5%	14%	14%	10%	12%	14%	10%	13%	6%	8%	11%	---
Scent post index ²	8	6	5	2	14	14	3	12	5	8	7	---
Snowshoe hare index ³	9.0	8.8	14.1	9.8	1.8	0.7	0.2	0.3	0.2	0.5	0.5	---

¹ Includes registered harvests plus 10% unreported harvest.² Index for autumn prior to harvest season.³ Index for spring after harvest season.⁴ Mean does not include 1978 ratio.

PINE MARTEN, 1987-1988

Bill Berg and Dave Kuehn, Forest Wildlife Populations and Research Group,
Minnesota Department of Natural Resources, 1201 East Highway 2, Grand
Rapids, MN 55744

A total of 1,363 marten were registered during the Nov. 28-Dec. 13,
1987 season, 71% above 1986, and 217% above the 1985, totals (Table 22).

Mandatory carcass surrender resulted in 1,502 carcasses (including confiscations) which could be aged. Juveniles comprised 66% of the take (Table 22). Males comprised 65%, 67%, and 75%, respectively, of the juvenile, yearling, and adult cohorts. The juvenile to mother (adult females \geq 2.7 years) was 17::1.

For 1987 the marten population is modeled at a pre-birth population of 9,250 (Fig. 20), which provides a density in spring of 1.4/mi.², and in autumn of 2.5/mi.². This revised model suggests that the proportions of the available population harvested in 1985, 1986, and 1987 were 6%, 10%, and 16%, respectively. A registered harvest in subsequent years of approximately 2,400 marten annually will stabilize the pre-birth population at about 9,000 (Fig. 20). The overall sex ratio from carcasses was 48% males, compared to 36% males from registration data. The juvenile to mother (\geq 2.7 year old females) was 1.4::1 (Table 22).

In 1987-88 approximately 11% of the available modeled autumn population of 2,300 bobcats was harvested. Projected harvests of 260 in 1988-89, 280 in 1989-90, and 300 thereafter stabilize the pre-birth spring population at approximately 1,700 (Fig. 20).

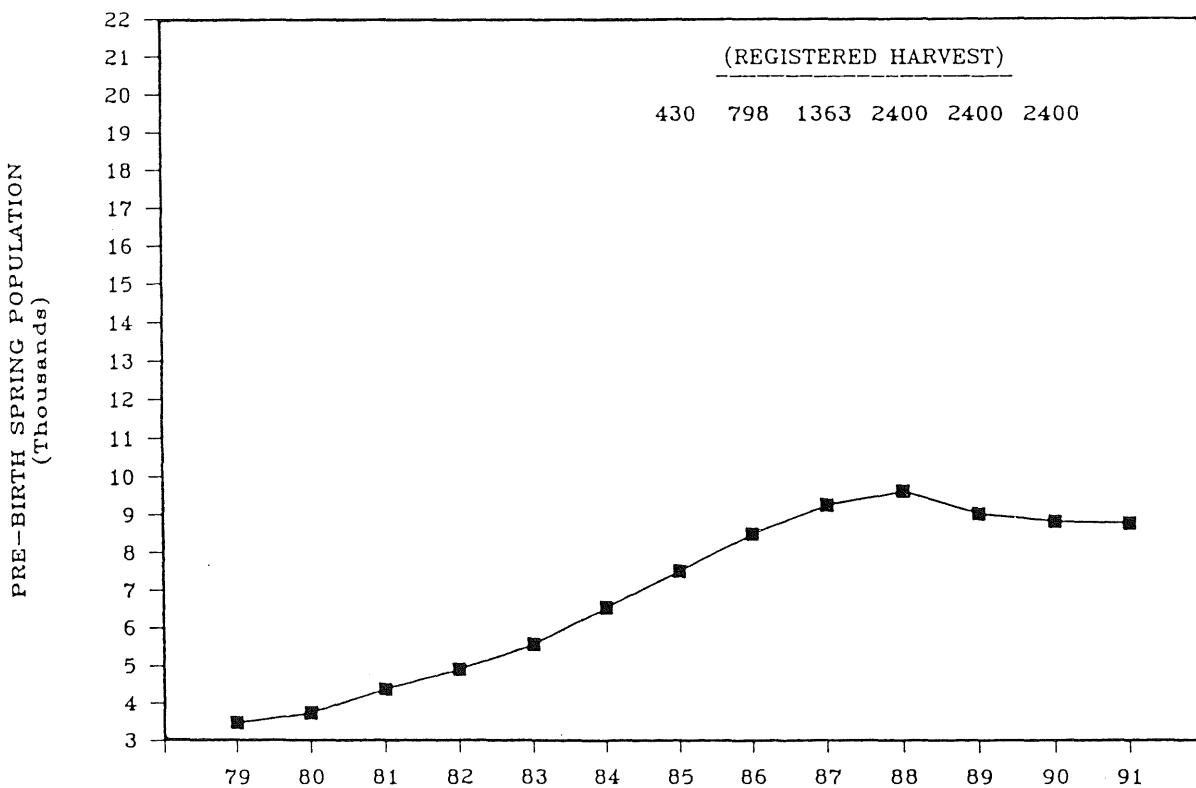


Figure 20. Pine marten population model, 1979 to 1991. Registered harvests are shown for 1985-1987, followed by projected harvests of 2,400. Respective non-harvest mortality for juveniles is 40% and 20% in summer and in winter, and for yearlings and adults, 10% in both summer and winter. For modeling purposes the registered harvests have been increased by 50% for accidental take.

Table 22. Marten harvest and carcass examination data, 1978-84 (combined) and 1985-1987.

	1978-84	1985	1986	1987
Registered take	---	430	798	1,363
Confiscations (approx.)	227	153	150	391
Carcasses examined	227	507	884	1,502
% juveniles	60%	73%	64%	66%
% males juveniles	68%	69%	65%	65%
% 1.7 years old	30%	18%	21%	19%
% male 1.7 year olds	71%	68%	71%	67%
% > 2.7 years old	10%	9%	15%	16%
% male > 2.7 year olds	91%	82%	81%	75%
Overall % males	71%	70%	69%	67%
ratio juv :: > 2.7 year old females	68:1	45:1	24:1	17:1

Table 23. Estimated pre-fawning deer density (deer/sq. mile) as determined by pellet counts, 1980-88. Numbers in parentheses represent 95% confidence intervals.

Area	Year								
	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Itasca DMU</u>									
NW	17.0 (3.9)	22.9 (4.3)	22.4 (4.5)	-----	20.8 (4.2)	29.6 (5.9)	12.4 (2.9)	14.5 (4.5)	16.1 (2.8)
SW	14.5 (4.1)	16.9 (4.7)	17.6 (4.7)	21.0 (6.2)	17.0 (3.8)	19.1 (5.0)	12.9 (3.7)	16.1 (4.8)	13.9 (2.8)
NE	14.9 (3.6)	16.7 (3.8)	14.1 (3.5)	14.2 (3.6)	11.5 (3.6)	15.8 (3.4)	15.4 (4.5)	18.0 (5.0)	18.0 (4.2)
SE	12.0 (5.2)	18.1 (5.3)	10.8 (4.2)	15.4 (4.9)	12.8 (4.0)	18.6 (5.2)	14.0 (3.8)	20.0 (4.2)	18.0 (4.3)
<u>Rainy River DMU</u>									
West	10.9 (3.7)	-----	13.9 (5.9)	-----	12.8 (4.2)	-----	7.8 (3.7)	17.4 (5.5)	11.5 (2.6)
Central	8.2 (2.6)	-----	11.4 (6.0)	-----	10.7 (6.3)	10.8 (5.3)	13.2 (5.1)	-----	19.9 (6.2)
East	21.8 (6.9)	19.1 (5.1)	9.2 (3.3)	21.8 (6.9)	15.1 (4.1)	16.9 (4.8)	15.6 (5.2)	13.5 (3.8)	18.7 (5.7)
<u>Mille Lacs DMU</u>									
West	12.4 (3.3)	17.8 (4.7)	18.0 (5.2)	-----	12.3 (2.7)	18.8 (4.4)	15.2 (4.0)	10.9 (4.5)	17.9 (6.2)
Central	7.6 (2.4)	11.3 (4.1)	17.4 (4.7)	16.1 (4.7)	17.2 (4.5)	15.5 (3.7)	13.9 (4.0)	13.2 (4.1)	11.3 (3.2)
East	9.4 (2.5)	14.1 (2.8)	14.1 (3.7)	15.8 (3.2)	12.8 (3.2)	10.9 (2.7)	9.8 (2.7)	12.3 (2.9)	20.3 (4.2)
<u>Superior DMU^a</u>									
West	15.1 (3.4)	21.4 (5.0)	15.4 (2.9)	-----	18.2 (7.1)	24.4 (4.0)	21.8 (5.4)	16.6 (3.7)	26.3 (4.3)
Central	10.2 (3.3)	15.2 (5.6)	16.2 (10.2)	-----	14.1 (5.2)	15.0 (3.2)	13.3 (6.0)	17.0 (5.5)	23.7 (7.5)
East	4.8 (1.7)	-----	-----	-----	-----	-----	-----	-----	-----
<u>Bemidji DMU</u>									
-----	-----	11.4 (3.5)	17.7 (5.4)	20.1 (6.9)	14.9 (3.8)	12.9 (4.0)	11.8 (3.3)	13.0 (3.7)	14.3 (3.9)
Agassiz NWR	12.4 (6.7)	21.3 (6.7)	24.4 (8.8)	25.6 (8.4)	-----	-----	-----	-----	-----
Aitkin County	19.5 (5.7)	15.9 (4.0)	23.0 (7.5)	26.3 (6.2)	19.2 (5.8)	21.1 (6.0)	18.4 (6.0)	19.1 (4.2)	-----
Aitkin SE1/4 T44, R22	-----	19.6 (5.8)	-----	24.8 (7.0)	10.2 (3.7)	10.3 (2.7)	30.3 (8.8)	-----	-----
Bearville Study Area	31.2 (9.5)	39.4 (6.9)	39.5 (8.7)	38.0 (5.8)	15.6 (4.3)	42.9 (7.2)	21.1 (4.4)	-----	-----
Camp Ripley	17.0 (5.1)	19.2 (5.2)	31.0 (8.2)	31.6 (7.1)	47.0 (12.4)	39.3 (9.7)	30.5 (9.7)	38.7 (11.8)	21.2 (4.9)
Chippewa NF	-----	-----	15.8 (4.2)	17.6 (3.9)	15.9 (3.5)	19.1 (3.4)	12.5 (2.2)	13.7 (2.1)	15.2 (2.6)
Elephant Lake	31.3 (6.5)	36.9 (6.2)	-----	34.0 (8.0)	39.0 (13.0)	-----	-----	-----	-----
Fond du lac IR	-----	-----	-----	-----	-----	-----	-----	-----	10.6 (5.8)
Garden Lake Deer Yard	-----	-----	-----	-----	-----	30.6 (7.5)	13.2 (4.0)	-----	-----
Itasca County	-----	-----	-----	-----	18.7 (3.2)	23.6 (3.9)	12.6 (2.4)	-----	-----
Leech Lake IR	-----	-----	13.3 (3.6)	14.1 (3.7)	11.8 (3.8)	11.9 (2.9)	8.6 (2.4)	8.6 (2.0)	12.5 (4.0)
Mille Lacs WMA	24.9 (6.6)	30.5(11.2)	35.7(11.7)	24.2 (6.6)	17.5 (4.5)	10.0 (3.7)	15.6 (7.4)	16.9 (4.5)	35.3(10.9)
St. Croix State Park	45.0(21.2)	39.6 (9.6)	53.3(14.7)	41.6 (9.5)	49.8(11.9)	-----	-----	34.7 (9.2)	-----
Tamarac NWR	-----	70.7(13.5)	69.1(25.3)	62.5(14.7)	46.7(14.0)	36.5(11.0)	40.1(12.0)	26.7 (8.2)	37.2(11.3)
White Earth IR	6.3 (2.9)	4.1 (1.9)	10.1 (5.8)	11.4 (4.3)	10.2 (4.9)	17.3 (5.6)	8.9 (3.8)	9.9 (3.8)	6.2 (2.7)

^a No pellet counts were conducted in the Boundary Waters Canoe Area or the Voyageurs National Park.

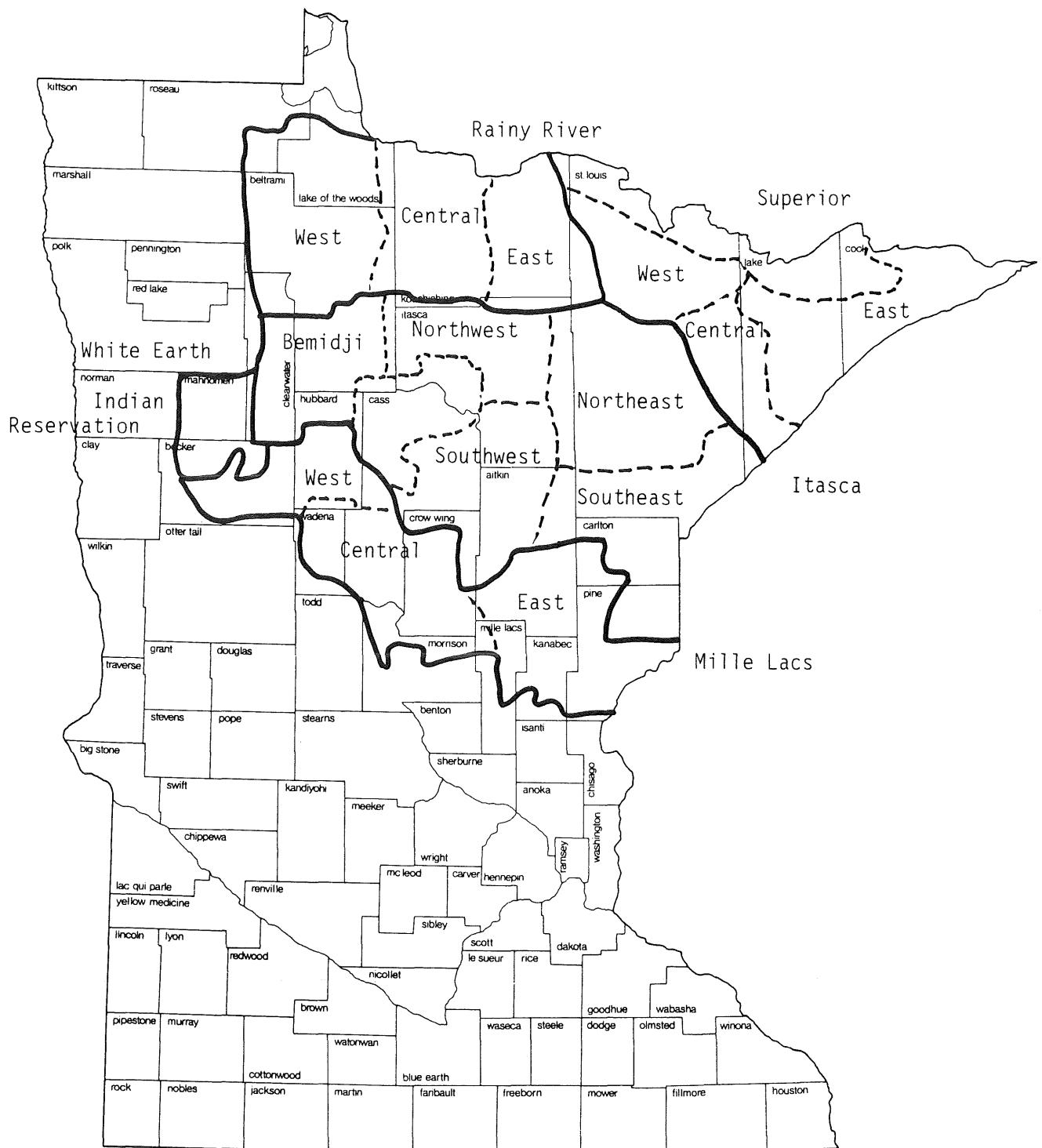


Figure 21. Deer management units and subunits in the Forest Zone.

Table 24. Spring deer densities estimated from population modeling in DMU's of Minnesota's Forest zone, 1982-88.*

DMU	Deer per square mile								Goal
	1982	1983	1984	1985	1986	1987	1988		
<u>Itasca</u>									
Northwest	22.4	22.3	20.7	19.0	17.0	15.7	14.9	15-20	
Southwest	17.6	17.4	16.7	15.8	14.9	14.4	13.8	15-20	
Northeast	14.1	14.7	15.2	16.1	16.7	17.3	17.7	15-20	
Southeast	15.9	16.7	16.9	17.5	18.0	18.3	18.2	10-15	
Leech Lake I.R.	13.3	12.8	11.7	10.9	10.1	9.0	7.6	10-15	
Bemidji	17.7	18.5	17.6	16.1	15.4	15.0	14.4	10-15	
<u>Mille Lacs</u>									
West	18.0	18.8	17.2	15.2	13.0	11.6	10.2	10-15	
Central	17.5	18.5	17.9	16.0	14.4	12.6	11.6	10-15	
East	14.1	14.5	14.1	14.0	14.2	15.0	15.4	10-15	
White Earth I.R.	7.6	7.5	7.1	6.8	6.4	5.9	5.2	10-15	
<u>Rainy River</u>									
West	13.9	13.8	13.2	12.2	11.4	11.6	11.4	10-15	
Central	11.4	12.0	11.7	11.8	12.3	13.0	13.2	10-15	
East	16.0	16.9	16.9	17.3	17.6	17.9	17.8	15-20	
<u>Superior</u>									
West	15.4	17.0	17.9	19.1	19.7	20.4	21.0	15-20	
Central	16.2	17.4	18.0	19.1	19.8	20.5	20.8	10-15	

* Historical density figures may differ from those previously published due to annual recalculation as more accurate modeling is available.

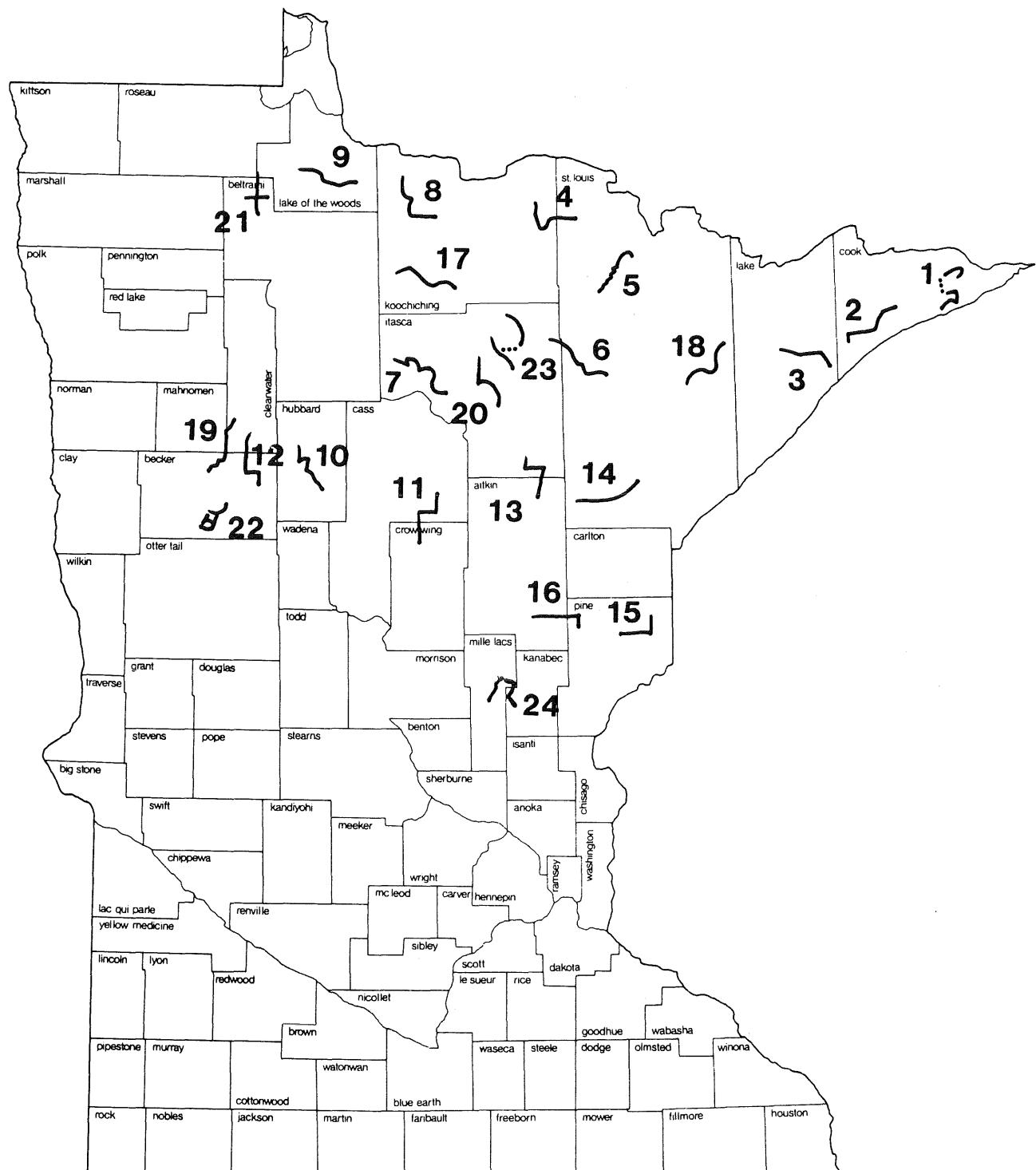


Figure 22. Approximate locations of 24 bear bait routes.

Table 25. Percentage of baits on each bait route taken by bears. All baits (50 per route) except those entirely removed by other animals were considered available to bears. Location of routes is shown in Fig. 22.

Route No.	1980 ^a	1981	1982	1983	1984	1985	1986	1987	1988 ^b
1	16	33	22	41	38	22	10	17	20
2	32	22	14	15	10	30	22	38	30
3	10	2	37	44	14	26	38	38	48
4	24	60	22	54	33	47	45	49	30
5	26	54	31	44	28	29	45	28	18
6	21	27	17	18	30	44	37	26	23
7	23	45	19	43	18	26	47	22	58
8	16	14	8	10	44	46	69	41	69
9	20	40	16	27	20	30	15	10	44
10	6	23	26	44	24	31	22	15	25
11	4	22	12	31	21	39	38	22	53
12	11	44	22	65	37	27	21	21	55
13	12	40	24	40	30	33	34	26	36
14	10	4	16	14	4	18	11	27	14
15	6	36	24	22	24	35	30	34	61
16			36	24	19	38	23	58	
17				19	49	66	24 ^b	28	40
18					8	20	42	20 ^b	43
19					28	10	18	25	27
20		48	69	66	35	45	40	20	35
21					6	6	2	19	15
22					20	8	14	11	41
23						28	40	36	40
24						20	35	54	68
Mean of all routes	16	32	24	33	24	31	30	28	39
Mean of routes 1-15 & 20		32	24	36	26	33	33	27	

^a 1980 data may not be directly comparable to other years because a different type of bait was used, and all routes except #1, 2, 3, 6 & 14 were conducted after July 14.

^b Routes were run twice in 1988, first during mid-June (baits set June 10-16) and again during the regular time in early July. Tabulated values are from July. Twenty-two routes had higher bear visitation in July compared to June, one was the same, and one had lower visitation. Mean statewide visitation in June was 24%.

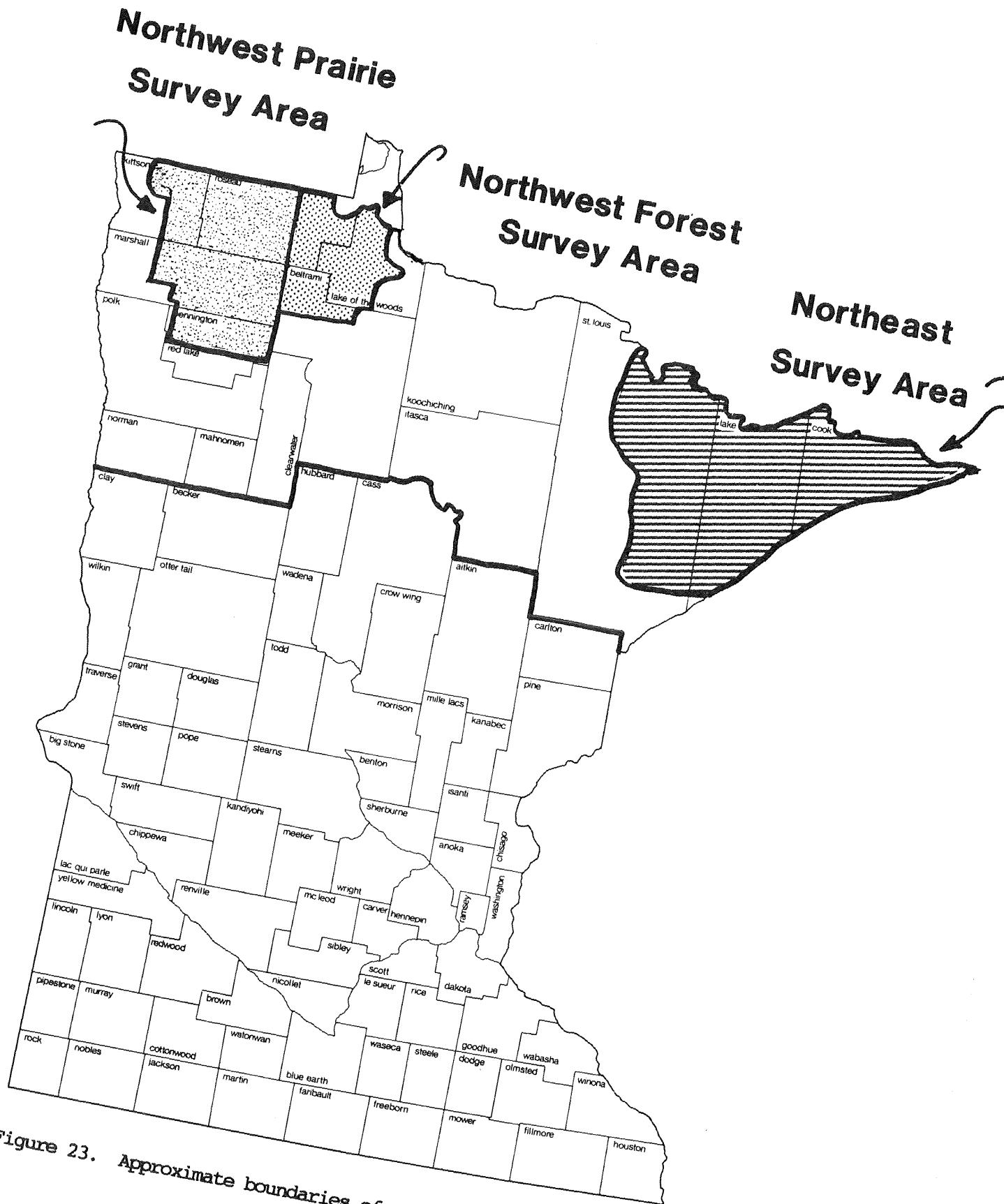


Figure 23. Approximate boundaries of aerial moose survey.

Table 26. Moose population estimates from aerial moose survey in Minnesota (\pm 90% Confidence Interval).

Area	Sq. miles ^a	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	% change 1986-87 to 1987-88
Northeast	4809	4877 (999)	4274 (925)	5518 (1494)	4955 (1034)	6120 (1438)	5457 (1057)	-10.8
Northwest Forest	1779	370 (124)	446 (139)	578 (148)	433 (100)	307 (83)	no survey	-
Northwest Prairie	2126	3772 (930)	2784 (567)	4086 (518)	3415 (412)	3740 (747)	no survey	-

^a Total land area within survey zone excluding agricultural areas. Does not include area of lakes more than 10 acres.

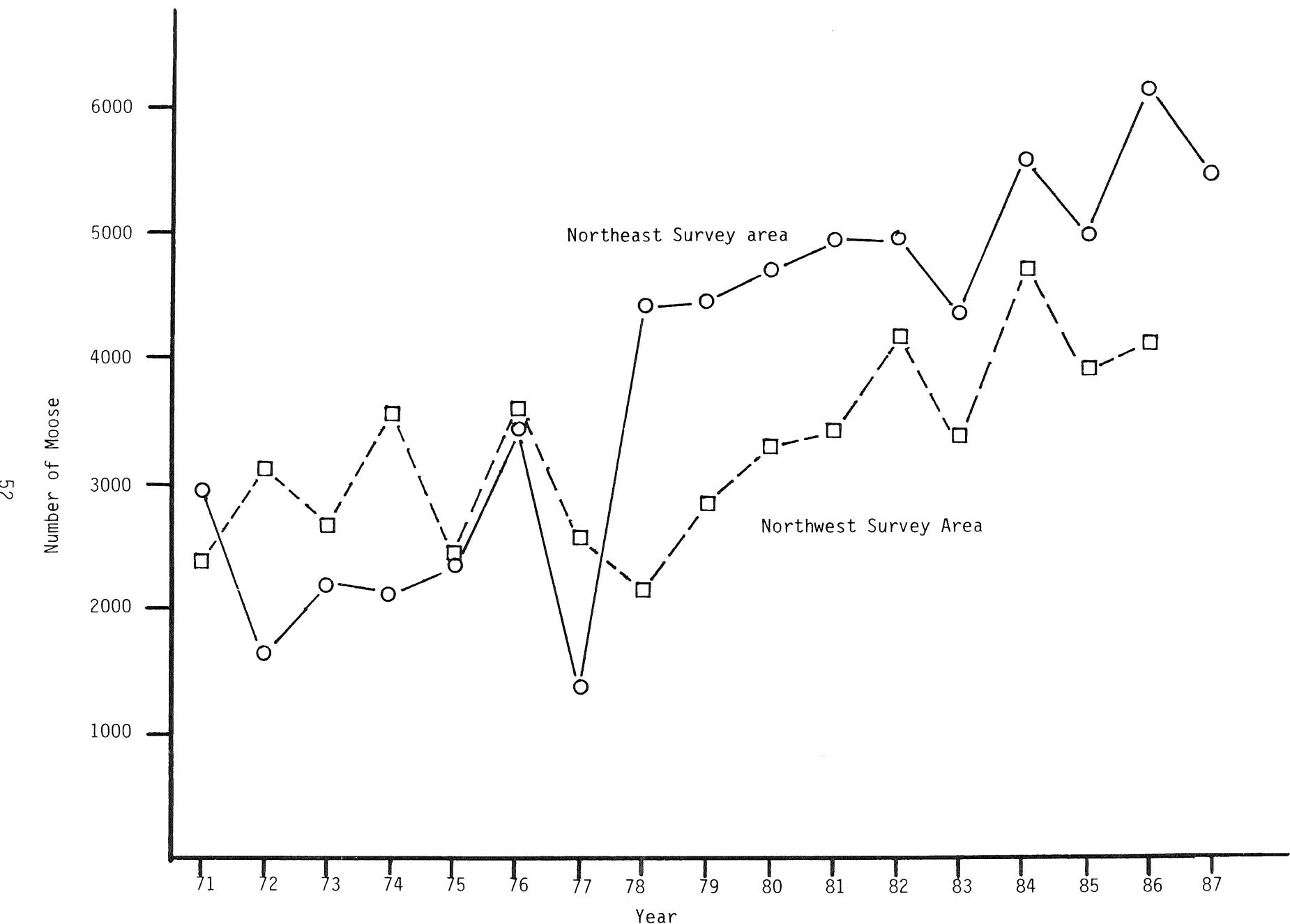


Figure 24. Moose population estimates in the two survey areas, 1971-1987. (Northwest prairie and Northwest forest areas combined in Northwest Survey Area).

MIGRATORY BIRD POPULATIONS

Table 27. Estimated spring duck populations in Minnesota, 1975-88.

Species	Year	Unadjusted population index	Visibility factor	Adjusted* population estimate (thousands)
Mallard	1975	55,093	3.19	176
	1976	69,844	1.69	118
	1977	60,617	2.21	134
	1978	56,152	2.61	147
	1979	61,743	2.57	159
	1980	83,775	2.05	172
	1981	79,562	1.95	155
	1982	51,655	2.33	121
	1983	73,424	2.12	156
	1984	94,514	1.99	188
	1985	96,045	2.26	217
	1986	108,328	2.16	235
	1987	165,881	1.16	192
	1988	158,566	1.71	271
Blue-winged teal	1975	45,948	3.95	181
	1976	89,370	4.87	436
	1977	37,391	3.86	144
	1978	28,491	8.53	243
	1979	46,708	5.21	243
	1980	50,966	6.49	331
	1981	64,546	2.59	167
	1982	42,772	4.75	203
	1983	42,728	2.81	120
	1984	89,896	2.82	254
	1985	90,453	2.91	264
	1986	68,234	2.69	183
	1987	102,479	1.99	204
	1988	101,736	2.38	242
Other ducks exc. scaup	1975	34,585	3.31	114
	1976	39,022	3.35	131
	1977	18,633	11.95	223
	1978	22,034	3.30	73
	1979	39,749	3.79	151
	1980	47,322	3.97	188
	1981	30,947	3.80	118
	1982	32,726	4.32	142
	1983	32,240	2.84	91
	1984	40,326	2.18	88
	1985	35,018	2.35	82
	1986	38,900	2.67	104
	1987	76,746	2.51	193
	1988	82,509	2.61	216

* Adjusted population estimates are different from those published previously because of adjustments in visibility factors to standardize data for all years.

Table 27. Continued.

Species	Year	Unadjusted population index	Visibility factor	Adjusted* population estimate (thousands)
Scaup	1975	9,563	3.31	32
	1976	22,494	3.35	75
	1977	2,971	11.95	36
	1978	14,774	3.30	49
	1979	92,134	3.79	349
	1980	12,602	3.97	50
	1981	19,844	3.80	75
	1982	21,556	4.32	93
	1983	9,551	2.84	27
	1984	15,683	2.18	34
	1985	7,409	2.35	17
	1986	6,247	2.67	17
Total ducks exc. scaup	1975	135,626	-	472
	1976	198,236	-	684
	1977	116,641	-	501
	1978	106,677	-	463
	1979	148,200	-	552
	1980	182,063	-	691
	1981	175,055	-	440
	1982	127,153	-	465
	1983	148,392	-	367
	1984	224,736	-	530
	1985	221,516	-	563
	1986	215,462	-	521
Total ducks	1977	345,106	-	589
	1978	342,811	-	729
	1979	145,189	-	503
	1980	220,730	-	759
	1981	119,612	-	537
	1982	121,451	-	511
	1983	240,334	-	901
	1984	194,665	-	741
	1985	194,899	-	515
	1986	148,709	-	558
	1987	157,943	-	394
	1988	240,419	-	564

* Adjusted population estimates are different from those published previously because of adjustments in visibility factors to standardize data for all years.

Table 28. Winter population estimates (post hunting season) of the Canada goose eastern prairie flock, 1963-87 (taken from: U.S. Fish and Wildlife Service/Canadian Wildlife Service. 1988. 1988 Status of waterfowl and fall flight forecast; July 1988. 40pp).

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	175,000 ^a
1982	210,000 ^b
1983	163,000 ^b
1984	168,000
1985	169,000
1986	183,000
1987	228,000

^a In 1983, U.S.F.W.S. revised a previously published estimate (145,000) due to supplemental information.

^b Supplemental information suggests that the 1983 population was 170,000 - 190,000 birds.

Table 29. Summary of the number of May ponds (adjusted for visibility) in Prairie Canada (portions of Alberta, Saskatchewan and Manitoba) 1961-88 and north-central U.S. (North Dakota, South Dakota and Montana) 1974-88. (from: U.S. Fish and Wildlife Service/Canadian Wildlife Service, 1988. 1988 Status of waterfowl and fall flight forecast. July 1988. 40pp).

Year	Ponds (thousands)	
	Prairie Canada	North Central U.S. ^a
1961	2,006	--
1962	2,531	--
1963	2,499	--
1964	3,445	--
1965	4,415	--
1966	4,672	--
1967	4,732	--
1968	1,938	--
1969	3,530	--
1970	4,957	--
1971	4,096	--
1972	4,065	--
1973	2,937	--
1974	6,693	1,509
1975	6,267	1,911
1976	5,057	1,392
1977	2,278	771
1978	3,622	1,590
1979	4,859	1,522
1980	2,141	761
1981	1,443	683
1982	3,185	1,458
1983	3,906	1,259
1984	2,458	1,766
1985	4,283	1,327
1986	4,025	1,735
1987	2,598	1,348
Average	3,653	1,359
1988	2,110	794
% Change in 1988 from:		
1987	-19	-41
Average	-42	-42

^a No comparable survey data available for the north-central U.S. during 1961-73.

Table 30. North American breeding population estimates for 10 species of ducks, 1955-88. (from: U.S. Fish and Wildlife Service/Canadian Wildlife Service 1988. 1988 Status of waterfowl and fall flight forecast; July 1988. 40pp). In thousands.

Year	Mallard	Gadwall	American wigeon	Green-winged teal	Blue-winged teal	Northern shoveler	Northern 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	1,198	3,665	2,444	4,866	1,657	5,114	754	696	7,535
1974	7,392	1,562	3,003	2,221	5,437	2,060	7,165	613	493	7,045
1975	8,109	1,672	2,862	2,038	6,441	1,994	6,387	974	706	7,846
1976	8,637	1,478	2,699	1,844	5,023	1,818	6,045	946	686	6,973
1977	8,226	1,546	2,678	1,952	4,626	1,616	4,971	688	702	7,490
1978	7,695	1,593	3,808	2,978	4,497	2,162	5,664	833	423	7,125
1979	8,444	1,889	3,388	2,920	5,278	2,555	6,070	774	606	9,135
1980	8,003	1,459	3,857	2,925	4,903	2,050	5,420	1,146	688	7,690
1981	6,757	1,479	3,555	2,515	4,076	2,403	4,227	825	594	7,253
1982	6,684	1,690	3,159	2,247	3,879	2,540	4,112	674	543	6,549
1983	7,107	1,536	2,923	2,574	3,381	2,237	4,086	866	528	8,788
1984	5,974	1,799	3,979	1,804	3,870	2,222	3,664	849	569	8,402
1985	5,475	1,410	2,506	1,873	3,756	1,925	2,935	701	411	6,235
1986	6,303	1,590	2,446	2,588	4,664	2,403	3,201	956	442	6,252
1987	6,691	1,705	2,734	3,041	3,618	2,229	3,137	767	478	6,261
1988	6,549	1,508	3,168	3,143	3,646	2,157	2,577	846	435	5,480
Goals ^b	8,700	1,600	3,300	2,300	5,300	2,100	6,300	760	580	7,600
1955-87 Ave.	8,204	1,501	3,134	2,160	4,849	1,999	5,566	725	560	6,918

Continued

Table 30. Continued.

Percent Change in 1988 From: 1987										
1955-87										
Ave.	-20	+2	+1	+46	-25	+8	-54	+17	-22	-21

a All duck indexes adjusted for visibility bias.

b Breeding duck population goals, from North American Waterfowl Management Plan (FWS-CWS 1986).

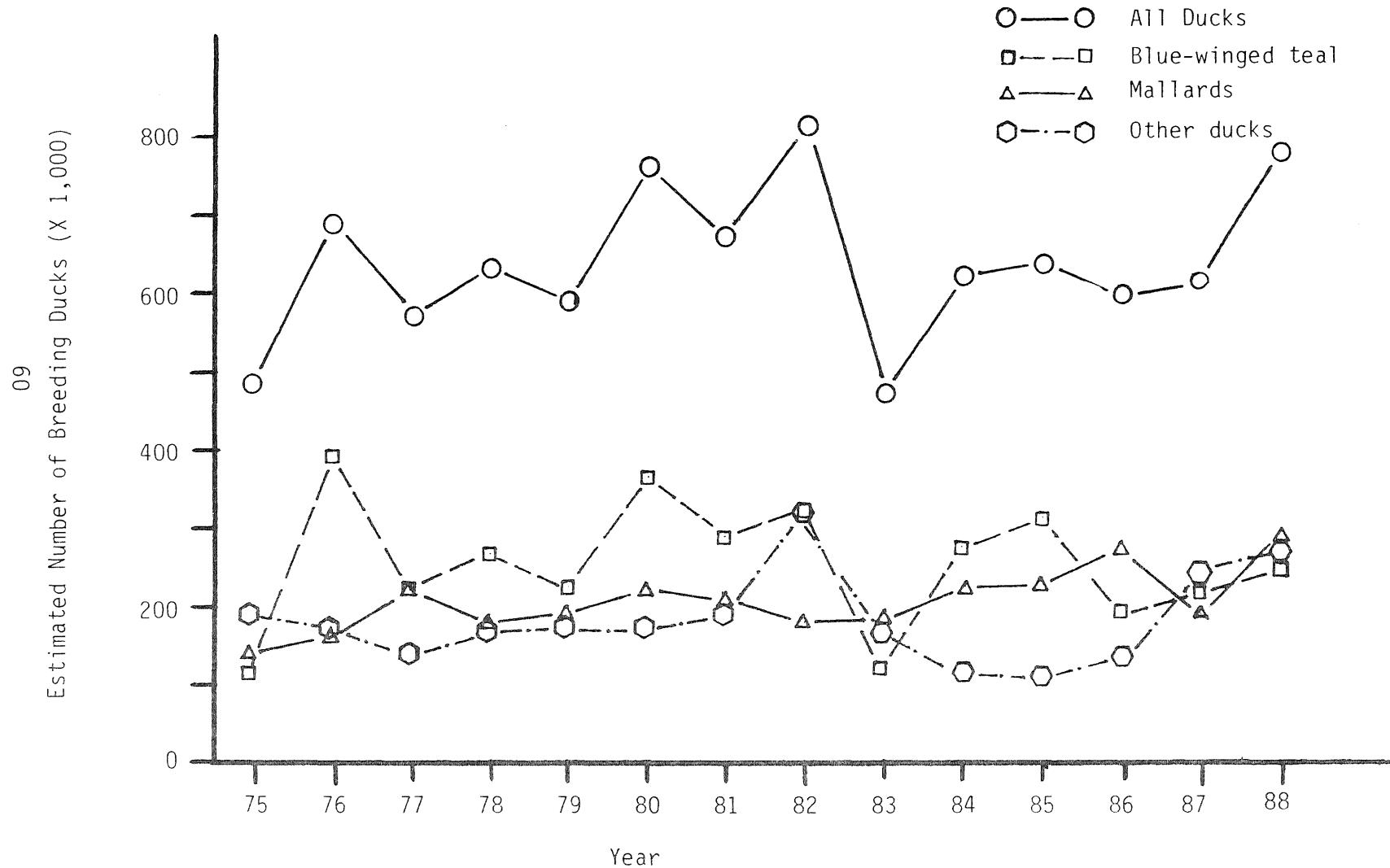


Figure 25. Estimated number of ducks breeding in Minnesota, 1975-1988.

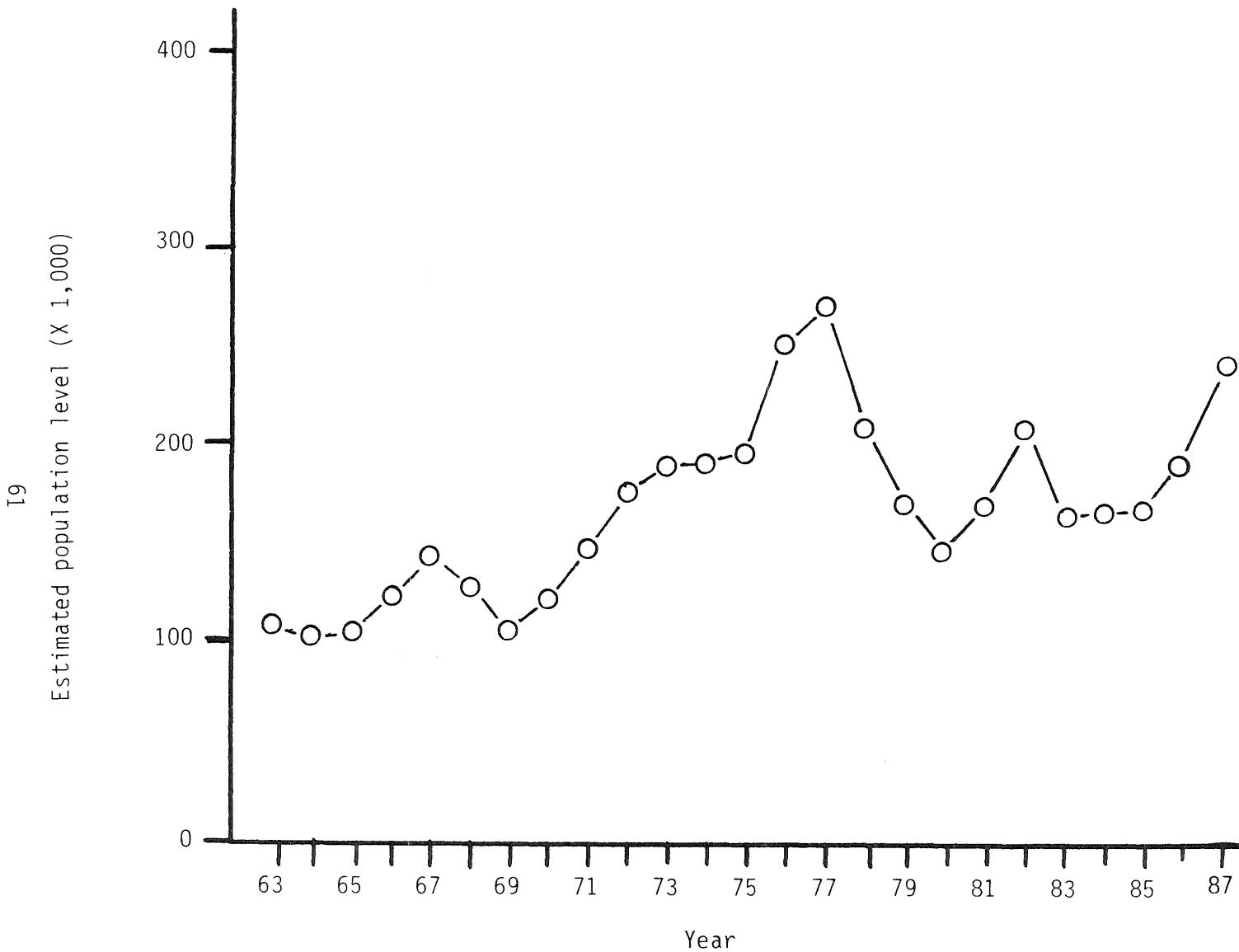


Figure 26. Winter population estimates of the Eastern Prairie Population of Canada geese, 1963-87. (data from U.S. Fish and Wildlife Service/Canadian Wildlife Service reports on status of waterfowl and fall flight forecasts).

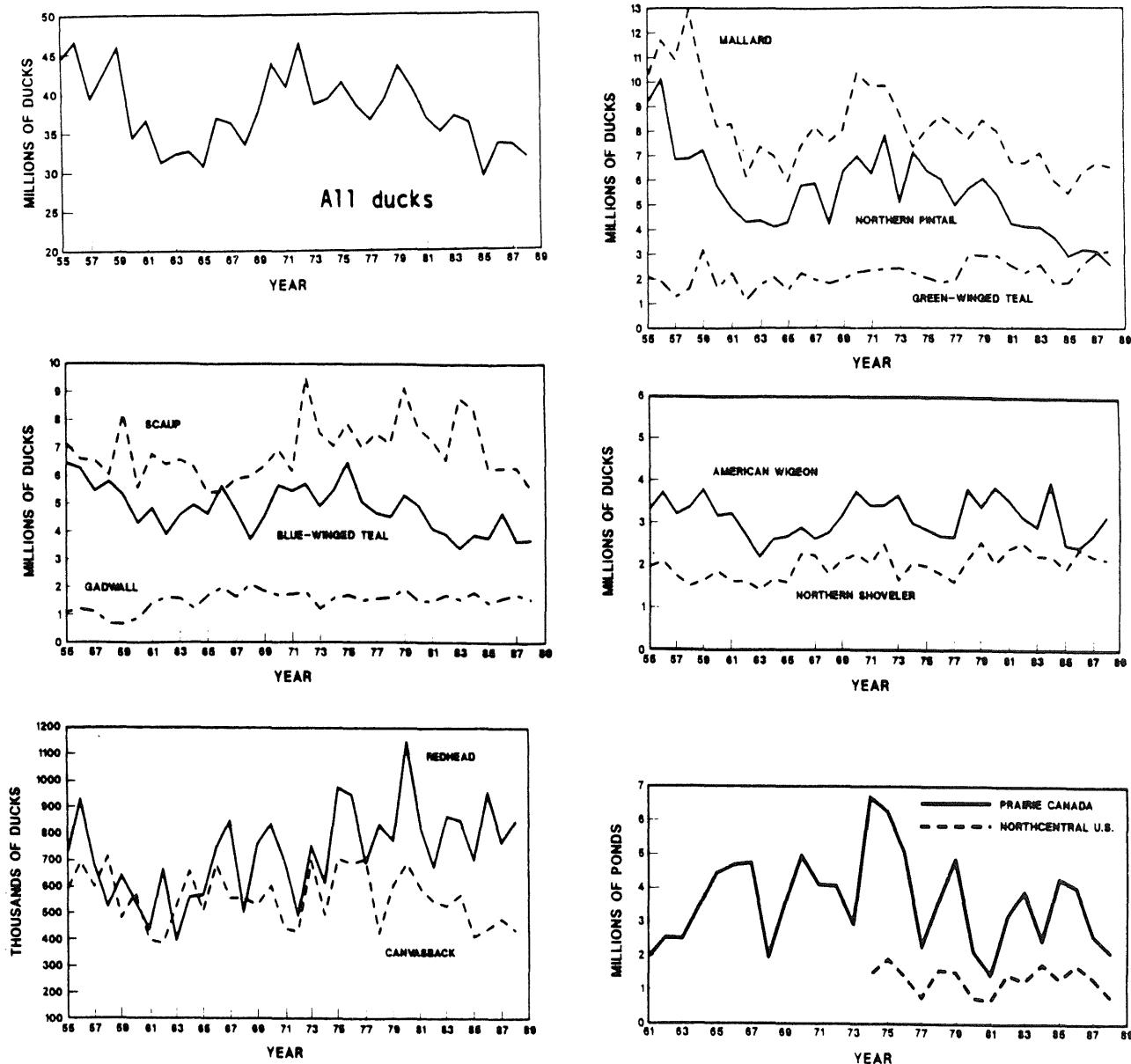


Figure 27. Estimates of North American breeding populations of selected ducks, winter population estimates for black ducks, and number of water areas in May in Prairie Canada and northcentral U.S. (from: U.S. Fish and Wildlife Service/Canadian Wildlife Service 1988. 1988 Status of waterfowl and fall flight forecasts. July 25, 1988).

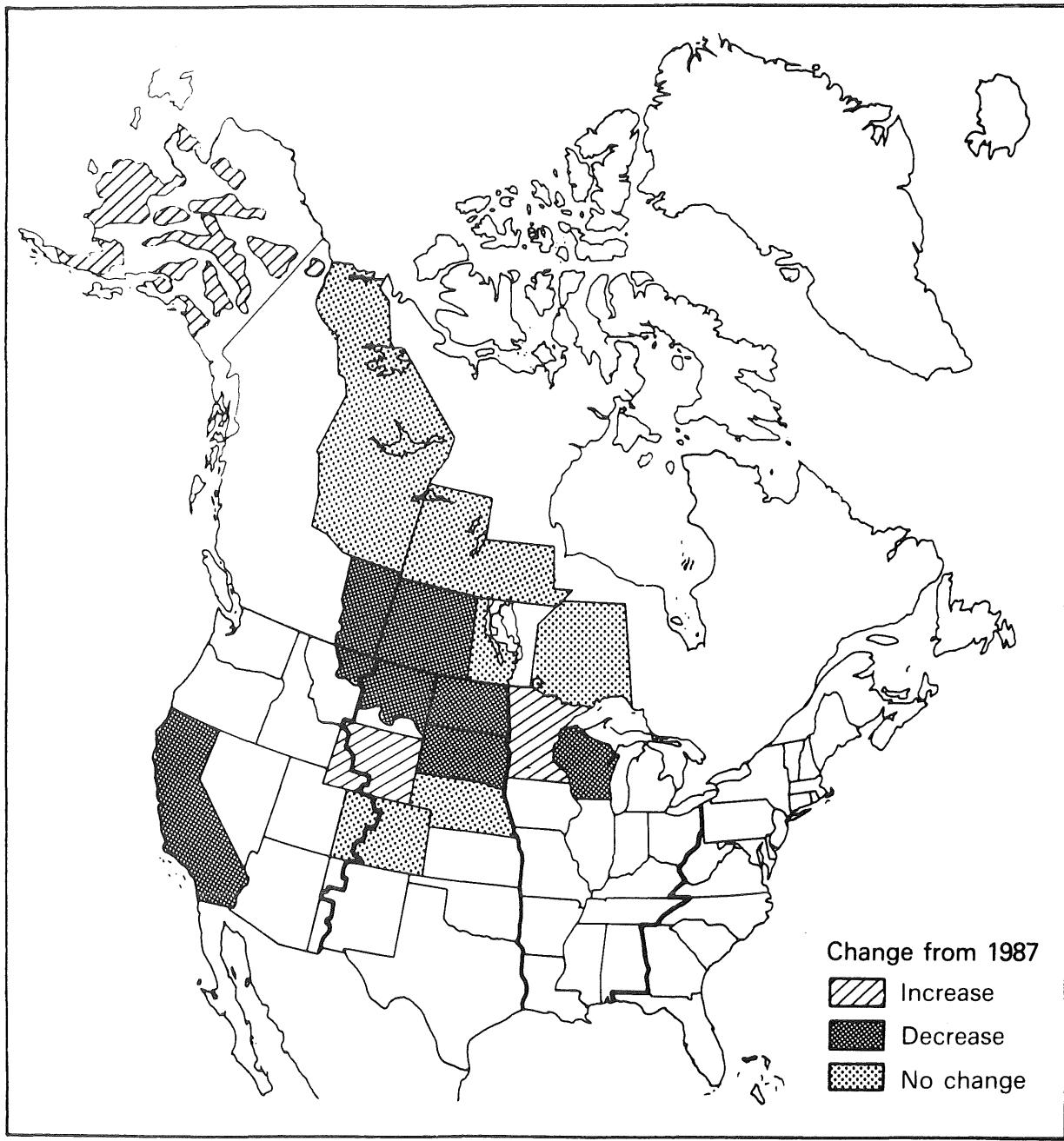


Figure 28. Fall 1988 duck flight forecast for Canada and the U.S., change from 1987; forecast: decrease. (from: U.S. Fish and Wildlife Service Canadian Wildlife Service 1988. 1988 Status of waterfowl and fall flight forecasts. July 25, 1988).

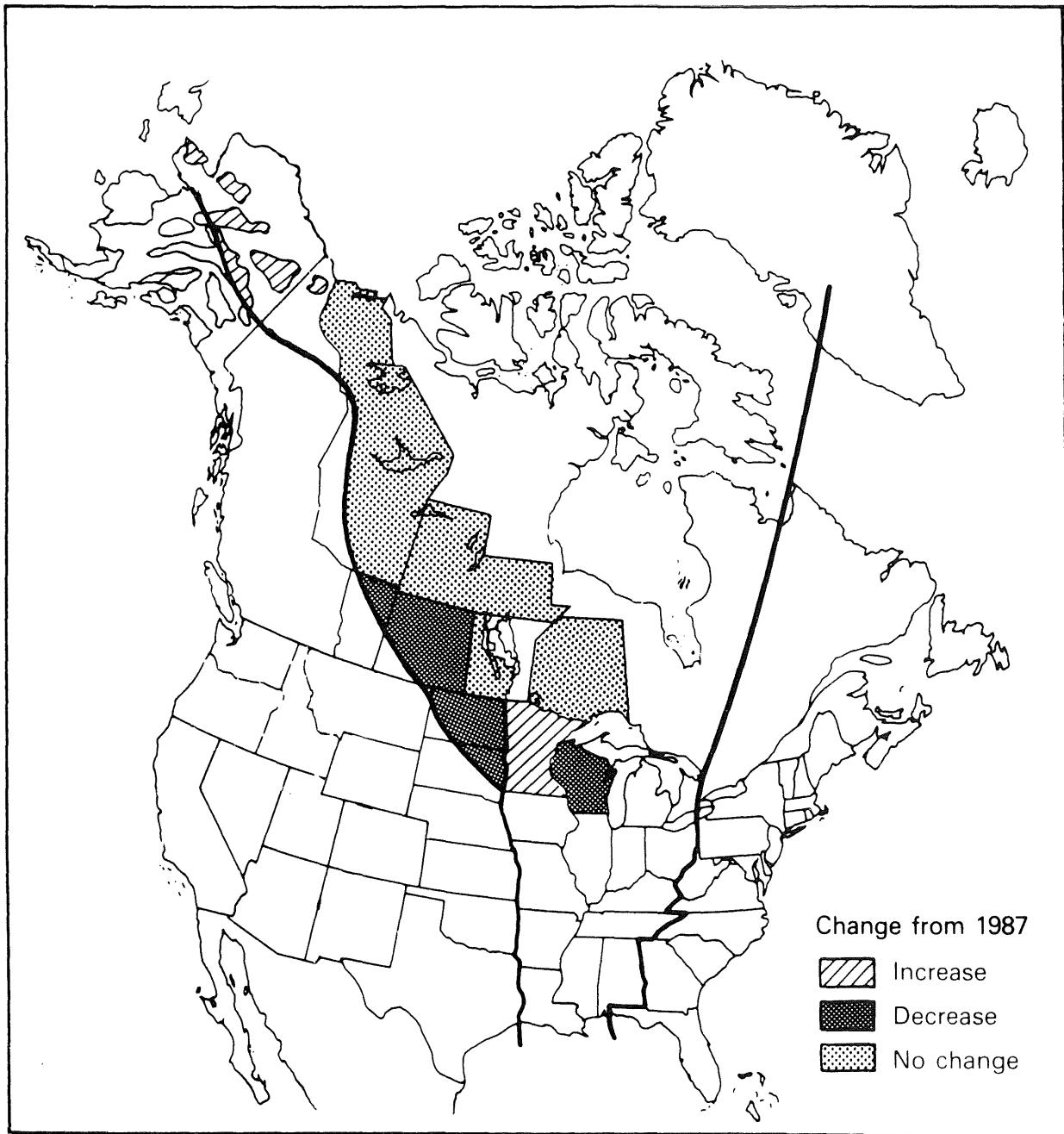


Figure 29. Fall 1988 duck flight forecast for the Mississippi Flyway, change from 1987; forecast: decrease. (from: U.S. Fish and Wildlife Service Canadian Wildlife Service 1988. 1988 Status of waterfowl and fall flight forecasts. July 25, 1988).

Special Section on Waterfowl
Harvest and Survey Data

The following 48 tables are taken
from a report compiled by
Ken Gamble, U.S. Fish and Wildlife Service

Table 31. Duck stamp sales in the Atlantic Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	ME	VT	NH	MA	CT	RI	NY	PA	WV	NJ	DE	MD	DC	VA	NC	SC	GA	FL	AFTOTAL
1961	7,213	3,616	4,220	17,411	6,204	2,057	53,731	25,684	1,218	15,226	6,336	17,077	1,322	12,365	17,888	10,657	6,651	23,702	232,578
1962	8,020	3,637	4,333	17,162	7,497	1,625	50,014	27,621	1,454	18,734	5,664	18,063	1,434	13,580	20,394	10,541	5,882	20,656	236,311
1963	10,080	3,564	3,598	16,607	7,838	2,326	44,726	34,259	1,491	23,165	7,347	21,705	1,831	17,612	23,972	13,429	10,612	26,220	270,382
1964	10,997	4,292	4,721	18,255	7,834	2,196	53,917	37,855	1,263	22,312	7,815	24,144	2,267	16,609	23,479	13,039	7,732	26,029	284,756
1965	11,969	4,789	5,809	20,202	8,341	2,203	57,363	41,598	1,607	26,350	8,380	24,315	2,151	15,475	21,836	14,916	8,963	24,821	301,088
1966	13,641	5,115	6,563	22,452	9,548	2,500	67,549	43,662	1,641	26,928	9,179	26,435	2,520	18,278	24,871	16,576	10,500	28,514	336,472
1967	13,223	5,725	6,726	21,119	9,479	2,507	77,586	52,084	1,876	28,935	9,695	28,376	3,034	18,982	22,483	18,107	10,719	30,281	360,937
1968	14,696	5,884	7,656	23,758	12,005	2,961	86,492	58,055	1,799	30,384	11,055	29,980	2,589	18,177	22,090	18,896	11,228	27,057	384,762
1969	15,939	6,317	8,938	25,630	12,889	3,313	98,403	67,224	1,898	32,974	11,657	37,280	2,990	20,146	26,760	19,737	13,094	33,183	438,372
1970	18,182	7,435	9,880	29,993	15,779	3,509	108,582	81,074	2,103	35,002	12,503	36,090	2,274	22,044	31,730	21,659	14,005	44,543	496,387
1971	18,534	8,758	9,973	26,106	14,069	4,354	116,709	87,661	1,858	43,673	12,987	32,646	3,420	19,757	30,727	20,731	15,750	33,576	501,289
1972	15,750	7,982	9,094	26,070	13,165	3,618	103,526	70,657	2,066	35,980	11,549	30,749	2,466	20,693	25,233	18,224	13,059	28,383	438,264
1973	16,923	8,720	9,608	25,407	13,673	3,598	104,871	63,842	1,871	35,225	13,066	33,756	1,791	18,970	24,392	18,346	12,177	28,615	434,851
1974	18,200	8,762	10,878	26,001	14,963	3,688	95,716	69,111	1,910	36,090	13,778	38,001	2,682	19,771	28,982	20,744	13,207	26,385	448,849
1975	18,152	8,851	11,198	25,298	15,403	3,553	90,214	70,877	2,112	35,205	13,238	39,509	2,039	19,670	26,765	21,029	13,143	25,582	441,838
1976	17,458	8,067	10,879	22,934	15,005	3,583	79,882	72,686	2,081	31,888	12,429	40,227	2,091	20,877	28,132	21,861	13,513	32,340	435,933
1977	17,664	8,155	10,483	22,070	15,023	3,112	79,293	74,213	2,358	31,550	12,661	39,921	3,469	21,460	29,545	22,637	13,800	27,144	434,558
1978	18,650	8,600	10,577	21,875	16,539	3,338	83,388	76,154	2,354	31,597	12,779	43,333	3,481	22,331	29,050	23,669	14,792	28,814	451,321
1979	16,974	7,688	9,935	21,524	14,473	3,348	78,627	70,233	2,291	30,559	11,185	38,988	2,185	21,190	26,034	22,911	14,325	24,104	416,574
1980	16,473	7,683	10,186	21,291	15,188	2,481	78,335	66,115	2,337	28,288	10,293	40,030	1,947	19,837	27,220	23,303	14,901	23,373	409,281
1981	16,657	7,105	10,106	22,061	15,244	2,805	72,856	65,750	2,350	29,398	10,850	42,511	1,041	21,473	29,208	19,525	15,143	23,823	407,906
1982	14,470	7,039	9,815	20,684	14,839	2,944	71,441	65,813	2,445	27,320	10,081	42,804	1,064	21,483	30,780	20,348	16,191	23,368	402,929
1983	14,685	7,104	8,407	19,146	13,853	2,730	65,185	65,393	2,191	25,382	10,313	44,514	962	20,948	30,183	20,101	17,059	22,740	390,896
1984	13,634	7,763	8,976	20,222	14,589	2,845	68,857	68,785	2,143	25,845	10,962	48,520	1,105	22,493	31,363	20,726	19,024	25,014	412,866
1985	13,280	7,507	9,144	19,916	14,525	2,684	61,340	63,336	1,740	23,400	9,165	46,570	1,172	21,095	29,888	18,650	16,943	22,191	382,546
1986	13,185	7,022	9,726	21,296	14,908	2,705	66,733	61,940	2,028	23,159	9,189	43,830	728	21,014	30,282	19,598	18,185	22,216	387,744
1987*	12,409	6,594	9,266	21,518	14,782	2,857	59,996	56,397	1,594	21,080	8,795	42,549	1,076	21,232	29,632	19,351	17,234	21,048	367,410

AVERAGES:

61-65	9,656	3,980	4,536	17,927	7,543	2,081	51,950	33,403	1,407	21,157	7,108	21,061	1,801	15,128	21,514	12,516	7,968	24,286	265,023
66-70	15,136	6,095	7,953	24,590	11,940	2,958	87,722	60,420	1,863	30,845	10,818	31,632	2,681	19,525	25,587	18,995	11,909	32,716	403,386
71-75	17,512	8,615	10,150	25,776	14,251	3,762	102,207	72,430	1,963	37,235	12,924	34,932	2,480	19,772	27,220	19,815	13,467	28,508	453,018
76-80	17,444	8,039	10,412	21,939	15,246	3,172	79,905	71,880	2,284	30,776	11,869	40,500	2,635	21,139	27,996	22,876	14,266	27,155	429,533
81-85	14,545	7,304	9,290	20,406	14,610	2,802	67,936	65,815	2,174	26,269	10,274	44,984	1,069	21,498	30,284	19,870	16,872	23,427	399,429
86-87	12,797	6,808	9,496	21,407	14,845	2,781	63,365	59,169	1,811	22,120	8,992	43,190	902	21,123	29,957	19,475	17,710	21,632	377,577

* THROUGH THIRD QUARTER ONLY

Table 32. Estimates of regular-season all-duck harvests in the Atlantic Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	ME	VT	NH	MA	CT	RI	NY	PA	WV	NJ	DE	MD	VA	NC	SC	GA	FL	AFTOTAL
1961	36,800	16,500	12,700	49,200	15,100	11,300	163,100	44,000	1,600	43,000	30,200	53,700	33,600	46,300	39,300	20,500	120,900	737,800
1962	34,900	24,400	9,200	40,600	22,000	7,400	140,000	50,400	6,000	69,400	15,600	60,200	43,100	49,100	56,100	17,900	95,700	742,000
1963	42,600	14,600	8,800	45,200	19,000	11,400	121,000	67,100	3,500	90,400	20,800	55,900	51,900	65,500	75,200	47,300	164,600	904,800
1964	59,200	24,100	18,900	66,300	22,000	11,700	147,000	80,100	2,400	92,900	28,900	90,100	47,300	83,400	64,700	19,900	134,700	993,600
1965	56,400	20,200	21,400	63,800	31,000	10,000	172,100	84,300	2,900	101,200	20,600	76,100	38,600	60,600	77,300	37,000	147,900	1,021,400
1966	61,700	24,600	25,100	79,300	22,500	14,600	194,600	98,400	3,400	105,300	35,100	176,100	77,500	98,800	115,100	46,200	222,200	1,400,500
1967	52,700	22,400	14,600	60,100	27,800	12,200	248,400	117,100	4,200	113,100	33,400	89,600	71,000	112,300	107,100	28,000	217,100	1,331,100
1968	77,000	24,900	18,000	66,000	40,400	21,100	254,300	107,300	5,600	110,200	34,800	84,800	72,300	121,100	119,000	36,600	178,400	1,371,800
1969	99,000	30,800	29,700	80,000	40,900	10,100	344,100	125,300	4,700	129,400	38,800	214,700	110,300	118,700	135,200	55,700	234,900	1,802,300
1970	101,400	37,800	21,800	104,600	49,500	14,200	339,600	134,200	11,100	108,400	59,900	113,000	105,900	158,400	147,900	66,300	406,000	1,980,000
1971	92,900	38,600	26,700	74,300	43,800	19,400	306,300	157,700	3,400	158,900	53,500	137,200	106,900	144,300	97,000	72,500	186,600	1,720,000
1972	81,000	37,100	19,400	78,000	41,500	17,500	312,400	135,700	4,800	130,400	52,900	101,300	114,200	128,500	131,900	63,300	194,800	1,644,700
1973	88,800	37,800	26,800	93,100	36,900	11,800	300,000	110,800	3,400	138,000	42,700	105,600	95,600	91,800	99,600	57,800	206,500	1,547,000
1974	115,400	42,800	36,400	124,200	39,100	14,000	269,600	161,600	5,900	150,900	39,000	101,100	89,200	142,500	138,700	65,000	197,300	1,732,700
1975	83,700	36,700	28,200	85,400	54,500	17,100	342,600	136,500	8,800	149,900	47,200	166,000	127,400	145,300	143,900	73,200	211,600	1,858,000
1976	100,900	34,800	45,900	92,600	43,700	22,900	333,100	183,800	6,900	167,600	32,400	91,900	120,300	220,000	183,600	82,400	330,800	2,093,600
1977	76,900	32,900	31,500	72,300	51,100	26,900	247,700	165,300	5,500	136,200	39,000	77,700	129,400	276,300	173,600	83,600	256,100	1,882,000
1978	86,200	36,600	30,100	90,300	33,100	19,100	264,400	148,700	9,000	128,900	53,300	176,800	129,600	173,100	186,900	74,600	305,200	1,945,900
1979	71,000	27,800	23,600	78,800	34,400	14,900	364,300	140,000	9,900	114,300	54,600	144,000	120,100	145,600	165,800	85,700	254,800	1,849,600
1980	81,800	27,400	32,300	87,400	35,900	15,900	347,700	129,400	9,600	147,600	67,100	131,300	122,700	212,600	160,400	102,000	225,100	1,936,200
1981	74,000	31,100	27,900	67,700	34,100	15,300	267,600	137,300	10,100	139,500	57,500	148,500	136,700	263,900	180,400	103,200	195,100	1,889,900
1982	75,000	36,000	23,400	60,700	47,700	13,100	263,500	144,100	7,200	114,800	38,400	106,800	83,800	191,500	137,600	81,200	183,900	1,608,700
1983	85,900	35,100	23,000	59,300	30,200	16,900	221,400	122,600	6,100	113,000	34,400	120,300	116,800	180,400	174,600	97,100	232,700	1,669,800
1984	61,600	24,700	31,900	64,800	37,000	11,100	277,500	124,200	7,000	112,000	31,700	163,600	123,800	185,400	158,200	116,000	280,000	1,810,500
1985	69,400	27,000	25,900	84,900	31,500	8,300	218,000	100,100	3,700	89,900	44,900	120,000	86,100	172,700	101,800	71,900	144,500	1,400,600
1986	73,400	33,900	20,400	67,400	32,400	9,300	193,700	107,100	5,700	91,500	44,200	155,600	89,500	162,100	122,900	56,700	146,700	1,412,500
1987*	55,100	25,700	31,600	70,500	19,100	16,600	224,000	83,900	4,400	73,600	23,200	119,100	119,500	168,400	141,100	66,200	144,000	1,386,000

AVERAGES:

61-65	45,980	19,960	14,200	53,020	21,820	10,360	148,640	65,180	3,280	79,380	23,220	67,200	42,900	60,980	62,520	28,520	132,760	879,920
66-70	78,360	28,100	21,840	78,000	36,220	14,440	276,200	116,460	5,800	113,280	40,400	135,640	87,400	121,860	124,860	46,560	251,720	1,577,140
71-75	92,360	38,600	27,500	91,000	43,160	15,960	306,180	140,460	5,260	145,620	47,060	122,240	106,660	130,480	122,220	66,360	199,360	1,700,480
76-80	83,360	31,900	32,680	84,280	39,640	19,940	311,440	153,440	8,180	138,920	49,280	124,340	124,420	205,520	174,060	85,660	274,400	1,941,460
81-85	73,180	30,780	26,420	67,480	36,100	12,940	249,600	125,660	6,820	113,840	41,380	131,840	109,440	198,780	150,520	93,880	207,240	1,675,900
86-87	64,250	29,800	26,000	68,950	25,750	12,950	208,850	95,500	5,050	82,550	33,700	137,350	104,500	165,250	132,000	61,450	145,350	1,399,250

* PRELIMINARY

Table 33. Estimates of regular-season mallard harvests in the Atlantic Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	ME	VT	NH	MA	CT	RI	NY	PA	WV	NJ	DE	MD	VA	NC	SC	GA	FL	AFTOTAL
1961	500	1,600	1,000	2,900	3,500	1,500	30,000	18,800	400	6,200	5,200	9,100	5,300	4,300	9,700	400	4,500	104,900
1962	800	1,400	200	3,100	3,700	600	23,700	19,300	1,500	11,000	3,300	14,400	9,900	5,900	12,300	2,800	2,100	116,000
1963	800	1,500	300	2,400	2,900	500	24,500	27,300	1,000	16,200	3,800	10,200	13,900	8,400	14,800	4,900	3,700	137,100
1964	1,300	2,300	600	4,500	5,500	800	33,500	33,200	500	15,000	6,900	15,400	12,100	8,900	15,200	3,400	3,800	162,900
1965	1,400	1,800	1,200	4,400	6,700	500	38,300	32,800	500	14,400	3,900	13,000	9,200	6,200	16,900	7,100	2,600	160,900
1966	1,800	3,400	1,400	6,800	5,700	1,100	41,100	40,500	1,000	13,800	8,700	27,200	17,900	13,200	31,300	6,000	2,100	223,000
1967	1,800	2,100	1,100	8,000	6,900	900	53,000	51,900	1,100	18,200	8,800	21,900	16,400	10,500	22,000	3,900	2,700	231,200
1968	2,400	3,500	1,600	8,700	7,900	2,100	65,000	49,800	1,400	23,300	12,900	22,800	13,100	14,400	18,500	7,400	3,000	257,800
1969	3,100	3,100	2,500	8,600	7,000	1,700	99,400	58,600	900	21,100	11,600	42,800	15,500	14,800	23,400	10,500	5,700	330,300
1970	2,700	4,600	1,200	9,300	10,100	1,600	82,200	65,500	2,800	18,800	18,300	47,500	19,600	21,400	33,700	7,600	9,200	356,100
1971	2,400	6,500	2,600	8,600	11,800	2,900	79,800	68,500	1,000	27,800	11,900	38,200	20,200	17,300	19,700	17,800	2,000	339,000
1972	3,600	6,700	2,500	12,200	11,200	2,400	91,800	55,400	1,300	27,700	20,800	38,800	26,800	24,100	18,800	10,500	3,400	358,000
1973	4,100	7,500	5,600	16,300	10,200	1,900	105,200	51,800	1,000	23,400	15,400	31,500	21,500	11,200	15,200	13,000	1,000	335,800
1974	8,600	7,200	3,800	18,100	11,600	2,600	99,800	80,800	1,700	36,700	12,100	37,900	19,000	14,700	17,500	8,900	2,600	383,600
1975	4,300	6,400	3,900	15,000	13,200	1,300	110,800	64,500	1,800	38,700	15,100	58,900	27,800	17,500	18,500	8,900	2,600	409,200
1976	4,100	9,600	5,900	13,300	11,700	2,700	109,900	93,800	2,100	37,000	8,600	25,900	35,400	48,300	48,100	15,400	6,600	478,400
1977	4,100	8,000	4,600	11,500	16,400	2,000	72,800	73,800	1,600	27,000	16,300	26,500	31,400	31,300	36,600	17,400	7,100	388,400
1978	6,100	10,400	3,000	10,900	10,700	3,300	83,900	65,700	3,400	28,800	16,000	71,100	39,000	26,300	42,100	14,800	7,000	442,500
1979	5,200	7,600	4,200	12,600	11,200	2,500	135,000	67,000	2,000	30,500	16,100	43,800	35,500	22,100	26,300	12,000	4,000	437,600
1980	5,700	7,000	6,700	12,400	12,000	2,500	114,200	63,000	1,800	39,200	20,800	39,200	37,800	29,400	24,300	16,700	2,400	435,100
1981	4,200	6,600	5,300	12,300	13,300	2,700	86,300	73,200	3,000	29,600	13,600	51,500	36,500	53,000	39,200	12,500	1,800	444,600
1982	4,000	11,200	5,700	9,300	14,800	2,800	101,900	77,200	1,500	24,500	11,900	41,200	19,600	34,300	26,100	9,400	500	395,900
1983	5,700	11,400	7,100	9,700	13,000	3,200	83,800	63,200	1,600	32,300	9,800	56,500	36,500	33,800	33,800	14,000	2,000	417,400
1984	4,700	7,500	7,400	11,800	12,100	1,400	87,200	63,500	1,500	27,300	7,300	55,700	30,100	27,500	24,100	12,100	1,500	382,700
1985	4,700	7,100	7,600	13,100	8,400	1,600	60,500	50,500	800	20,500	12,700	44,000	30,500	24,100	18,300	14,500	1,000	319,900
1986	3,100	8,800	6,300	12,600	11,100	900	71,600	53,600	2,000	20,700	15,200	62,100	27,100	26,300	30,900	9,500	900	362,700
1987*	5,000	8,700	6,300	16,500	6,500	2,600	82,100	40,100	1,300	19,000	9,600	43,700	35,200	32,800	21,700	10,500	600	342,200

AVERAGES:

61-65	960	1,720	660	3,460	4,460	780	30,000	26,280	780	12,560	4,620	12,420	10,080	6,740	13,780	3,720	3,340	136,360
66-70	2,360	3,340	1,560	8,280	7,520	1,480	68,140	53,260	1,440	19,040	12,060	32,440	16,500	14,860	25,780	7,080	4,540	279,680
71-75	4,600	6,860	3,680	14,040	11,600	2,220	97,480	64,200	1,360	30,860	15,060	41,060	23,060	16,960	17,940	11,820	2,320	365,120
76-80	5,040	8,520	4,880	12,140	12,400	2,600	103,160	72,660	2,180	32,500	15,560	41,300	35,820	31,480	35,480	15,260	5,420	436,400
81-85	4,660	8,760	6,620	11,240	12,320	2,340	83,940	65,520	1,680	26,840	11,060	49,780	30,640	34,540	28,300	12,500	1,360	392,100
86-87	4,050	8,750	6,300	14,550	8,800	1,750	76,850	45,850	1,650	19,850	12,400	52,900	31,150	29,550	26,300	10,000	750	352,450

* - PRELIMINARY

Table 34. Estimates of regular-season black duck harvests in the Atlantic Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	ME	VT	NH	MA	CT	RI	NY	PA	WV	NJ	DE	MD	VA	NC	SC	GA	FL	AFTOTAL
1961	16,800	7,600	6,300	26,500	6,200	6,800	39,200	11,100	600	26,900	12,700	19,100	7,600	5,500	6,700	0	5,200	204,800
1962	17,800	8,500	4,400	20,300	9,500	5,300	36,300	10,500	2,000	39,000	8,400	23,400	14,700	5,600	6,500	1,000	1,400	214,600
1963	18,000	4,200	4,700	23,200	6,100	7,300	30,200	10,300	1,100	45,900	8,600	17,400	17,300	7,000	8,700	2,400	3,400	215,800
1964	26,400	8,200	8,300	28,800	8,200	7,200	31,500	9,900	1,100	37,600	10,100	22,000	12,300	11,900	6,800	1,800	2,400	234,500
1965	26,400	6,000	10,600	23,000	10,300	5,200	35,200	13,700	1,100	39,300	7,600	14,500	8,800	5,900	7,100	1,500	900	217,100
1966	23,300	9,600	8,900	26,500	7,300	8,800	33,900	12,300	1,500	42,400	14,000	31,000	15,800	9,300	10,900	2,600	1,600	259,700
1967	25,300	5,800	7,700	23,400	9,300	7,300	39,500	17,700	900	45,700	8,300	17,400	14,800	12,900	11,800	2,000	2,700	252,500
1968	32,500	7,800	9,200	36,300	16,900	11,500	45,300	13,400	1,400	41,900	9,300	23,800	18,400	17,800	12,300	2,600	1,100	301,500
1969	44,300	7,500	10,200	28,100	12,800	5,800	45,300	12,800	600	49,300	10,400	34,400	16,200	14,200	10,700	3,000	1,800	307,400
1970	34,900	8,500	7,600	36,000	14,000	6,300	45,600	14,200	4,200	42,200	12,700	26,600	17,000	14,400	8,200	3,800	1,200	297,400
1971	31,500	9,200	10,100	25,100	10,000	6,400	48,600	18,700	600	59,200	10,800	26,300	16,600	10,500	6,300	2,200	900	293,000
1972	25,000	9,500	9,400	27,700	11,900	2,900	35,100	15,100	600	31,900	12,100	20,900	13,800	12,400	6,000	1,100	1,000	236,400
1973	31,900	9,200	10,000	27,700	8,100	4,500	40,200	13,800	400	51,400	10,800	24,900	12,000	6,800	7,600	2,400	1,200	262,900
1974	42,800	10,700	13,400	40,600	11,900	3,600	49,800	17,100	700	38,800	10,000	26,000	10,500	7,900	5,800	3,900	1,200	294,700
1975	32,200	7,400	10,000	25,100	12,700	3,800	57,300	12,100	1,300	36,000	9,500	35,600	17,100	7,500	4,100	2,600	700	275,000
1976	34,600	8,800	12,300	27,400	13,100	5,100	58,200	21,900	1,600	60,700	8,100	28,600	20,900	19,100	5,300	1,100	700	327,500
1977	19,600	8,500	7,800	19,600	10,700	6,400	30,800	12,500	500	29,000	6,400	11,300	10,800	12,400	5,600	1,300	1,700	194,900
1978	26,600	6,800	7,700	30,700	7,700	6,600	41,800	9,000	1,500	37,400	10,200	39,800	18,400	7,200	7,400	3,100	300	262,200
1979	15,900	6,800	5,200	21,800	7,100	4,100	44,000	11,100	1,600	33,600	8,800	27,400	21,000	11,000	8,100	2,200	1,300	231,000
1980	21,200	5,000	7,600	32,000	8,600	6,300	60,900	11,500	800	51,100	14,100	38,800	25,200	13,400	8,600	3,400	700	309,200
1981	20,800	5,000	6,400	18,600	6,600	5,000	42,100	11,100	1,200	35,000	9,300	29,700	19,800	11,700	6,500	1,800	300	230,900
1982	15,100	5,000	7,700	21,000	8,700	2,600	35,000	12,300	500	31,400	5,600	12,200	17,100	8,000	3,400	1,000	100	186,700
1983	10,300	2,800	4,600	18,100	3,700	3,300	25,800	4,700	500	25,000	5,600	9,800	13,500	5,100	5,000	1,200	100	139,100
1984	7,000	2,400	6,500	17,000	4,700	2,300	35,800	6,000	300	26,600	3,400	12,300	12,600	5,000	3,100	2,100	700	147,800
1985	10,500	4,700	4,900	18,900	4,400	2,100	25,800	5,200	700	24,000	8,200	20,600	8,100	4,800	2,200	2,600	400	148,100
1986	6,700	5,600	3,300	13,600	5,300	2,500	26,700	7,300	700	17,900	6,500	19,400	12,000	7,800	4,200	1,000	200	140,700
1987*	5,900	5,100	5,500	13,700	2,900	2,900	27,600	5,000	500	20,200	4,900	12,700	17,600	6,800	2,900	1,400	100	134,700

AVERAGES:

61-65	21,080	6,900	6,860	24,360	8,060	6,360	34,480	11,100	1,180	37,740	9,480	19,280	12,140	7,180	7,160	1,340	2,660	217,360
66-70	32,060	7,840	8,720	30,060	12,060	7,940	41,920	14,080	1,720	44,300	10,940	26,640	16,440	13,720	10,780	2,800	1,680	283,700
71-75	32,680	9,200	10,580	29,240	10,920	4,240	46,200	15,360	720	43,460	10,640	26,740	14,000	9,020	5,960	2,440	1,000	272,400
76-80	23,580	7,180	8,120	26,300	9,440	5,700	47,140	13,200	1,200	42,360	9,520	29,180	19,260	12,620	7,000	2,220	940	264,960
81-85	12,740	3,980	6,020	18,720	5,620	3,060	32,900	7,860	640	28,400	6,420	16,920	14,220	6,920	4,040	1,740	320	170,520
86-87	6,300	5,350	4,400	13,650	4,100	2,700	27,150	6,150	600	19,050	5,700	16,050	14,800	7,300	3,550	700	150	137,700

* - PRELIMINARY

Table 35. Duck stamp sales in the Mississippi Flyway (from: Waterfowl harvest and population survey data.
Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YFAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	85,251	89,848	64,628	41,147	63,435	20,862	24,853	39,118	6,337	19,037	15,020	44,732	7,128	5,749	527,145
1962	78,071	73,141	49,610	30,602	42,256	15,965	20,057	27,016	4,488	9,549	8,066	39,766	7,102	6,292	411,981
1963	111,844	94,213	70,094	37,166	53,125	16,831	23,818	34,021	5,725	18,352	15,261	66,556	13,292	11,369	571,667
1964	128,764	104,522	79,268	37,668	53,229	16,945	25,192	38,392	7,146	34,838	21,598	86,162	16,221	13,846	663,791
1965	125,752	105,767	75,348	39,941	56,425	17,188	26,065	36,905	7,040	21,969	16,731	81,322	13,326	12,691	636,470
1966	151,415	108,833	84,967	47,438	66,180	19,880	31,176	41,033	8,445	35,625	23,909	105,398	18,604	15,865	758,768
1967	157,937	110,479	95,187	52,269	75,430	22,579	30,175	51,879	9,201	38,517	25,027	108,682	20,065	16,370	813,797
1968	140,934	105,114	88,742	45,753	59,403	22,048	28,911	42,268	7,545	27,879	21,880	90,278	17,053	13,937	711,745
1969	144,562	122,291	101,562	54,807	69,706	25,036	35,841	50,487	7,851	34,211	23,104	105,274	21,358	14,498	810,588
1970	173,877	151,524	131,404	65,822	83,982	29,352	43,508	58,452	10,608	56,108	28,123	129,046	26,526	16,933	1,005,265
1971	179,624	160,435	111,785	68,401	82,706	32,769	45,564	59,435	11,390	55,656	33,677	120,165	28,702	12,909	1,003,218
1972	155,928	138,045	100,853	57,907	81,062	24,336	38,481	59,203	10,435	50,861	27,367	109,988	23,323	14,985	892,774
1973	125,654	121,524	103,886	57,196	77,699	25,398	36,994	53,209	10,576	46,924	32,119	99,511	23,462	12,759	826,911
1974	146,074	134,389	104,805	60,446	80,002	26,280	40,064	58,377	12,112	53,882	34,844	103,168	25,037	12,537	892,017
1975	163,716	146,925	103,893	58,791	66,251	24,026	41,819	59,105	13,066	58,275	26,613	110,006	30,618	13,630	916,734
1976	125,037	137,575	84,745	55,449	66,655	15,939	41,823	59,601	14,189	59,284	26,854	122,861	29,383	15,529	854,924
1977	150,805	142,536	72,096	57,143	66,065	15,215	38,412	61,325	14,905	54,919	29,575	122,349	30,282	16,437	872,064
1978	155,387	118,107	65,055	56,259	67,805	15,364	39,483	60,718	16,036	56,892	29,213	125,301	27,164	16,072	848,856
1979	159,068	105,038	62,187	49,845	66,582	15,757	37,833	51,755	15,506	51,801	26,992	126,915	26,784	11,988	808,051
1980	158,311	109,425	56,495	47,008	63,024	15,073	37,914	46,097	14,281	50,508	24,399	127,351	25,887	11,463	787,236
1981	142,345	98,758	49,261	41,648	60,960	14,965	36,628	46,810	13,834	41,352	24,063	118,399	24,180	11,131	724,334
1982	142,027	93,047	49,358	40,599	56,620	14,509	30,160	46,031	13,067	41,368	23,257	126,142	22,480	11,258	709,923
1983	136,165	89,731	49,890	40,381	53,826	13,867	27,976	42,760	12,884	36,755	22,707	124,699	23,212	11,163	686,016
1984	142,355	89,287	52,769	41,078	56,839	14,529	29,966	44,299	13,667	39,221	22,805	121,529	23,306	11,509	703,159
1985	134,594	87,143	52,517	33,304	51,771	13,606	29,419	41,360	11,879	38,930	22,024	104,505	19,096	11,046	651,194
1986	139,391	93,596	55,095	33,504	55,999	15,302	29,807	40,542	12,992	39,050	21,730	105,022	20,180	11,654	673,864
1987*	128,257	88,056	55,218	30,605	54,974	14,190	26,970	38,000	12,243	35,727	21,243	96,703	16,300	10,530	629,016

AVERAGES:

61-65	105,936	93,498	67,790	37,305	53,694	17,558	23,997	35,090	6,147	20,749	15,335	63,708	11,414	9,989	562,211
66-70	153,745	119,648	100,372	53,218	70,940	23,779	33,922	48,824	8,730	38,468	24,409	107,736	20,721	15,521	820,033
71-75	154,199	140,264	105,044	60,548	77,544	26,562	40,584	57,866	11,516	53,120	30,924	108,568	26,228	13,364	906,331
76-80	149,722	122,536	68,116	53,141	66,026	15,470	39,093	55,899	14,983	54,681	27,407	124,955	27,900	14,298	834,226
81-85	139,497	91,593	50,759	39,402	56,003	14,295	30,830	44,252	13,066	39,525	22,971	119,055	22,455	11,221	694,925
86-87	133,824	90,826	55,157	32,055	55,487	14,746	28,389	39,271	12,618	37,389	21,487	100,863	18,240	11,092	651,440

* - THROUGH THIRD QUARTER ONLY

Table 36. Estimates of active adult waterfowl hunters in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	74,100	73,400	50,900	33,500	52,400	15,100	20,800	32,400	5,200	14,800	12,600	32,300	5,200	4,100	426,800
1962	66,500	58,600	38,700	24,000	34,100	11,900	16,300	22,300	3,700	8,000	6,600	28,200	5,900	5,000	329,800
1963	98,100	76,000	53,900	29,700	40,100	12,100	19,200	27,100	4,600	14,400	12,400	53,000	10,500	9,100	460,200
1964	116,400	86,600	63,600	30,900	42,700	13,900	20,300	32,400	6,200	30,000	18,900	72,600	12,200	11,500	558,200
1965	110,400	92,400	63,000	34,000	48,100	14,100	22,200	30,900	6,100	19,100	14,400	69,700	11,100	11,200	546,700
1966	139,300	94,600	70,800	41,300	56,100	16,100	26,800	34,800	7,300	29,700	21,100	90,500	15,300	13,500	657,200
1967	145,200	94,700	79,000	44,300	64,300	18,200	26,200	46,100	7,900	33,500	21,700	92,400	16,800	14,400	704,700
1968	128,500	88,900	74,900	37,500	50,700	17,800	25,000	35,300	6,100	24,000	19,400	77,300	14,500	11,300	611,200
1969	130,900	107,100	87,300	47,500	59,000	20,800	30,600	43,500	6,600	29,600	20,400	86,200	17,300	12,400	699,000
1970	156,000	131,000	112,200	56,900	71,300	24,000	36,800	50,000	8,900	49,600	25,000	106,100	22,600	14,200	864,600
1971	161,000	135,500	94,000	58,700	66,800	26,700	37,600	49,400	9,800	47,600	29,300	97,500	23,500	10,100	847,500
1972	138,100	119,000	87,200	50,800	67,200	20,400	32,000	49,800	8,900	41,600	23,600	90,700	19,100	13,200	761,600
1973	110,600	105,800	88,900	48,700	62,700	20,800	31,500	45,700	9,000	38,100	27,200	83,100	19,400	10,500	700,000
1974	132,500	119,800	88,300	51,600	63,500	21,600	33,700	49,800	10,400	45,800	29,500	86,300	21,000	10,300	764,100
1975	147,200	129,700	88,100	49,700	53,600	20,000	34,100	52,400	11,200	51,300	23,600	93,300	26,300	11,700	792,200
1976	108,200	118,300	70,900	45,400	54,600	11,700	34,400	51,600	12,700	47,900	22,700	104,800	25,600	13,300	722,100
1977	135,400	122,300	59,400	46,200	55,100	12,300	32,000	53,100	12,400	46,800	25,600	103,700	25,500	13,400	743,200
1978	138,500	104,000	52,900	47,800	57,200	12,700	31,300	51,600	13,000	47,100	25,000	105,100	22,800	13,500	722,500
1979	143,100	89,300	53,400	44,400	57,700	13,500	32,300	45,100	13,100	43,500	24,000	107,100	22,600	10,200	699,300
1980	139,200	93,600	48,200	41,100	52,200	12,400	30,900	39,300	11,400	42,600	21,000	106,200	21,900	9,700	669,700
1981	126,200	85,000	42,100	35,900	51,100	12,500	30,400	41,200	11,700	35,900	20,700	98,600	20,700	9,500	621,500
1982	122,400	77,600	41,800	34,400	45,900	12,000	24,800	39,500	10,900	34,600	20,500	97,500	17,800	9,400	589,100
1983	121,700	77,800	42,600	34,000	45,400	11,800	23,500	37,700	10,900	32,000	20,300	106,900	19,900	9,500	594,000
1984	126,900	78,300	45,200	35,300	47,400	11,600	24,100	37,900	11,400	34,300	19,600	100,600	19,700	9,600	601,900
1985	116,500	76,600	44,600	27,900	42,600	11,000	23,500	32,500	10,300	34,400	19,200	86,700	15,200	8,900	547,900
1986	122,400	79,400	45,200	27,900	45,500	12,300	22,800	34,000	10,900	33,300	19,000	85,900	16,500	10,000	565,100
1987*	113,100	77,400	46,900	25,800	44,400	11,600	21,100	31,600	10,800	30,900	18,200	82,500	13,600	8,800	536,700

AVERAGES:

61-65	93,100	77,400	54,020	30,420	43,480	13,420	19,760	29,020	5,160	17,260	12,980	51,160	8,980	8,180	464,340
66-70	139,980	103,260	84,840	45,500	60,280	19,380	29,080	41,940	7,360	33,280	21,480	90,500	17,300	13,160	707,340
71-75	137,880	121,960	88,900	51,900	62,760	21,900	33,780	49,420	9,860	44,880	26,640	90,180	21,860	11,160	773,080
76-80	132,880	105,500	56,960	44,980	55,360	12,520	32,180	48,140	12,520	45,580	23,660	105,380	23,680	12,020	711,360
81-85	122,740	78,660	43,260	33,500	46,480	11,780	25,260	37,760	11,040	34,240	20,060	98,060	18,660	9,380	590,880
86-87	117,750	78,400	46,050	26,850	44,950	11,950	21,950	32,800	10,850	32,100	18,600	84,200	15,050	9,400	550,900

* - PRELIMINARY

Table 37. Estimates of days hunted by active adult waterfowl hunters in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	246,400	501,900	269,200	230,400	347,600	84,700	120,200	184,400	34,200	87,800	75,600	187,500	26,300	20,600	2,416,800
1962	382,600	423,000	198,800	162,000	218,900	60,300	97,700	112,300	18,600	58,200	36,400	177,800	35,300	33,600	2,015,500
1963	585,700	482,800	304,100	228,200	265,200	60,500	127,000	153,700	23,600	100,200	75,000	391,000	67,700	64,600	2,929,300
1964	747,300	603,900	378,500	236,900	269,600	83,100	133,600	183,000	41,900	253,500	123,900	573,500	80,400	72,000	3,781,100
1965	738,600	699,300	356,600	271,600	347,500	77,800	145,200	199,400	43,100	173,100	105,700	579,000	69,200	74,000	3,880,100
1966	856,300	621,500	429,300	361,200	456,000	92,200	166,900	239,800	50,400	273,700	159,400	826,300	89,600	95,000	4,717,600
1967	926,100	675,000	520,400	394,600	489,100	100,600	186,500	297,200	54,200	266,700	152,600	716,300	103,100	83,900	4,966,300
1968	707,600	620,300	440,600	270,000	340,000	95,400	161,200	241,400	38,000	161,500	121,400	475,600	77,900	75,100	3,826,000
1969	914,900	838,600	549,900	397,300	396,600	115,700	201,200	300,500	54,500	226,900	136,700	711,200	116,400	69,500	5,029,900
1970	1,048,200	1,095,000	747,500	496,600	623,300	165,400	276,300	386,700	72,100	441,200	222,100	1,188,100	174,600	101,900	7,039,000
1971	1,167,100	1,065,300	642,300	536,500	540,600	197,400	258,800	385,700	79,900	476,600	260,100	863,600	161,900	67,400	6,703,200
1972	1,048,200	957,900	621,900	513,800	599,800	162,400	228,400	343,000	67,700	376,400	191,900	776,100	134,700	82,400	6,104,600
1973	724,200	910,900	588,300	401,100	555,400	130,000	245,100	288,300	72,200	372,600	244,900	777,300	135,300	75,200	5,520,800
1974	922,800	998,100	635,700	450,600	537,700	162,100	269,200	398,400	79,000	464,400	272,500	740,200	169,900	73,400	6,174,000
1975	1,103,500	1,055,900	608,600	446,100	514,800	156,700	276,600	487,100	92,100	503,800	221,600	903,800	238,700	99,400	6,708,700
1976	739,300	930,200	549,800	359,600	475,100	103,000	277,800	377,600	96,400	466,300	244,000	991,800	236,300	109,600	5,956,800
1977	961,100	920,100	414,100	407,300	589,300	100,300	236,400	430,300	106,000	516,400	230,200	998,300	210,300	120,600	6,240,700
1978	1,084,300	867,900	380,900	424,900	636,500	115,700	230,300	414,800	110,300	446,200	283,200	1,003,100	186,900	116,400	6,301,400
1979	1,200,300	765,200	412,300	496,700	655,700	129,700	259,900	379,500	137,600	454,500	249,900	978,600	202,600	103,200	6,425,700
1980	1,045,200	843,700	378,900	384,600	517,700	111,100	251,500	328,300	111,400	477,300	206,300	1,016,700	204,600	95,000	5,972,300
1981	953,800	712,800	350,300	371,500	577,100	108,700	254,500	369,400	117,800	386,900	220,200	913,900	197,200	89,600	5,623,700
1982	915,400	699,800	400,500	354,900	489,000	115,900	198,700	317,700	105,000	381,300	229,600	1,028,900	151,700	84,400	5,472,800
1983	878,600	629,800	380,500	310,400	454,100	108,600	177,500	303,500	81,700	313,200	222,800	1,067,000	164,400	85,300	5,177,400
1984	945,000	623,400	401,400	300,300	435,700	105,400	226,600	303,900	94,800	347,800	203,300	972,600	185,600	84,300	5,230,100
1985	790,200	546,200	346,100	241,400	386,300	107,300	199,500	246,000	84,100	360,900	167,800	786,000	121,000	76,300	4,459,100
1986	854,900	562,100	364,900	244,000	414,800	106,400	203,600	267,900	108,200	355,100	184,800	803,800	125,700	86,400	4,682,600
1987*	760,900	548,700	360,900	208,900	408,900	105,800	176,700	260,900	104,100	309,100	167,300	769,500	100,300	77,400	4,359,400
AVERAGES:															
61-65	540,120	542,180	301,440	225,820	289,760	73,280	124,740	166,560	32,280	134,560	83,320	381,760	55,780	52,960	3,004,560
66-70	890,620	770,080	537,540	383,940	461,000	113,860	198,420	293,120	53,840	274,000	158,440	783,500	112,320	85,080	5,115,760
71-75	993,160	997,620	619,360	469,620	549,660	161,720	255,620	380,500	78,180	438,760	238,200	812,200	168,100	79,560	6,242,260
76-80	1,006,040	865,420	427,200	414,620	574,860	111,960	251,180	386,100	112,340	472,140	242,720	997,700	208,140	108,960	6,179,380
81-85	896,600	642,400	375,760	315,700	468,440	109,180	211,360	308,100	96,680	358,020	208,740	953,680	163,980	83,980	5,192,620
86-87	807,900	555,400	362,900	226,450	411,850	106,100	190,150	264,400	106,150	332,100	176,050	786,650	113,000	81,900	4,521,000

* - PRELIMINARY

Table 38. Average days per active adult waterfowl hunter in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF	Avg
1961	3.33	6.83	5.29	6.87	6.64	5.61	5.79	5.68	6.60	5.93	5.99	5.80	5.07	5.04	5.66	
1962	5.75	7.22	5.14	6.75	6.42	5.08	5.99	5.03	5.03	7.26	5.49	6.29	5.98	6.72	6.11	
1963	5.97	6.35	5.64	7.69	6.61	5.01	6.62	5.67	5.15	6.94	6.05	7.37	6.45	7.07	6.36	
1964	6.42	6.97	5.95	7.67	6.32	5.96	6.58	5.64	6.78	8.45	6.56	7.90	6.57	6.24	6.77	
1965	6.69	7.57	5.66	7.99	6.81	5.51	6.54	6.45	7.09	9.05	7.33	8.31	6.22	6.60	7.10	
1966	6.15	6.57	6.06	8.75	8.13	5.72	6.23	6.90	6.87	9.20	7.57	9.13	5.86	7.03	7.18	
1967	6.38	7.12	6.59	8.91	7.61	5.53	7.11	6.06	6.84	7.97	7.02	7.75	6.15	5.82	7.05	
1968	5.51	6.98	5.88	7.20	6.71	5.37	6.45	6.83	6.19	6.73	6.25	6.15	5.38	6.65	6.26	
1969	6.99	7.83	6.30	8.36	6.72	5.55	6.58	6.91	8.31	7.67	6.76	8.25	6.75	5.59	7.20	
1970	6.72	8.36	6.66	8.73	8.74	6.90	7.51	7.75	8.09	8.90	8.89	11.19	7.73	7.18	8.14	
1971	7.25	7.86	6.84	9.14	8.10	7.40	6.88	7.81	8.12	10.00	8.88	8.85	6.87	6.69	7.91	
1972	7.59	8.05	7.13	10.12	8.93	7.95	7.14	6.93	7.63	9.04	8.12	8.56	7.03	6.26	8.02	
1973	6.55	8.61	6.77	8.23	8.86	6.26	7.78	6.31	8.01	9.78	8.99	9.36	6.97	7.15	7.89	
1974	6.97	8.33	7.20	8.74	8.47	7.52	7.80	8.00	7.56	10.14	9.24	8.58	8.08	7.09	8.08	
1975	7.50	8.14	6.91	8.98	9.61	7.85	8.10	9.30	8.26	9.82	9.39	9.69	9.09	8.50	8.47	
1976	6.83	7.86	7.75	7.91	8.71	8.78	8.07	7.31	7.59	9.74	10.77	9.47	9.25	8.22	8.25	
1977	7.10	7.53	6.98	8.81	10.69	8.13	7.38	8.10	8.58	11.03	8.97	9.63	8.25	9.01	8.40	
1978	7.83	8.35	7.20	8.89	11.13	9.12	7.35	8.04	8.50	9.47	11.31	9.54	8.20	8.62	8.72	
1979	8.39	8.57	7.72	11.19	11.37	9.62	8.04	8.41	10.52	10.44	10.40	9.14	8.95	10.13	9.18	
1980	7.51	9.01	7.87	9.36	9.91	8.95	8.13	8.35	9.79	11.20	9.81	9.57	9.34	9.77	8.91	
1981	7.56	8.39	8.32	10.35	11.29	8.70	8.37	8.97	10.07	10.78	10.64	9.27	9.53	9.43	9.05	
1982	7.48	9.02	9.58	10.32	10.65	9.66	8.01	8.04	9.63	11.02	11.20	10.55	8.52	8.98	9.29	
1983	7.22	8.10	8.93	9.13	10.00	9.20	7.55	8.05	7.50	9.79	10.98	9.98	8.26	8.98	8.72	
1984	7.44	7.97	8.87	8.51	9.20	9.07	9.40	8.01	8.30	10.14	10.35	9.67	9.43	8.78	8.69	
1985	6.78	7.32	7.75	8.64	9.08	9.78	8.48	7.56	8.13	10.50	8.75	9.07	7.98	8.53	8.14	
1986	6.98	7.08	8.07	8.74	9.11	8.67	8.95	7.88	9.90	10.65	9.75	9.35	7.63	8.68	8.29	
1987*	6.72	7.08	7.70	8.10	9.20	9.11	8.38	8.27	9.63	10.02	9.21	9.33	7.39	8.82	8.13	

AVERAGES:

61-65	5.63	6.99	5.54	7.39	6.56	5.43	6.30	5.69	6.13	7.53	6.28	7.13	6.06	6.33	6.40
66-70	6.35	7.37	6.30	8.39	7.58	5.81	6.78	6.89	7.26	8.09	7.30	8.49	6.37	6.45	7.17
71-75	7.17	8.20	6.97	9.04	8.79	7.40	7.54	7.67	7.92	9.76	8.92	9.01	7.61	7.14	8.07
76-80	7.53	8.26	7.50	9.23	10.36	8.92	7.79	8.04	9.00	10.38	10.25	9.47	8.80	9.15	8.69
81-85	7.30	8.16	8.69	9.39	10.04	9.28	8.36	8.13	8.72	10.45	10.38	9.71	8.75	8.94	8.78
86-87	6.85	7.08	7.88	8.42	9.15	8.89	8.66	8.07	9.77	10.34	9.48	9.34	7.51	8.75	8.21

* - PRELIMINARY

Table 39. Average seasonal bag per active adult waterfowl hunter in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF AVG
1961	4.88	3.97	2.36	3.88	3.75	1.50	2.33	3.78	3.19	4.29	3.68	6.49	3.77	3.51	3.90
1962	4.20	3.24	2.49	2.09	2.32	1.07	2.36	1.20	1.55	6.35	1.83	6.53	5.34	4.27	3.27
1963	5.60	3.61	2.35	4.68	4.34	1.38	3.39	2.30	2.66	8.68	5.76	12.05	7.87	6.12	5.20
1964	7.34	4.52	3.00	6.21	4.20	2.62	3.14	3.30	4.10	9.19	5.56	12.06	5.35	3.83	6.10
1965	6.89	4.97	3.36	5.95	4.22	2.38	4.23	3.96	3.44	10.58	4.90	13.75	6.11	4.94	6.33
1966	6.63	5.52	4.13	7.37	6.57	3.07	3.96	4.39	3.36	11.23	6.75	14.60	6.61	5.49	7.18
1967	6.59	5.12	4.38	6.63	6.07	2.64	5.01	4.74	4.18	9.80	5.64	11.34	6.68	4.14	6.49
1968	4.40	3.13	2.50	2.61	2.93	2.23	3.29	2.89	2.10	5.89	3.45	6.35	4.86	3.17	3.79
1969	7.97	4.87	3.68	5.09	4.39	3.05	3.89	4.44	2.46	8.02	2.83	12.41	8.70	5.21	6.23
1970	5.95	4.19	3.19	5.97	6.09	3.66	4.02	5.70	5.17	11.60	8.16	18.25	10.40	5.56	7.18
1971	6.62	4.40	3.17	6.32	4.54	4.28	2.99	5.25	4.05	11.01	7.96	11.05	6.94	5.19	6.15
1972	6.74	4.37	4.41	6.35	5.35	4.17	3.83	4.02	5.13	8.17	6.64	12.23	7.85	4.60	6.28
1973	5.31	4.58	3.85	3.94	5.13	3.60	3.89	3.95	3.36	11.22	8.01	14.35	7.80	6.71	6.27
1974	5.76	5.18	4.53	4.29	4.37	4.16	3.33	4.92	4.28	11.60	8.52	12.85	10.24	5.31	6.46
1975	6.62	5.24	3.91	5.93	7.56	5.53	4.08	6.49	6.65	12.54	9.61	17.78	11.92	7.92	7.95
1976	5.38	5.14	6.14	4.95	5.96	7.10	4.34	4.16	4.57	13.01	8.54	17.38	13.82	9.36	8.03
1977	4.85	3.69	3.91	5.32	6.50	6.74	3.40	5.15	5.42	15.40	9.81	17.81	11.45	9.98	7.70
1978	7.59	4.72	5.08	6.70	7.33	6.35	3.55	4.92	4.68	12.02	9.93	18.03	9.01	8.24	8.42
1979	7.73	5.61	5.52	9.49	7.15	6.92	3.66	5.87	5.81	11.78	9.87	16.03	11.81	10.11	8.76
1980	6.06	5.35	5.62	6.58	6.44	6.02	3.82	5.47	4.17	14.71	10.01	16.47	13.00	10.92	8.45
1981	6.42	4.66	5.41	7.89	7.49	5.12	4.02	6.40	5.64	13.63	9.70	15.70	13.92	10.66	8.43
1982	6.44	4.88	6.09	9.60	6.66	5.35	4.32	5.89	4.03	10.23	9.11	15.33	8.80	7.64	8.10
1983	7.22	5.49	6.24	8.49	8.00	8.00	5.53	6.61	4.75	11.49	11.71	18.68	11.59	10.45	9.57
1984	8.07	5.92	7.01	7.54	6.76	6.96	4.83	6.84	5.05	13.04	8.06	18.04	9.90	7.77	9.29
1985	5.64	4.30	5.12	6.83	6.65	6.99	4.08	5.67	5.01	13.64	6.74	13.68	8.62	7.71	7.44
1986	6.30	4.03	4.78	7.29	6.23	4.70	3.88	5.28	4.16	10.85	7.22	13.98	8.21	6.88	7.20
1987*	5.34	4.13	4.21	5.67	4.83	5.09	3.51	5.85	4.73	12.16	8.36	14.52	7.96	8.11	7.01

AVERAGES:

61-65	5.78	4.06	2.71	4.56	3.77	1.79	3.09	2.91	2.99	7.82	4.35	10.18	5.69	4.53	4.96
66-70	6.31	4.57	3.58	5.53	5.21	2.93	4.03	4.43	3.45	9.31	5.37	12.59	7.45	4.71	6.17
71-75	6.21	4.75	3.97	5.37	5.39	4.35	3.62	4.93	4.69	10.91	8.15	13.65	8.95	5.95	6.62
76-80	6.32	4.90	5.25	6.61	6.68	6.63	3.75	5.11	4.93	13.38	9.63	17.14	11.82	9.72	8.27
81-85	6.76	5.05	5.97	8.07	7.11	6.48	4.56	6.28	4.89	12.41	9.06	16.28	10.56	8.85	8.57
86-87	5.82	4.08	4.50	6.48	5.53	4.89	3.70	5.57	4.45	11.50	7.79	14.25	8.09	7.50	7.11

* - PRELIMINARY

Table 40. Average daily bag per active adult waterfowl hunter in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF	Avg
<hr/>																
1961	1.47	0.56	0.45	0.57	0.57	0.28	0.40	0.67	0.48	0.72	0.61	1.12	0.74	0.70	0.69	
1962	0.73	0.45	0.48	0.31	0.36	0.21	0.39	0.24	0.31	0.88	0.33	1.04	0.89	0.64	0.54	
1963	0.94	0.57	0.42	0.61	0.66	0.28	0.51	0.41	0.52	1.25	0.95	1.64	1.22	0.87	0.82	
1964	1.14	0.65	0.50	0.81	0.67	0.44	0.48	0.59	0.61	1.09	0.85	1.53	0.81	0.61	0.90	
1965	1.03	0.66	0.59	0.75	0.62	0.43	0.65	0.61	0.49	1.17	0.67	1.66	0.98	0.75	0.89	
1966	1.08	0.84	0.68	0.84	0.81	0.54	0.64	0.64	0.49	1.22	0.89	1.60	1.13	0.78	1.00	
1967	1.03	0.72	0.67	0.74	0.80	0.48	0.71	0.78	0.61	1.23	0.80	1.46	1.09	0.71	0.92	
1968	0.80	0.45	0.43	0.36	0.44	0.42	0.51	0.42	0.34	0.88	0.55	1.03	0.90	0.48	0.61	
1969	1.14	0.62	0.58	0.61	0.65	0.55	0.59	0.64	0.30	1.05	0.42	1.50	1.29	0.93	0.87	
1970	0.89	0.50	0.48	0.68	0.70	0.53	0.54	0.74	0.64	1.30	0.92	1.63	1.35	0.77	0.88	
1971	0.91	0.56	0.46	0.69	0.56	0.58	0.44	0.67	0.50	1.10	0.90	1.25	1.01	0.78	0.78	
1972	0.89	0.54	0.62	0.63	0.60	0.52	0.54	0.58	0.67	0.91	0.82	1.32	1.12	0.73	0.78	
1973	0.81	0.53	0.57	0.48	0.58	0.58	0.50	0.63	0.42	1.15	0.89	1.53	1.12	0.94	0.79	
1974	0.83	0.62	0.63	0.49	0.52	0.55	0.43	0.62	0.57	1.14	0.92	1.50	1.27	0.75	0.80	
1975	0.88	0.64	0.57	0.66	0.79	0.70	0.50	0.70	0.81	1.28	1.02	1.83	1.31	0.93	0.94	
1976	0.79	0.65	0.79	0.63	0.68	0.81	0.54	0.57	0.60	1.34	0.79	1.84	1.49	1.14	0.97	
1977	0.68	0.49	0.56	0.60	0.61	0.83	0.46	0.64	0.63	1.40	1.09	1.85	1.39	1.11	0.92	
1978	0.97	0.57	0.71	0.75	0.66	0.70	0.48	0.61	0.55	1.27	0.88	1.89	1.10	0.95	0.97	
1979	0.92	0.65	0.72	0.85	0.63	0.72	0.46	0.70	0.55	1.13	0.95	1.75	1.32	1.00	0.95	
1980	0.81	0.60	0.72	0.70	0.65	0.67	0.47	0.65	0.43	1.31	1.02	1.72	1.40	1.11	0.94	
1981	0.85	0.56	0.65	0.76	0.66	0.59	0.48	0.71	0.56	1.26	0.91	1.69	1.46	1.13	0.93	
1982	0.86	0.54	0.64	0.93	0.63	0.55	0.54	0.73	0.42	0.93	0.81	1.45	1.03	0.85	0.87	
1983	1.00	0.68	0.70	0.93	0.80	0.87	0.73	0.82	0.63	1.17	1.07	1.87	1.40	1.16	1.10	
1984	1.08	0.74	0.79	0.89	0.74	0.77	0.51	0.85	0.61	1.29	0.78	1.86	1.05	0.89	1.07	
1985	0.83	0.59	0.66	0.79	0.73	0.71	0.48	0.75	0.62	1.30	0.77	1.51	1.08	0.90	0.91	
1986	0.90	0.57	0.59	0.83	0.68	0.54	0.43	0.67	0.42	1.02	0.74	1.50	1.08	0.79	0.87	
1987*	0.79	0.58	0.55	0.70	0.52	0.56	0.42	0.71	0.49	1.21	0.91	1.56	1.08	0.92	0.86	

AVERAGES:

61-65	1.06	0.58	0.49	0.61	0.58	0.33	0.49	0.50	0.48	1.02	0.68	1.40	0.93	0.71	0.77
66-70	0.99	0.63	0.57	0.65	0.68	0.50	0.60	0.64	0.48	1.14	0.72	1.44	1.15	0.73	0.86
71-75	0.86	0.58	0.57	0.59	0.61	0.59	0.48	0.64	0.59	1.12	0.91	1.49	1.17	0.83	0.82
76-80	0.83	0.59	0.70	0.71	0.65	0.75	0.48	0.63	0.55	1.29	0.95	1.81	1.34	1.06	0.95
81-85	0.93	0.62	0.69	0.86	0.71	0.70	0.55	0.77	0.57	1.19	0.87	1.68	1.20	0.99	0.98
86-87	0.85	0.58	0.57	0.77	0.60	0.55	0.43	0.69	0.46	1.12	0.82	1.53	1.08	0.86	0.87

* - PRELIMINARY

Table 41. Ranking of the five most numerically important species in Mississippi Flyway regular-season duck harvests during 1961-87. (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

Year	Rank Position*					Percent of Total Harvest		
	1	2	3	4	5	Mallard	Combined	
1961	Mallard	L. Scaup	GW Teal	Wood Dk	Wigeon	50	79	
1962	Mallard	Wood Dk	Ringneck	GW Teal	BW Teal	39	72	
1963	Mallard	Wood Dk	BW Teal	GW Teal	L. Scaup	37	74	
1964	Mallard	Wood Dk	Ringneck	GW Teal	L. Scaup	37	69	
1965	Mallard	Wood Dk	L. Scaup	Ringneck	Gadwall	28	65	
1966	Mallard	Wood Dk	GW Teal	Wigeon	L. Scaup	35	66	
1967	Mallard	GW Teal	Wood Dk	Wigeon	Ringneck	38	67	
1968	Mallard	Wood Dk	GW Teal	Ringneck	Wigeon	35	72	
1969	Mallard	Wood Dk	GW Teal	BW Teal	Wigeon	33	66	
1970	Mallard	Wood Dk	GW Teal	BW Teal	Gadwall	41	72	
1971	Mallard	Wood Dk	BW Teal	GW Teal	L. Scaup	42	73	
1972	Mallard	Wood Dk	GW Teal	L. Scaup	Gadwall	40	71	
1973	Mallard	Wood Dk	L. Scaup	BW Teal	GW Teal	38	74	
1974	Mallard	Wood Dk	GW Teal	L. Scaup	BW Teal	44	75	
1975	Mallard	Wood Dk	GW Teal	BW Teal	Ringneck	39	76	
1976	Mallard	Wood Dk	GW Teal	Gadwall	L. Scaup	41	75	
1977	Mallard	GW Teal	Wood Dk	Gadwall	L. Scaup	39	73	
1978	Mallard	Wood Dk	GW Teal	Gadwall	BW Teal	37	74	
1979	Mallard	Wood Dk	GW Teal	Gadwall	BW Teal	38	75	
1980	Mallard	Wood Dk	GW Teal	Gadwall	Ringneck	41	76	
1981	Mallard	Wood Dk	GW Teal	Gadwall	L. Scaup	39	75	
1982	Mallard	Wood Dk	Gadwall	GW Teal	BW Teal	38	76	
1983	Mallard	Wood Dk	BW Teal	Gadwall	GW Teal	36	77	
1984	Mallard	Wood Dk	BW Teal	GW Teal	Gadwall	33	74	
1985	Mallard	Wood Dk	GW Teal	L. Scaup	Ringneck	39	73	
1986	Mallard	Wood Dk	GW Teal	BW Teal	Gadwall	39	75	
1987	Mallard	Wood Dk	GW Teal	Gadwall	Ringneck	41	79	
						Average	38	73
						Range	28-50	65-79

* Among the various rank positions, the species shown below under each position occurred in that position the indicated number of years during the 27-year period:

1	2	3	4	5
Mallard-27	Wood Dk-24	GW Teal-16	Gadwall- 8	L. Scaup-7
	GW Teal- 2	BW Teal- 4	GW Teal- 6	BW Teal- 5
	L. Scaup-1	L. Scaup-2	BW Teal- 5	Gadwall- 5
		Ringneck-2	L. Scaup-3	Ringneck-5
		Wood Dk- 2	Ringneck-2	Wigeon- 3
		Gadwall- 1	Wigeon- 2	GW Teal- 2
			Wood Dk- 1	

Table 42. Estimates of regular-season all-duck harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MFTOTAL
1961	378,000	310,600	124,900	139,400	204,600	25,200	50,700	124,600	23,400	68,700	47,700	211,000	22,700	15,000	1,746,500
1962	287,600	210,600	102,000	45,100	82,100	13,800	40,700	26,100	6,700	53,200	14,900	194,600	29,200	22,600	1,129,200
1963	572,500	294,100	134,500	139,200	183,500	16,700	65,700	60,400	13,300	138,400	69,900	665,400	86,500	65,400	2,505,500
1964	887,600	417,100	205,100	182,100	193,200	36,800	62,700	105,700	27,400	306,400	96,300	893,600	69,200	53,700	3,536,900
1965	641,600	472,800	217,600	174,600	189,000	29,300	90,700	110,700	21,500	213,500	57,400	958,200	70,100	64,600	3,311,600
1966	940,800	582,100	306,700	270,200	345,900	42,500	103,000	149,400	27,800	373,600	113,600	1,279,700	106,200	79,700	4,721,200
1967	978,200	545,200	363,100	229,400	353,200	45,900	125,700	228,400	35,500	371,100	98,900	959,400	112,300	60,200	4,506,500
1968	554,700	302,300	199,400	96,300	145,800	40,300	80,900	106,000	15,800	153,400	55,900	520,600	76,200	36,000	2,383,600
1969	1,080,600	557,300	345,900	183,700	243,300	63,800	111,100	200,400	15,300	232,000	55,400	969,900	155,500	63,900	4,278,100
1970	950,800	575,100	378,300	368,700	412,500	80,600	140,200	281,600	57,200	651,400	157,100	1,823,000	222,300	76,700	6,175,500
1971	1,059,300	654,200	313,800	376,200	280,400	111,200	106,400	246,300	40,200	613,400	173,300	1,024,700	155,600	52,000	5,207,000
1972	961,400	558,500	400,900	344,500	356,600	73,600	125,700	197,800	56,900	366,600	138,800	1,044,000	150,400	60,600	4,836,300
1973	594,400	518,400	356,900	211,900	311,600	68,200	112,800	161,200	36,100	492,700	194,000	1,138,200	152,300	72,600	4,421,300
1974	769,400	663,100	425,100	238,000	293,600	85,300	106,600	237,000	46,500	682,200	138,300	1,073,100	239,700	60,600	5,058,500
1975	1,014,400	727,800	373,000	313,600	392,300	100,600	119,700	311,600	75,600	781,000	143,500	1,616,300	313,800	104,500	6,387,700
1976	569,100	656,400	466,000	242,200	309,700	69,600	144,600	203,300	59,400	710,200	97,700	1,789,600	392,900	132,700	5,843,400
1977	664,900	488,500	255,700	280,000	330,500	68,100	101,800	257,900	74,200	839,400	133,100	1,836,400	327,000	136,800	5,794,300
1978	1,012,300	541,800	290,000	351,400	417,300	68,000	95,800	239,800	63,600	689,900	150,000	1,855,600	224,600	115,000	6,115,100
1979	1,104,100	569,000	314,800	441,000	404,400	83,700	110,500	254,000	72,100	631,400	179,100	1,666,500	261,200	105,400	6,197,200
1980	811,500	558,200	292,100	299,900	323,300	82,900	108,000	202,500	43,600	775,000	139,300	1,656,900	299,100	119,800	5,712,100
1981	806,500	438,900	238,800	301,100	374,100	54,500	118,500	232,000	48,000	591,500	114,800	1,508,700	356,400	102,400	5,286,200
1982	817,000	394,300	277,200	348,800	301,900	54,500	97,400	209,900	31,900	438,400	101,200	1,364,700	204,700	73,200	4,715,100
1983	888,600	459,300	288,900	324,200	342,700	80,600	116,100	243,500	36,100	422,400	130,900	1,873,800	274,700	99,000	5,580,800
1984	1,030,500	485,000	354,400	299,500	301,400	69,800	103,800	245,200	33,900	489,900	97,500	1,717,600	227,500	70,100	5,526,100
1985	660,900	353,600	250,300	199,800	255,700	64,900	90,000	190,800	28,600	511,900	71,500	1,076,700	149,100	62,000	3,965,800
1986	774,600	360,100	224,800	217,000	259,900	45,900	85,900	175,900	22,500	428,700	78,300	1,089,900	152,800	66,000	3,982,300
1987*	586,300	344,700	217,000	161,100	208,300	49,700	68,600	161,800	33,000	432,800	94,300	1,078,200	136,500	71,600	3,643,900

AVERAGES:

61-65	553,460	341,040	156,820	136,080	170,480	24,360	62,100	85,500	18,460	156,040	57,240	584,560	55,540	44,260	2,445,940
66-70	901,020	512,400	318,680	229,660	300,140	54,620	112,180	193,160	30,320	356,300	96,180	1,110,520	134,500	63,300	4,412,980
71-75	879,780	624,400	373,940	296,840	326,900	87,780	114,240	230,780	51,060	587,180	157,580	1,179,260	202,360	70,060	5,182,160
76-80	832,380	562,780	323,720	322,900	357,040	74,460	112,140	231,500	62,580	729,180	139,840	1,761,000	300,960	121,940	5,932,420
81-85	840,700	426,220	281,920	294,680	315,160	64,860	105,160	224,280	35,700	490,820	103,180	1,508,300	242,480	81,340	5,014,800
86-87	680,450	352,400	220,900	189,050	234,100	47,800	77,250	168,850	27,750	430,750	86,300	1,084,050	144,650	68,800	3,813,100

* - PRELIMINARY

Table 43. Estimates of regular-season mallard harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MFTOTAL
1961	175,000	151,700	46,500	88,500	128,800	13,200	17,700	81,700	17,500	62,600	32,700	35,500	11,600	3,800	866,800
1962	113,600	77,500	32,600	21,300	40,200	5,100	9,000	13,800	3,600	41,200	7,300	54,100	13,400	4,800	437,500
1963	228,300	97,800	40,500	43,000	101,500	8,100	18,800	29,400	8,300	93,900	30,300	177,100	36,400	13,000	926,400
1964	271,000	150,800	48,500	76,600	113,900	15,600	17,300	59,400	18,800	234,100	61,500	209,400	32,800	11,100	1,320,800
1965	162,300	106,000	43,400	79,800	89,600	11,300	20,700	49,600	14,200	137,700	27,700	146,400	18,600	11,800	919,100
1966	284,600	186,600	72,900	121,300	179,700	19,000	30,500	82,000	17,600	257,400	61,700	272,900	45,400	18,400	1,650,000
1967	329,600	175,900	99,700	124,900	208,600	20,800	40,500	124,500	22,400	270,800	50,100	205,100	44,800	14,700	1,732,400
1968	152,100	94,200	64,500	40,400	83,000	13,600	18,500	55,000	8,300	121,400	31,300	101,900	38,800	7,900	830,900
1969	223,800	157,100	99,500	89,900	140,200	21,700	33,800	124,700	9,600	183,200	31,900	230,900	67,000	18,300	1,431,600
1970	298,900	190,200	111,400	139,200	239,800	33,200	42,200	149,300	35,100	541,100	91,600	498,100	139,400	20,000	2,529,500
1971	278,800	225,200	84,500	160,900	166,700	58,700	34,200	161,900	27,800	514,400	105,400	240,000	90,300	14,900	2,163,700
1972	354,900	190,400	122,400	171,800	219,300	32,100	38,200	130,100	39,500	283,100	82,100	191,600	79,700	14,900	1,950,100
1973	165,000	187,000	154,900	99,900	168,600	35,600	46,500	108,100	21,200	349,900	127,100	125,900	82,100	16,100	1,687,900
1974	254,800	300,300	171,000	106,100	172,200	37,400	37,300	164,800	30,000	530,600	85,000	194,100	146,800	14,600	2,245,000
1975	285,300	244,200	154,000	117,400	199,900	40,300	47,000	170,400	38,400	588,700	93,300	294,300	224,400	20,500	2,518,100
1976	157,800	222,500	192,300	87,500	166,000	34,500	56,600	127,900	37,200	529,300	57,900	469,500	230,100	40,300	2,409,400
1977	193,100	177,000	107,000	138,700	175,700	37,900	43,800	143,500	46,100	582,800	80,100	321,700	186,500	36,300	2,270,200
1978	304,100	185,000	139,000	125,600	207,600	28,200	36,900	120,700	34,500	480,000	89,300	360,000	116,200	29,900	2,257,000
1979	346,100	199,600	138,600	183,300	192,000	34,800	42,100	146,800	44,300	435,500	113,200	301,800	135,600	32,400	2,346,100
1980	258,000	197,200	126,300	118,100	168,400	36,800	44,900	123,500	20,000	588,200	68,400	392,500	170,100	35,100	2,347,500
1981	253,000	168,400	112,300	130,200	174,600	28,900	44,200	119,500	26,600	386,600	66,700	332,800	186,500	31,700	2,062,000
1982	249,500	135,200	145,200	164,900	139,900	32,900	41,300	112,900	20,300	285,700	60,500	252,700	118,900	21,700	1,781,600
1983	259,700	136,500	131,000	115,200	176,900	38,100	44,500	151,500	23,800	294,600	86,300	352,000	175,100	32,700	2,017,900
1984	303,400	144,300	153,500	96,300	151,300	28,500	42,900	113,900	19,000	322,000	45,900	256,500	102,700	15,900	1,796,100
1985	184,900	113,500	102,200	62,000	136,000	26,900	33,800	91,600	17,600	397,800	45,300	227,900	79,100	14,300	1,532,900
1986	230,300	141,500	93,300	88,900	140,600	23,400	31,800	97,400	16,800	331,300	54,000	208,700	74,900	17,200	1,550,100
1987*	185,900	128,700	111,700	64,800	111,700	21,900	30,900	92,700	20,700	312,000	56,600	243,000	73,600	24,100	1,478,300
AVERAGES:															
61-65	190,040	116,760	42,300	61,840	94,800	10,660	16,700	46,780	12,480	113,900	31,900	124,500	22,560	8,900	894,120
66-70	257,800	160,800	89,600	103,140	170,260	21,660	33,100	107,100	18,600	274,780	53,320	261,780	67,080	15,860	1,634,880
71-75	267,760	229,420	137,360	131,220	185,340	40,820	40,640	147,060	31,380	453,340	98,580	209,180	124,660	16,200	2,112,960
76-80	251,820	196,260	140,640	130,640	181,940	34,440	44,860	132,480	36,420	523,160	81,780	369,100	167,700	34,800	2,326,040
81-85	250,100	139,580	128,840	113,720	155,740	31,060	41,340	117,880	21,460	337,340	60,940	284,380	132,460	23,260	1,838,100
86-87	208,100	135,100	102,500	76,850	126,150	22,650	31,350	95,050	18,750	321,650	55,300	225,850	74,250	20,650	1,514,200

* PRELIMINARY

Table 44. Estimates of regular-season black duck harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
<hr/>															
1961	1,700	14,600	21,600	1,000	5,800	3,100	3,600	600	3,400	800	4,700	500	700	800	62,900
1962	2,800	11,400	15,700	300	3,500	1,500	3,700	100	1,600	200	3,600	1,100	800	1,700	48,000
1963	3,900	9,900	16,400	700	6,000	2,500	9,500	300	2,000	1,000	10,800	3,600	1,300	2,600	70,500
1964	4,800	24,300	23,800	1,500	7,800	4,100	8,700	600	4,600	1,200	8,900	3,800	1,000	1,900	97,000
1965	6,300	25,300	23,500	900	8,300	2,900	13,500	1,000	4,000	700	5,100	3,000	500	2,800	97,800
1966	6,500	20,200	24,400	1,700	9,400	5,300	14,500	1,300	3,700	2,900	11,000	8,100	2,600	3,100	114,700
1967	3,300	12,500	26,700	2,000	15,700	5,600	12,600	800	6,100	3,400	14,000	6,000	1,600	2,800	113,100
1968	3,500	9,400	11,700	600	5,400	5,600	8,900	1,200	4,000	1,300	9,100	1,400	3,800	2,400	68,300
1969	2,500	12,500	21,400	1,200	9,100	5,500	13,100	500	2,900	1,800	8,400	4,100	3,300	1,600	87,900
1970	4,900	11,000	21,600	1,300	8,000	6,000	16,600	1,400	12,100	3,100	19,200	9,300	1,700	3,400	119,600
1971	5,500	12,700	13,400	900	4,100	9,400	16,200	1,200	6,900	2,700	14,700	4,400	2,600	1,400	96,100
1972	7,400	20,200	25,100	800	7,700	5,700	20,700	0	8,500	300	12,700	3,300	2,700	2,800	117,900
1973	2,800	13,200	15,400	1,400	6,800	5,500	13,900	1,000	7,900	6,100	26,400	5,700	2,200	2,500	110,800
1974	2,300	17,800	23,800	700	6,400	8,200	7,900	1,200	6,000	3,500	10,000	2,200	1,700	1,600	93,300
1975	1,100	12,800	12,400	400	6,300	5,500	9,300	1,200	6,700	4,200	10,700	800	4,800	4,800	81,000
1976	400	8,400	16,300	1,100	8,800	6,300	12,400	800	6,200	5,500	13,800	2,300	6,900	8,600	97,800
1977	2,500	7,600	13,900	400	4,400	2,500	6,400	500	8,000	5,800	12,400	2,100	7,000	5,400	78,900
1978	1,000	7,700	16,600	300	5,700	4,000	5,800	300	7,000	4,100	9,100	5,000	4,500	3,500	74,600
1979	1,000	7,400	15,400	800	5,000	2,600	6,900	200	8,900	2,600	10,700	1,900	1,600	3,300	68,300
1980	2,800	15,900	14,800	600	6,800	3,700	7,400	400	6,100	2,700	13,000	2,000	3,000	7,900	87,100
1981	1,900	6,600	9,900	300	7,900	2,800	5,100	0	4,500	2,300	12,000	0	2,000	3,700	59,000
1982	4,100	6,000	9,000	400	4,600	2,500	4,300	500	2,800	1,000	10,900	0	800	1,500	48,400
1983	1,900	5,800	8,700	500	4,000	2,400	8,300	600	3,300	2,800	12,600	2,100	2,800	3,000	58,800
1984	1,800	5,800	12,100	600	3,700	2,100	5,200	0	3,800	1,600	10,000	500	3,700	3,000	53,900
1985	2,000	6,300	11,300	800	1,100	2,300	5,500	0	3,900	2,100	3,600	700	1,400	700	41,700
1986	500	6,000	7,100	500	3,100	1,400	6,700	200	1,900	900	5,400	1,400	700	1,600	37,400
1987*	700	6,500	8,900	100	2,400	1,400	3,700	100	2,700	800	5,800	600	1,400	2,000	37,100
<hr/>															
AVERAGES:															
61-65	3,900	17,100	20,200	800	6,280	2,820	7,800	520	3,120	780	6,620	2,400	860	1,960	75,240
66-70	4,140	13,120	21,160	1,300	9,520	5,600	13,140	1,040	5,760	2,500	12,340	5,780	2,600	2,660	100,720
71-75	3,820	15,340	18,020	840	6,260	6,860	13,600	920	7,200	3,360	14,900	3,280	2,800	2,620	99,820
76-80	1,540	9,400	15,400	640	6,140	3,820	7,780	440	7,240	4,140	11,800	2,660	4,600	5,740	81,340
81-85	2,340	6,100	10,200	520	4,260	2,420	5,680	220	3,660	1,960	9,820	660	2,140	2,380	52,360
86-87	600	6,250	8,000	300	2,750	1,400	5,200	150	2,300	850	5,600	1,000	1,050	1,800	37,250

* - PRELIMINARY

Table 45. Estimates of regular-season gadwall harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF	TOTAL
1961	4,800	6,800	400	1,300	4,100	500	800	2,700	600	1,300	1,300	10,400	600	1,200	36,800	
1962	3,100	3,100	700	1,200	2,500	200	400	800	400	1,300	900	13,300	900	3,100	31,900	
1963	6,100	2,500	700	2,300	5,600	300	800	3,500	600	9,300	7,200	56,000	8,400	5,200	108,500	
1964	20,900	5,600	600	4,600	2,000	700	300	3,800	400	10,500	1,600	83,400	4,500	7,400	146,300	
1965	8,500	7,400	1,000	4,700	5,900	400	1,400	4,200	1,100	9,400	3,700	158,200	6,400	11,600	223,900	
1966	19,000	6,000	1,800	8,600	10,400	400	1,400	8,400	1,700	14,700	4,800	194,400	5,200	6,700	283,500	
1967	22,700	9,600	3,100	13,400	14,000	1,800	1,600	10,300	1,200	30,300	5,400	102,000	5,300	6,800	227,500	
1968	9,900	3,900	1,200	4,000	1,900	200	200	2,600	1,200	10,800	3,100	45,400	3,200	1,700	88,900	
1969	20,400	9,000	1,600	6,100	5,800	2,200	800	6,000	1,200	6,700	2,600	112,200	6,200	10,400	191,200	
1970	11,100	3,800	2,000	13,000	8,500	1,500	800	14,200	3,700	18,800	6,600	222,300	11,700	5,600	323,600	
1971	21,100	6,000	2,200	16,100	8,400	2,500	500	15,900	700	26,900	7,900	172,000	7,000	2,200	289,400	
1972	16,400	9,100	5,300	17,100	9,800	1,100	1,700	12,900	400	21,400	4,800	179,000	5,100	4,300	288,400	
1973	8,100	3,900	800	7,300	8,100	500	900	6,200	500	33,400	5,500	121,900	10,300	4,900	212,300	
1974	8,300	6,500	800	7,200	5,000	3,100	1,400	7,700	1,000	34,900	6,300	144,000	12,000	7,500	245,700	
1975	11,800	7,200	2,900	8,400	16,700	2,900	1,100	16,900	12,300	39,500	7,700	196,000	11,100	15,200	349,700	
1976	17,200	6,100	3,700	15,100	12,300	2,800	5,000	8,800	1,900	65,600	3,500	202,000	24,300	25,500	393,800	
1977	19,100	7,200	2,200	10,800	20,800	1,000	1,200	19,700	1,800	63,100	5,500	194,000	20,200	10,200	376,800	
1978	28,100	16,900	8,300	17,500	19,300	3,900	1,600	18,000	4,900	58,800	12,200	282,500	11,600	9,600	493,200	
1979	23,100	9,100	2,200	12,000	21,900	3,700	2,200	20,100	2,900	37,200	18,800	303,100	23,900	8,800	489,000	
1980	23,700	6,800	2,300	8,500	7,700	2,300	2,200	11,100	3,400	32,800	29,800	197,200	27,600	23,400	378,800	
1981	23,400	7,400	1,400	9,800	13,300	1,300	1,800	16,400	800	57,200	9,000	176,300	24,900	9,300	352,300	
1982	23,700	8,700	2,700	12,900	18,000	1,600	2,400	14,000	2,700	46,500	3,100	267,200	16,200	10,900	430,600	
1983	15,900	4,800	2,700	16,600	13,100	2,000	3,300	14,900	1,900	34,800	10,400	315,000	22,900	19,600	477,900	
1984	21,800	5,700	2,700	16,000	11,900	2,000	1,700	20,400	1,700	27,700	4,900	270,000	23,400	7,800	417,700	
1985	13,100	3,600	2,700	6,300	12,300	1,200	1,700	9,400	700	23,900	4,600	127,900	10,400	7,300	225,100	
1986	11,000	5,900	3,200	8,200	11,800	1,000	1,500	11,100	800	23,800	4,900	167,200	18,500	9,300	278,200	
1987*	9,200	3,400	2,400	5,100	5,700	1,100	600	11,400	2,000	25,800	8,900	114,000	11,700	6,100	207,400	

AVERAGES:

61-65	8,680	5,080	680	2,820	4,020	420	740	3,000	620	6,360	2,940	64,260	4,160	5,700	109,480
66-70	16,620	6,380	1,940	9,020	8,120	1,220	960	8,300	1,800	16,260	4,500	135,260	6,320	6,240	222,940
71-75	13,140	6,540	2,400	11,220	9,600	2,020	1,120	11,920	2,980	31,220	6,440	162,580	9,100	6,820	277,100
76-80	22,240	9,220	3,740	12,780	16,400	2,740	2,440	15,540	2,980	51,500	13,960	235,760	21,520	15,500	426,320
81-85	19,580	6,040	2,440	12,320	13,720	1,620	2,180	15,020	1,560	38,020	6,400	231,280	19,560	10,980	380,720
86-87	10,100	4,650	2,800	6,650	8,750	1,050	1,050	11,250	1,400	24,800	6,900	140,600	15,100	7,700	242,800

* - PRELIMINARY

Table 46. Estimates of regular-season wigeon harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	21,000	24,000	1,900	8,000	11,000	1,100	1,100	5,700	300	500	1,600	12,700	600	100	89,600
1962	9,500	17,000	2,500	2,900	4,000	800	800	2,400	TR	800	1,200	8,000	1,100	1,800	52,800
1963	26,700	16,400	3,200	6,300	5,500	600	2,400	5,200	400	5,300	3,000	32,400	2,100	4,800	114,300
1964	58,700	29,200	7,200	11,400	7,000	1,000	2,700	4,800	500	9,700	4,600	63,100	1,800	7,900	209,600
1965	34,000	42,000	11,300	13,100	9,700	900	4,300	3,800	400	4,600	3,100	76,600	3,700	5,000	212,500
1966	52,900	56,900	10,800	18,700	21,400	800	5,700	5,800	500	13,200	3,400	110,100	3,800	4,000	308,000
1967	53,300	39,500	12,700	12,600	16,200	2,400	8,100	16,300	1,300	9,700	8,200	74,700	5,000	3,800	263,800
1968	35,000	17,900	5,000	5,000	5,800	400	1,100	3,200	700	4,000	3,000	40,900	2,200	2,700	126,900
1969	52,600	31,100	5,700	11,300	11,100	3,900	2,200	10,000	0	3,900	2,900	71,800	2,600	6,400	215,500
1970	44,100	31,300	7,700	20,400	17,500	5,100	4,700	11,700	0	9,300	3,900	85,700	5,400	5,600	252,400
1971	38,700	22,500	8,000	15,200	7,400	1,100	3,500	5,800	200	8,300	4,600	70,400	3,200	4,200	193,100
1972	35,700	36,200	6,600	15,900	14,700	1,300	2,300	5,900	100	6,300	5,500	87,400	2,100	2,600	222,600
1973	30,200	22,700	6,100	11,900	17,400	2,300	1,500	5,500	200	8,700	4,500	75,600	3,300	2,300	192,200
1974	34,400	26,400	5,500	8,400	9,100	3,300	4,300	6,700	1,700	14,500	3,700	59,500	4,400	2,800	184,700
1975	37,000	30,700	8,000	12,400	12,900	4,100	3,800	8,000	2,200	14,000	4,200	87,100	5,700	6,400	236,500
1976	22,900	26,200	11,000	6,400	10,500	1,700	4,900	5,200	2,000	6,500	5,600	88,300	11,200	6,400	208,800
1977	45,000	25,000	6,100	11,100	13,900	2,000	3,800	16,000	1,600	22,400	4,100	96,200	8,500	4,700	260,400
1978	56,800	52,200	14,500	13,000	17,900	3,000	3,000	8,100	800	11,300	5,600	136,400	9,900	5,000	337,500
1979	53,000	50,400	11,800	18,800	24,500	3,600	4,500	15,100	1,000	10,700	11,900	124,500	9,400	2,900	342,100
1980	46,100	22,700	8,000	14,600	14,600	1,600	1,300	6,000	1,000	15,600	5,000	114,300	5,700	5,800	262,300
1981	42,500	19,800	4,200	16,400	18,300	1,500	2,500	12,600	2,300	22,000	5,900	89,000	13,100	5,200	255,300
1982	35,900	14,900	5,900	7,100	9,600	1,200	2,200	5,500	400	14,000	3,600	84,500	9,400	1,800	196,000
1983	37,400	13,700	8,100	11,500	11,800	2,400	1,200	8,500	600	11,200	2,400	114,500	11,600	4,700	239,600
1984	30,100	14,100	5,700	11,300	6,700	1,200	1,200	8,100	400	11,400	3,000	90,100	6,800	2,300	192,400
1985	20,000	10,900	6,400	3,900	7,600	800	1,500	4,000	200	9,500	3,700	43,900	2,400	2,100	116,900
1986	30,100	12,700	7,100	8,500	7,600	500	500	6,100	100	6,200	1,000	55,300	6,500	2,600	144,800
1987*	22,900	12,100	5,600	5,600	6,900	800	1,000	3,300	0	4,900	2,700	45,800	1,600	2,700	115,900
AVERAGES:															
61-65	29,980	25,720	5,220	8,340	7,440	880	2,260	4,380	320	4,180	2,700	38,560	1,860	3,920	135,760
66-70	47,580	35,340	8,380	13,600	14,400	2,520	4,360	9,400	500	8,020	4,280	76,640	3,800	4,500	233,320
71-75	35,200	27,700	6,840	12,760	12,300	2,420	3,080	6,380	880	10,360	4,500	76,000	3,740	3,660	205,820
76-80	44,760	35,300	10,280	12,780	16,280	2,380	3,500	10,080	1,280	13,300	6,440	111,940	8,940	4,960	282,220
81-85	33,180	14,680	6,060	10,040	10,800	1,420	1,720	7,740	780	13,620	3,720	84,400	8,660	3,220	200,040
86-87	26,500	12,400	6,350	7,050	7,250	650	750	4,700	50	5,550	1,850	50,550	4,050	2,650	130,350

* - PRELIMINARY

Table 47. Estimates of all-season green-winged teal harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	42,200	29,800	9,600	16,300	10,500	1,600	3,400	10,400	100	1,400	1,300	9,000	1,400	400	137,400
1962	17,000	12,600	6,000	5,600	6,400	1,000	3,300	2,500	100	800	0	14,800	1,300	700	72,100
1963	36,800	21,400	10,100	14,900	14,600	1,600	3,400	4,800	400	3,900	3,800	41,100	6,900	6,200	169,900
1964	70,200	38,000	21,600	26,800	14,900	3,700	5,000	7,500	500	14,100	3,100	74,000	3,900	2,800	286,100
1965	35,600	24,400	13,200	22,300	12,500	2,100	5,100	11,300	300	10,300	1,900	84,000	5,000	5,200	233,200
1966	68,000	33,800	15,400	40,700	26,300	3,900	6,100	13,000	600	18,200	4,200	131,600	9,100	5,900	376,800
1967	107,100	46,500	22,500	38,400	24,400	2,600	12,300	16,400	200	19,600	3,200	195,200	10,000	5,500	503,900
1968	64,000	31,400	18,700	19,700	10,800	3,800	6,700	8,100	100	4,200	600	121,900	3,700	4,600	298,300
1969	77,600	47,700	25,900	22,300	17,100	3,500	10,600	17,700	300	9,300	300	142,200	10,300	4,500	389,300
1970	71,300	44,400	26,300	45,200	34,500	5,400	12,400	31,300	600	18,000	2,500	280,500	13,300	7,500	593,200
1971	65,100	41,600	22,700	26,600	20,800	5,100	5,700	13,000	500	13,800	3,000	110,700	3,300	4,400	336,300
1972	54,700	30,200	28,400	23,900	19,500	5,100	9,900	7,700	200	10,600	5,000	138,100	5,800	2,900	342,000
1973	46,700	34,700	15,700	18,100	20,500	3,000	6,100	8,800	300	21,300	1,000	165,500	6,300	4,700	352,700
1974	57,900	43,100	19,900	24,000	20,700	3,200	5,600	10,700	600	16,000	1,600	125,200	11,500	3,800	343,800
1975	69,000	57,300	20,400	38,600	33,300	7,700	10,800	29,500	1,300	40,600	3,200	321,800	11,000	6,900	651,400
1976	64,400	57,400	36,300	27,500	22,500	2,700	14,300	13,500	2,300	17,600	3,200	314,100	19,500	8,800	604,100
1977	69,500	47,100	25,600	38,700	24,600	4,600	5,700	25,400	1,400	47,900	5,700	369,000	18,700	10,400	694,300
1978	69,500	41,300	16,900	41,700	36,500	6,500	6,900	21,100	500	35,200	1,600	358,100	17,900	8,600	662,300
1979	51,900	40,900	18,200	38,000	39,800	4,600	8,000	20,600	1,600	45,700	1,400	285,600	13,400	9,500	579,200
1980	48,800	32,900	14,600	37,300	22,000	5,800	6,800	15,600	100	33,000	2,300	295,100	7,800	7,300	529,400
1981	57,600	22,000	11,900	27,700	26,100	1,900	8,200	14,300	500	18,900	1,300	240,000	9,700	4,500	444,600
1982	48,500	19,800	12,800	24,300	17,700	2,500	3,800	16,300	400	16,400	4,900	205,500	7,600	1,900	382,400
1983	59,900	32,000	15,900	27,800	16,300	4,300	6,600	12,500	800	19,800	3,800	280,200	7,300	3,900	491,100
1984	84,800	36,000	17,000	36,200	19,600	3,900	5,500	23,900	800	21,800	2,400	234,000	5,500	3,000	494,400
1985	44,800	30,100	18,000	22,600	14,300	5,200	7,400	19,200	800	19,700	1,700	135,700	8,600	3,600	331,700
1986	42,600	19,000	17,100	18,300	12,000	2,700	5,100	22,000	300	12,400	1,500	179,500	4,700	4,900	342,100
1987*	60,100	23,900	14,200	20,100	21,900	4,300	4,700	20,400	300	25,100	1,100	256,800	6,100	6,400	465,400

AVERAGES:

61-65	40,360	25,240	12,100	17,180	11,780	2,000	4,040	7,300	280	6,100	2,020	44,580	3,700	3,060	179,740
66-70	77,600	40,760	21,760	33,260	22,620	3,840	9,620	17,300	360	13,860	2,160	174,280	9,280	5,600	432,300
71-75	58,680	41,380	21,420	26,240	22,960	4,820	7,620	13,940	580	20,460	2,760	172,260	7,580	4,540	405,240
76-80	60,820	43,920	22,320	36,640	29,080	4,840	8,340	19,240	1,180	35,880	2,840	324,380	15,460	8,920	613,860
81-85	59,120	27,980	15,120	27,720	18,800	3,560	6,300	17,240	660	19,320	2,820	219,080	7,740	3,380	428,840
86-87	51,350	21,450	15,650	19,200	16,950	3,500	4,900	21,200	300	18,750	1,300	218,150	5,400	5,650	403,750

* PRELIMINARY

Table 48. Estimates of all-season blue-winged teal harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	10,600	7,800	3,700	500	400	0	1,300	0	0	100	0	10,600	0	200	35,200
1962	22,700	15,900	3,100	400	900	200	600	200	TR	0	0	10,900	100	300	55,300
1963	77,800	50,400	11,300	27,900	600	0	2,100	1,200	0	0	TR	31,400	100	800	203,600
1964	84,300	24,000	7,500	17,900	1,500	100	1,000	800	100	0	100	34,500	0	100	171,900
1965	176,800	39,200	19,200	43,800	14,000	2,100	4,100	14,600	300	2,800	0	101,500	600	600	419,600
1966	73,300	49,500	13,400	47,300	27,100	1,800	4,900	10,900	400	1,400	300	140,500	2,000	700	373,500
1967	115,600	40,200	23,900	43,300	21,600	2,800	6,800	8,800	200	2,700	0	153,200	1,600	2,500	423,200
1968	45,100	13,600	5,100	900	400	100	2,300	300	0	0	0	21,400	100	100	89,400
1969	134,000	76,800	11,100	53,300	18,000	2,900	6,000	17,200	0	2,800	0	134,700	1,600	2,500	460,900
1970	101,100	70,700	21,600	51,600	39,100	6,500	8,500	36,500	0	6,900	1,700	264,600	2,800	1,800	613,400
1971	179,400	107,600	14,900	49,600	23,600	12,800	9,700	19,100	0	3,600	7,400	159,200	2,300	2,600	591,800
1972	71,300	60,600	22,800	31,200	15,000	6,700	8,300	15,000	0	5,300	3,300	197,300	2,800	2,300	441,900
1973	90,300	94,500	17,700	18,500	23,800	4,600	7,200	9,100	0	4,200	5,000	222,100	3,100	2,700	502,800
1974	76,100	57,800	10,700	26,000	5,300	7,400	6,700	17,400	300	8,400	3,400	188,200	3,000	2,800	413,500
1975	159,900	124,700	20,700	51,000	32,200	8,400	11,600	26,000	1,700	6,100	3,000	256,300	3,900	5,000	710,500
1976	46,700	78,300	26,400	33,000	12,900	4,600	9,200	8,800	1,000	10,300	3,600	230,300	5,800	4,800	475,700
1977	79,300	49,900	5,200	17,000	14,300	3,800	6,000	12,700	600	6,900	4,500	264,400	4,100	3,900	472,600
1978	113,900	73,700	11,200	41,100	23,300	4,800	7,300	19,300	700	8,400	5,800	266,700	3,700	4,300	584,200
1979	164,900	69,700	11,200	69,200	27,200	6,400	8,200	19,000	1,000	6,900	5,100	205,600	1,700	1,600	597,700
1980	43,300	34,500	6,700	39,000	21,600	5,300	6,300	14,200	1,900	5,600	1,800	222,600	2,900	5,700	411,400
1981	64,500	19,200	3,900	34,600	17,800	3,200	6,500	14,900	3,900	7,400	900	189,300	1,400	3,700	371,200
1982	117,300	48,500	6,600	58,200	25,300	4,800	6,600	42,600	5,500	6,400	10,700	272,900	3,500	3,400	612,300
1983	118,000	78,700	8,800	74,000	29,100	11,900	10,200	18,100	6,400	6,000	12,200	423,400	5,900	4,800	807,500
1984	122,600	54,000	11,000	56,800	33,300	10,700	9,600	23,800	6,300	13,400	9,800	417,400	4,400	4,100	777,200
1985	27,200	20,000	4,800	41,500	19,900	7,000	7,300	18,800	1,400	7,800	5,600	282,600	2,300	2,900	449,100
1986	59,400	36,100	5,300	26,900	23,700	5,900	6,000	11,600	4,600	6,600	3,800	280,800	2,600	2,900	476,200
1987*	25,200	19,200	3,800	14,300	13,100	5,500	3,200	12,400	4,500	3,900	2,200	235,400	1,800	4,800	349,300
AVERAGES:															
61-65	74,440	27,460	8,960	18,100	3,480	480	1,820	3,360	80	580	20	37,780	160	400	177,120
66-70	93,820	50,160	15,920	39,280	21,240	2,820	5,700	14,740	120	2,760	400	142,880	1,620	1,520	392,080
71-75	115,400	89,040	17,360	35,260	19,980	7,980	8,700	17,320	400	5,520	4,420	204,620	3,020	3,080	532,100
76-80	89,620	61,220	12,140	39,860	19,860	4,980	7,400	14,800	1,040	7,620	4,160	237,920	3,640	4,060	508,320
81-85	89,920	44,080	7,020	53,020	25,080	7,520	8,040	23,640	4,700	8,200	7,840	317,120	3,500	3,780	603,460
86-87	42,300	27,650	4,550	20,600	18,400	5,700	4,600	12,000	4,550	5,250	3,000	258,100	2,200	3,850	412,750

* - PRELIMINARY

Table 49. Estimates of regular-season pintail harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	12,900	8,600	2,700	4,000	9,300	300	1,600	5,100	0	400	400	22,600	800	1,300	70,000
1962	6,100	9,000	2,200	1,600	4,600	300	1,700	2,800	0	600	200	19,800	500	1,900	51,300
1963	19,400	9,000	2,900	7,400	8,600	100	2,300	4,200	TR	1,200	1,700	48,400	1,300	2,400	108,900
1964	24,000	15,600	4,400	7,200	7,200	1,300	1,800	3,800	300	5,100	1,400	97,600	1,400	2,500	173,600
1965	8,600	8,500	4,200	6,900	4,800	700	1,900	4,100	0	3,600	800	66,800	200	2,800	113,900
1966	20,200	12,700	3,400	6,100	8,800	400	1,300	6,200	100	6,500	1,100	148,800	800	4,000	220,400
1967	21,700	11,400	10,500	7,800	10,800	800	5,800	9,000	200	9,000	1,500	121,700	2,400	2,300	214,900
1968	16,300	9,600	5,300	2,200	2,600	1,200	1,600	2,800	300	500	1,500	54,500	400	1,900	100,700
1969	17,600	12,300	7,400	6,100	9,700	2,300	1,600	3,300	0	1,700	800	128,500	1,100	2,500	194,900
1970	29,200	9,700	6,400	13,200	7,800	1,600	2,200	9,000	500	7,300	3,600	180,300	800	1,400	273,000
1971	18,100	11,100	2,900	6,500	5,200	1,300	2,300	7,100	100	7,300	1,700	69,400	1,500	1,200	135,700
1972	11,200	8,800	4,800	7,700	6,900	1,400	1,400	5,500	100	3,400	1,300	82,500	900	900	136,800
1973	13,900	8,700	4,400	6,500	9,100	800	1,500	9,500	400	1,800	7,100	69,000	2,800	3,800	139,300
1974	11,300	4,800	4,800	2,900	3,600	600	2,000	2,300	800	8,200	2,000	73,500	3,800	2,300	122,900
1975	13,800	9,700	3,600	4,200	7,200	1,000	1,600	5,300	200	8,800	1,200	147,000	1,700	1,200	206,500
1976	4,500	12,200	5,300	3,100	3,500	700	2,400	4,200	200	1,900	300	113,800	1,800	3,200	157,100
1977	7,900	10,200	6,700	7,700	6,400	900	1,400	3,900	1,700	11,400	2,300	149,100	1,500	2,600	213,700
1978	18,700	6,600	4,600	9,200	11,700	1,000	1,100	9,700	600	5,000	3,300	133,900	600	4,600	210,600
1979	18,900	7,100	5,400	9,000	11,900	1,300	2,200	8,100	0	7,400	4,200	134,800	1,700	1,600	213,600
1980	18,700	7,800	6,100	6,900	5,900	800	1,500	3,200	0	8,900	1,300	152,900	700	900	215,600
1981	19,500	9,100	5,700	8,600	13,700	1,200	2,200	8,300	200	6,100	800	130,300	1,200	1,100	208,000
1982	13,600	5,200	3,800	8,100	6,700	400	700	7,200	600	5,500	100	68,800	5,200	600	126,500
1983	19,200	7,600	5,300	7,200	6,300	1,500	1,900	4,800	100	3,500	100	128,000	1,200	500	187,200
1984	23,900	8,100	6,700	8,100	5,800	1,300	1,300	5,700	400	9,600	2,300	79,000	700	600	153,500
1985	8,600	8,800	6,600	5,100	4,000	900	1,300	4,000	300	3,800	400	89,100	300	800	125,000
1986	4,400	2,800	3,400	3,000	4,300	400	500	3,900	100	7,200	700	58,000	700	800	90,200
1987*	4,200	5,200	2,800	4,100	4,300	900	800	3,500	300	4,600	900	54,900	200	1,800	88,500
AVERAGES:															
61-65	14,200	10,140	3,280	5,420	6,900	540	1,860	4,000	60	2,180	900	51,040	840	2,180	103,540
66-70	21,000	11,140	6,600	7,080	7,940	1,260	2,500	6,060	220	5,000	1,700	126,760	1,100	2,420	200,780
71-75	13,660	8,620	4,100	5,560	6,400	1,020	1,760	5,940	320	5,900	2,660	88,280	2,140	1,880	148,240
76-80	13,740	8,780	5,620	7,180	7,880	940	1,720	5,820	500	6,920	2,280	136,900	1,260	2,580	202,120
81-85	16,960	7,760	5,620	7,420	7,300	1,060	1,480	6,000	320	5,700	740	97,240	1,720	720	160,040
86-87	4,300	4,000	3,100	3,550	4,300	650	650	3,700	200	5,900	800	56,450	450	1,300	89,350

* - PRELIMINARY

Table 50. Estimates of regular-season wood duck harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	16,600	23,200	9,900	6,800	13,300	2,800	16,900	3,800	200	900	1,800	18,800	1,100	3,100	119,200
1962	19,000	31,000	14,400	7,800	14,800	3,700	16,600	2,300	400	6,900	700	30,900	9,600	4,700	162,800
1963	72,000	56,800	20,600	29,000	26,000	2,100	19,900	4,800	400	18,900	8,400	68,800	24,400	20,900	373,000
1964	69,100	31,200	18,800	24,500	19,800	6,800	15,100	8,900	300	24,500	6,400	68,200	12,000	5,900	311,500
1965	52,300	54,900	17,000	15,400	24,800	6,100	26,600	10,800	100	38,500	9,400	66,200	22,400	12,500	357,000
1966	88,800	65,700	25,800	30,800	44,200	7,700	20,600	7,700	800	46,200	15,000	100,800	25,200	17,800	497,100
1967	77,100	45,300	21,600	12,400	18,100	5,300	19,500	7,700	300	16,600	6,000	81,900	15,900	9,200	336,900
1968	66,200	55,200	24,000	16,100	17,100	11,400	29,900	15,500	200	7,400	2,400	48,200	15,000	11,100	319,700
1969	112,000	102,100	35,600	21,100	27,200	14,200	30,600	18,100	500	18,700	3,700	112,700	47,500	10,500	554,500
1970	100,200	91,800	38,800	50,600	49,300	18,900	31,500	23,300	900	46,100	10,900	121,600	30,200	20,300	634,400
1971	76,200	103,200	45,900	59,300	32,700	23,700	30,500	13,300	1,400	30,200	21,100	71,600	37,900	12,300	559,300
1972	85,900	59,800	43,900	39,300	43,500	15,200	26,400	15,200	3,300	23,100	20,200	100,300	41,300	25,000	542,400
1973	62,700	74,800	37,600	31,000	52,000	14,800	21,600	7,600	1,800	36,700	9,900	71,700	17,300	13,700	453,200
1974	115,300	120,600	46,300	46,700	39,300	17,200	24,000	16,900	4,400	38,200	9,000	68,300	34,700	15,200	596,100
1975	156,900	128,600	38,200	57,500	56,800	18,400	26,100	34,100	3,000	49,200	8,200	161,500	33,200	25,100	796,800
1976	78,500	136,900	60,800	44,000	30,400	3,300	24,600	8,500	1,800	51,900	8,300	159,200	51,700	23,100	683,000
1977	85,600	75,600	24,200	37,900	35,600	9,100	24,000	21,200	3,200	46,300	8,300	130,400	42,100	35,300	578,800
1978	123,800	71,900	25,200	73,600	60,000	12,400	23,400	20,400	9,700	65,700	15,300	154,200	43,500	42,100	741,200
1979	167,000	81,100	41,100	77,800	43,200	14,300	27,100	19,600	7,200	70,000	9,100	155,800	53,800	36,500	803,600
1980	125,700	90,600	33,800	49,100	53,900	16,300	27,000	28,100	2,800	72,200	8,600	202,200	70,500	29,500	810,300
1981	107,600	70,400	21,200	54,300	59,100	9,500	33,100	34,300	3,500	76,800	9,900	213,100	83,200	22,600	798,600
1982	120,600	87,500	28,700	55,300	48,900	8,100	24,500	29,700	1,000	32,000	12,700	167,500	33,700	21,600	671,800
1983	151,600	96,700	39,200	47,300	61,100	15,500	25,400	24,800	2,700	30,700	6,000	236,000	41,200	18,600	796,800
1984	185,400	97,800	60,800	46,300	42,000	14,900	25,000	17,900	4,400	47,900	15,000	198,300	71,300	16,400	843,400
1985	84,400	45,300	34,600	37,400	42,700	11,900	17,400	23,100	1,400	27,300	4,800	110,700	29,700	11,100	481,800
1986	133,100	53,300	23,400	46,000	35,300	9,100	20,300	8,400	600	27,800	5,000	112,000	35,600	15,700	525,600
1987*	108,900	99,400	25,000	35,800	34,200	14,500	16,400	10,200	2,000	37,400	7,800	118,700	36,800	18,400	565,500

AVERAGES:

61-65	45,800	39,420	16,140	16,700	19,740	4,300	19,020	6,120	280	17,940	5,340	50,580	13,900	9,420	264,700
66-70	88,860	72,020	29,160	26,200	31,180	11,500	26,420	14,460	540	27,000	7,600	93,040	26,760	13,780	468,520
71-75	99,400	97,400	42,380	46,760	44,860	17,860	25,720	17,420	2,780	35,480	13,680	94,680	32,880	18,260	589,560
76-80	116,120	91,220	37,020	56,480	44,620	11,080	25,220	19,560	4,940	61,220	9,920	160,360	52,320	33,300	723,380
81-85	129,920	79,540	36,900	48,120	50,760	11,980	25,080	25,960	2,600	42,940	9,680	185,120	51,820	18,060	718,480
86-87	121,000	76,350	24,200	40,900	34,750	11,800	18,350	9,300	1,300	32,600	6,400	115,350	36,200	17,050	545,550

* - PRELIMINARY

Table 51. Estimates of regular-season redhead harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	0	300	500	200	0	TR	100	200	0	0	0	500	0	0	1,800
1962	700	700	100	200	100	TR	0	0	0	100	200	0	100	2,200	2,200
1963	1,400	1,000	200	0	100	TR	100	200	100	0	0	1,100	0	200	4,400
1964	23,900	4,500	8,100	1,100	500	TR	800	1,100	100	200	500	3,300	1,200	1,300	46,600
1965	25,400	11,100	16,900	2,800	1,300	200	1,400	1,900	0	300	200	4,000	0	200	65,700
1966	32,900	12,500	26,900	4,100	3,400	100	1,100	2,700	TR	100	200	7,600	400	3,900	95,900
1967	37,500	6,900	30,000	2,100	4,400	600	2,200	2,900	0	0	500	1,900	800	1,700	91,500
1968	10,100	2,000	7,700	900	500	200	600	700	200	0	0	300	400	23,600	
1969	50,000	6,600	13,600	3,700	2,700	500	1,500	2,200	200	0	0	5,900	0	1,000	87,900
1970	29,200	10,000	15,700	4,800	4,600	300	1,900	2,100	100	900	200	12,300	2,800	2,200	87,100
1971	38,600	16,100	12,500	3,900	1,800	600	700	5,100	300	400	0	3,000	0	1,100	84,100
1972	1,000	2,700	1,900	800	600	0	400	100	100	600	0	2,400	200	100	10,900
1973	400	5,200	3,100	1,400	1,300	400	1,200	200	200	1,000	200	1,900	300	300	17,100
1974	5,700	6,600	5,700	800	900	400	1,200	1,600	0	1,000	1,500	5,100	0	200	30,700
1975	13,600	9,200	7,200	2,300	3,000	1,900	1,400	2,200	800	800	400	2,700	300	1,400	47,200
1976	13,100	9,200	8,100	3,700	2,800	200	1,800	2,400	200	0	0	6,000	0	0	47,500
1977	10,900	5,700	1,600	1,300	1,900	400	1,000	1,000	0	700	200	2,700	400	400	28,200
1978	35,000	6,300	4,300	2,400	3,200	600	2,700	2,300	700	600	400	4,700	0	200	63,400
1979	38,600	8,800	9,300	4,700	5,000	2,100	800	2,200	200	300	800	11,900	2,100	800	87,600
1980	24,800	10,100	8,400	2,300	3,000	400	1,000	1,300	100	200	0	5,000	900	500	58,000
1981	20,100	4,000	7,700	800	4,400	100	1,500	800	0	0	300	3,500	0	300	43,500
1982	28,300	2,400	6,500	2,000	1,800	200	800	700	0	600	500	3,900	400	400	48,500
1983	28,500	4,300	10,500	1,900	3,100	400	1,100	1,600	TR	1,400	0	10,700	300	700	64,500
1984	26,300	4,000	6,800	1,700	3,100	300	700	1,400	0	1,700	300	3,400	200	1,200	51,100
1985	16,900	4,300	5,800	1,100	800	500	600	2,000	200	800	200	2,600	400	200	36,400
1986	19,900	4,700	7,200	1,200	1,800	500	400	1,300	100	1,200	200	2,100	0	300	40,900
1987*	18,800	4,700	4,400	800	1,100	100	300	700	200	600	200	3,200	500	100	35,700

AVERAGES:

61-65	10,280	3,520	5,160	860	400	40	480	680	40	100	160	1,820	240	360	24,140
66-70	31,940	7,600	18,780	3,120	3,120	340	1,460	2,120	100	200	180	5,540	860	1,840	77,200
71-75	11,860	7,960	6,080	1,840	1,520	660	980	1,840	280	760	420	3,020	160	620	38,000
76-80	24,480	8,020	6,340	2,880	3,180	740	1,460	1,840	240	360	280	6,060	680	380	56,940
81-85	24,020	3,800	7,460	1,500	2,640	300	940	1,300	40	900	260	4,820	260	560	48,800
86-87	19,350	4,700	5,800	1,000	1,450	300	350	1,000	150	900	200	2,650	250	200	38,300

* - PRELIMINARY

Table 52. Estimates of regular-season canvasback harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MFTOTAL
<hr/>															
1961	0	0	TR	200	0	0	0	0	0	0	0	0	0	0	200
1962	0	0	0	0	0	0	0	0	0	0	0	0	TR	0	0
1963	0	0	0	0	0	0	0	0	0	0	100	0	100	0	200
1964	8,500	8,300	4,500	200	1,500	300	400	200	500	0	2,000	6,300	700	2,700	36,100
1965	9,600	15,400	8,500	2,500	2,900	300	1,500	1,400	200	500	700	3,200	0	2,800	49,500
1966	14,600	11,100	13,300	2,600	3,500	100	1,200	1,100	400	0	800	7,000	800	4,300	60,800
1967	6,200	10,300	8,700	1,800	8,800	100	800	1,000	800	0	400	4,000	1,000	2,300	46,200
1968	7,200	4,600	2,100	0	1,700	300	900	600	0	0	600	2,400	600	600	21,600
1969	7,800	5,500	6,600	1,000	700	0	800	1,000	0	400	800	700	1,100	500	26,900
1970	6,300	10,300	6,500	1,900	2,600	200	1,400	2,100	300	0	2,600	4,800	500	400	39,900
1971	9,700	8,100	6,700	2,000	500	100	600	300	400	2,000	2,400	1,800	0	700	35,300
1972	500	0	0	0	0	0	0	0	0	0	0	400	0	0	900
1973	200	2,100	300	1,000	1,200	0	500	0	0	1,700	1,600	5,000	700	200	14,500
1974	3,000	1,200	2,000	700	200	500	600	700	400	2,200	900	2,800	700	300	16,200
1975	4,500	1,700	4,300	1,400	200	3,400	900	200	400	1,700	2,300	8,500	200	800	30,500
1976	10,000	4,500	800	1,000	4,300	2,000	1,100	700	2,500	0	300	5,700	900	200	34,000
1977	5,200	1,900	1,700	900	900	300	900	400	900	2,500	0	7,600	900	600	24,700
1978	5,300	1,600	500	700	1,700	400	500	600	400	1,100	500	6,200	400	500	20,400
1979	11,400	2,400	1,800	900	4,200	600	200	400	500	0	800	14,400	1,200	500	39,300
1980	6,700	2,600	800	1,400	4,600	800	800	500	400	1,900	1,100	5,400	0	200	27,200
1981	5,400	3,100	400	1,400	900	200	500	400	700	1,900	400	3,800	400	500	20,000
1982	6,800	600	800	900	1,900	0	800	0	0	200	100	1,100	400	300	13,900
1983	9,700	2,200	1,200	1,200	3,000	300	900	900	600	800	0	8,900	400	900	31,000
1984	7,200	1,400	700	900	2,300	100	800	1,000	0	1,000	200	7,300	0	100	23,000
1985	10,200	2,400	1,800	1,100	700	300	500	1,300	300	800	700	3,000	0	100	23,200
1986	0	200	0	0	0	0	0	100	0	0	0	300	0	0	600
1987*	0	200	0	0	0	0	0	0	100	0	0	300	200	0	800
<hr/>															
AVERAGES:															
61-65	3,620	4,740	2,600	580	880	120	380	320	140	100	560	1,900	160	1,100	17,200
66-70	8,420	8,360	7,440	1,460	3,460	140	1,020	1,160	300	80	1,040	3,780	800	1,620	39,080
71-75	3,580	2,620	2,660	1,020	420	800	520	240	240	1,520	1,440	3,700	320	400	19,480
76-80	7,720	2,600	1,120	980	3,140	820	700	520	940	1,100	540	7,860	680	400	29,120
81-85	7,860	1,940	980	1,100	1,760	180	700	720	320	940	280	4,820	240	380	22,220
86-87	0	200	0	0	0	0	0	50	50	0	0	300	100	0	700

* - PRELIMINARY

Table 53. Estimates of all-season lesser scaup harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	51,300	12,000	8,400	5,500	10,500	600	1,500	5,400	400	100	600	59,400	3,900	1,900	161,500
1962	23,100	6,100	6,900	800	500	100	1,000	300	TR	0	100	10,000	0	400	49,300
1963	14,500	5,300	6,600	2,600	3,100	200	1,500	3,100	400	700	100	127,600	1,400	2,800	169,900
1964	48,400	23,400	23,500	3,200	6,800	500	3,300	8,400	700	1,500	800	100,600	2,700	3,000	226,800
1965	76,900	27,200	15,600	10,200	13,200	1,100	4,700	11,500	600	1,700	900	178,600	6,200	4,600	353,000
1966	72,800	49,900	31,500	10,600	11,800	1,100	7,400	9,700	1,000	2,900	1,400	80,200	3,300	3,400	287,000
1967	57,000	48,000	41,000	4,700	14,500	2,000	8,500	17,100	300	800	1,200	47,900	10,100	2,900	256,000
1968	32,600	16,600	16,700	2,000	6,500	500	2,900	10,100	TR	0	100	6,800	1,200	100	96,100
1969	170,300	30,100	47,200	7,600	7,500	5,200	5,600	4,800	0	900	400	14,500	3,400	2,600	300,100
1970	93,700	32,200	33,400	7,800	11,400	1,500	7,300	7,300	1,000	1,100	1,900	49,200	2,300	1,100	251,200
1971	121,700	28,600	29,300	17,300	11,800	1,200	3,400	11,600	500	0	3,800	61,100	3,400	3,900	297,600
1972	161,700	37,100	39,600	16,100	11,400	800	3,600	8,000	1,000	7,500	1,900	36,400	1,200	800	327,100
1973	55,100	17,900	36,000	5,000	7,900	800	4,200	4,700	500	10,900	2,900	265,100	11,000	12,100	434,100
1974	59,400	26,000	46,000	5,000	15,100	900	5,100	8,700	400	9,800	3,500	137,700	8,400	4,800	330,800
1975	54,500	27,100	30,300	7,700	17,900	1,600	4,600	20,000	1,100	4,300	800	74,900	3,500	2,100	250,400
1976	59,600	33,200	33,300	8,000	24,100	2,800	6,300	12,000	600	13,900	100	119,400	4,200	9,200	326,700
1977	34,500	19,800	16,200	4,200	17,000	2,500	3,900	11,700	2,500	28,700	2,900	187,700	20,400	12,400	364,400
1978	48,300	10,400	9,600	5,700	19,700	1,000	2,100	12,600	100	5,400	1,000	55,400	2,700	3,300	177,300
1979	48,300	17,500	12,500	7,300	17,900	4,700	3,600	6,900	800	3,600	800	19,100	1,200	400	144,600
1980	47,400	32,000	11,700	7,900	10,800	5,000	3,300	6,000	1,300	2,700	1,200	23,500	0	1,500	154,300
1981	86,100	55,000	14,900	6,000	21,200	1,900	4,400	7,800	900	2,300	1,400	101,000	9,500	12,800	325,200
1982	52,100	25,000	12,900	5,900	21,900	600	3,900	4,100	700	12,400	1,400	91,900	1,800	6,400	241,000
1983	45,500	18,200	11,000	7,300	15,200	1,900	3,000	5,300	100	4,300	3,000	35,700	2,000	2,000	154,500
1984	75,600	46,800	13,000	12,100	16,900	4,000	5,800	18,600	800	17,900	7,300	150,700	2,500	8,800	380,800
1985	72,300	39,500	9,300	5,300	14,300	3,900	4,700	13,100	700	6,000	1,100	119,600	4,300	11,700	305,800
1986	74,100	19,600	9,200	3,900	14,400	1,100	4,400	9,700	0	2,700	0	21,500	100	3,300	164,000
1987*	29,200	13,800	6,000	2,900	5,800	900	2,600	8,200	100	5,000	200	22,500	500	800	98,500
AVERAGES:															
61-65	42,840	14,800	12,200	4,460	6,820	500	2,400	5,740	420	800	500	95,240	2,840	2,540	192,100
66-70	85,280	35,360	33,960	6,540	10,340	2,060	6,340	9,800	460	1,140	1,000	39,720	4,060	2,020	238,080
71-75	90,480	27,340	36,240	10,220	12,820	1,060	4,180	10,600	700	6,500	2,580	115,040	5,500	4,740	328,000
76-80	47,620	22,580	16,660	6,620	17,900	3,200	3,840	9,840	1,060	10,860	1,200	81,020	5,700	5,360	233,460
81-85	66,320	36,900	12,220	7,320	17,900	2,460	4,360	9,780	640	8,580	2,840	99,780	4,020	8,340	281,460
86-87	51,650	16,700	7,600	3,400	10,100	1,000	3,500	8,950	50	3,850	100	22,000	300	2,050	131,250

* - PRELIMINARY

Table 54. Estimates of regular-season ring-necked duck harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1961	28,500	20,600	5,700	4,900	7,200	600	800	3,500	500	0	2,300	9,400	200	1,800	86,000
1962	52,400	17,000	2,800	1,600	1,700	300	400	300	100	1,000	200	10,900	700	1,200	90,600
1963	61,400	11,900	3,000	1,700	5,000	300	700	1,300	0	1,700	1,700	27,100	2,000	2,000	119,800
1964	164,000	39,300	9,300	2,500	4,900	1,100	1,800	2,600	100	3,300	2,600	56,100	3,700	4,200	295,500
1965	153,700	72,300	13,900	8,700	7,300	1,600	2,500	3,200	300	3,000	2,500	33,100	5,900	2,300	310,300
1966	156,900	40,600	15,200	5,500	8,700	1,400	1,500	3,700	100	3,500	3,400	37,100	4,500	2,000	284,100
1967	99,600	51,000	24,700	4,400	9,900	1,600	3,000	11,900	1,500	4,600	3,800	34,800	6,400	2,600	259,800
1968	81,400	21,500	10,000	2,200	3,400	1,100	900	2,900	100	1,500	2,900	11,600	3,700	800	144,000
1969	138,600	31,500	8,300	2,700	4,600	1,600	1,000	3,900	100	2,200	800	13,100	5,600	600	214,600
1970	108,300	37,300	22,200	9,600	5,400	3,200	4,100	6,300	100	1,900	4,100	54,300	9,600	4,100	270,500
1971	147,500	34,000	20,800	5,900	6,200	1,500	400	3,800	200	3,100	3,700	39,200	2,600	2,100	271,000
1972	91,900	34,600	25,400	6,100	11,300	2,300	1,600	3,200	1,200	3,500	3,100	25,900	4,800	2,900	217,800
1973	87,000	20,600	14,000	3,800	6,700	900	1,700	5,500	100	7,200	1,400	24,600	9,000	4,700	187,200
1974	102,000	24,500	22,900	3,400	8,600	3,100	5,300	5,200	100	9,000	10,000	41,900	9,400	2,600	248,000
1975	163,000	44,500	15,300	7,800	19,600	5,200	1,500	14,500	4,600	18,100	8,500	40,600	10,900	11,100	365,200
1976	59,800	29,600	17,200	6,900	14,300	800	3,000	11,600	2,900	6,500	3,800	50,300	29,900	3,000	239,600
1977	85,800	33,500	9,100	3,500	17,000	1,500	1,400	6,800	3,700	19,400	6,600	48,200	10,100	6,900	253,500
1978	137,400	35,800	11,500	7,300	15,800	3,300	3,200	8,800	100	11,300	2,600	53,600	8,700	3,400	302,800
1979	124,200	46,700	13,200	5,700	12,200	3,300	2,400	4,600	500	4,800	2,400	59,700	6,600	3,900	290,200
1980	127,000	60,200	17,500	7,100	11,600	4,600	1,400	3,300	5,400	9,300	4,000	49,400	9,500	2,300	312,600
1981	80,600	28,400	11,200	5,900	12,600	1,300	2,600	8,700	3,400	7,300	3,000	27,900	8,300	2,400	203,600
1982	72,100	18,700	11,500	4,400	11,100	1,700	1,900	5,000	1,500	6,800	1,500	14,100	3,400	2,700	156,400
1983	103,100	31,000	9,200	5,700	11,800	4,400	2,200	8,900	1,100	6,500	500	60,700	2,600	5,300	253,000
1984	102,500	32,800	25,300	5,300	10,700	2,100	1,400	14,900	900	7,500	2,600	47,000	3,800	4,400	261,200
1985	124,900	41,500	14,100	4,400	11,800	3,500	3,300	9,300	1,500	9,700	3,000	25,500	3,900	3,700	260,100
1986	128,000	34,800	15,200	5,100	14,000	1,500	1,300	6,500	800	4,100	2,500	23,000	4,900	3,400	245,100
1987*	85,500	10,500	8,800	2,600	10,000	1,100	1,300	7,800	1,800	6,800	4,800	45,200	1,000	2,600	189,800

AVERAGES:

61-65	92,000	32,220	6,940	3,880	5,220	780	1,240	2,180	200	1,800	1,860	27,320	2,500	2,300	180,440
66-70	116,960	36,380	16,080	4,880	6,400	1,780	2,100	5,740	380	2,740	3,000	30,180	5,960	2,020	234,600
71-75	118,280	31,640	19,680	5,400	10,480	2,600	2,100	6,440	1,240	8,180	5,340	34,440	7,340	4,680	257,840
76-80	106,840	41,160	13,700	6,100	14,180	2,700	2,280	7,020	2,520	10,260	3,880	52,240	12,960	3,900	279,740
81-85	96,640	30,480	14,260	5,140	11,600	2,600	2,280	9,360	1,680	7,560	2,120	35,040	4,400	3,700	226,860
86-87	106,750	22,650	12,000	3,850	12,000	1,300	1,300	7,150	1,300	5,450	3,650	34,100	2,950	3,000	217,450

* - PRELIMINARY

Table 55. Estimates of Canada goose harvests in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1962	5,200	19,100	9,700	6,600	11,500	2,000	1,100	22,700	1,100	0	1,800	0	400	1,700	82,900
1963	7,300	19,500	14,200	7,200	14,000	800	0	34,300	2,200	0	2,000	300	800	2,400	105,000
1964	7,300	42,900	11,900	4,300	27,500	2,500	2,200	33,600	1,900	0	3,100	300	100	4,300	141,900
1965	12,100	50,000	10,400	6,600	16,400	1,100	4,100	32,500	1,100	0	1,700	0	0	5,300	141,300
1966	20,000	27,900	9,500	7,200	28,000	3,100	3,500	40,300	3,700	0	2,800	800	0	5,400	152,200
1967	18,900	21,300	11,500	12,400	35,400	2,800	5,200	71,900	4,700	100	4,400	0	900	3,200	192,700
1968	10,100	25,300	19,400	10,600	21,200	3,100	6,200	47,200	4,900	0	7,200	700	0	2,200	158,100
1969	25,500	42,800	13,300	15,500	29,400	4,100	4,700	39,800	6,800	0	1,600	1,500	0	4,800	189,800
1970	22,000	28,600	25,100	12,600	37,700	1,600	9,100	33,500	11,200	0	9,500	1,600	0	400	192,900
1971	14,000	52,500	19,600	10,400	34,400	3,200	6,100	37,900	9,600	0	3,800	0	1,900	900	194,300
1972	17,600	35,800	16,400	5,000	33,800	3,000	5,200	41,000	4,400	0	1,900	0	0	1,600	165,700
1973	19,100	60,800	21,000	11,600	28,500	2,100	13,500	40,300	15,200	0	7,200	0	0	900	220,200
1974	31,500	77,000	26,500	7,700	47,100	4,100	9,200	64,400	12,600	0	7,100	0	800	1,000	289,000
1975	56,600	66,400	20,500	13,500	44,900	6,800	11,200	81,800	12,700	2,000	9,500	0	2,000	2,500	330,400
1976	56,100	45,700	27,500	9,300	53,700	3,400	8,500	59,900	15,000	8,700	29,800	0	18,000	5,000	340,600
1977	36,100	89,900	31,800	7,800	76,600	3,700	12,600	65,000	18,800	2,100	8,200	1,500	2,800	700	357,600
1978	53,600	85,700	23,300	11,900	118,700	2,300	10,700	68,300	23,400	4,100	16,500	0	3,900	3,400	425,800
1979	59,400	62,200	33,200	10,000	69,000	3,600	12,900	57,400	9,800	0	5,200	0	0	2,600	325,300
1980	61,800	57,600	32,000	11,700	57,700	9,300	11,500	44,700	17,800	0	7,400	1,700	1,300	1,800	316,300
1981	82,700	39,800	30,400	10,200	51,500	8,100	12,600	45,000	19,200	0	5,800	0	2,300	1,300	308,900
1982	76,600	45,800	52,200	10,200	27,200	5,900	12,600	42,100	6,600	0	6,800	1,000	2,000	1,100	290,100
1983	50,100	33,500	53,600	11,500	38,900	8,100	8,200	34,500	25,800	0	20,800	0	2,200	1,600	288,800
1984	79,700	40,600	56,700	13,300	31,200	5,700	16,700	41,500	11,600	400	12,200	0	500	300	310,400
1985	67,800	44,600	64,600	10,400	38,900	14,100	19,800	36,900	16,100	300	17,800	700	1,400	2,700	336,100
1986	67,200	49,600	61,100	17,200	49,400	12,000	17,200	30,000	17,900	0	11,400	0	0	4,000	337,000
1987*	67,600	40,600	62,300	15,200	45,700	10,300	18,500	27,400	17,400	200	15,800	500	0	2,300	323,800

AVERAGES:

62-65	7,975	32,875	11,550	6,175	17,350	1,600	1,850	30,775	1,575	0	2,150	150	325	3,425	117,775
66-70	19,300	29,180	15,760	11,660	30,340	2,940	5,740	46,540	6,260	20	5,100	920	180	3,200	177,140
71-75	27,760	58,500	20,800	9,640	37,740	3,840	9,040	53,080	10,900	400	5,900	0	940	1,380	239,920
76-80	53,400	68,220	29,560	10,140	75,140	4,460	11,240	59,060	16,960	2,980	13,420	640	5,200	2,700	353,120
81-85	71,380	40,860	51,500	11,120	37,540	8,380	13,980	40,000	15,860	140	12,680	340	1,680	1,400	306,860
86-87	67,400	45,100	61,700	16,200	47,550	11,150	17,850	28,700	17,650	100	13,600	250	0	3,150	330,400

* - PRELIMINARY

Table 56. Numbers of ducks observed during the midwinter waterfowl survey in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MFTOTAL
1955	11,600	26,900	283,200	51,800	1,114,700	236,400	122,300	519,100	94,300	1,051,200	196,500	1,299,600	154,500	92,800	5,254,900
1956	7,200	65,900	147,100	56,500	1,343,500	1,037,600	140,000	439,600	161,300	1,334,400	259,300	1,805,600	239,000	150,800	7,187,800
1957	34,500	39,000	131,100	110,100	1,886,000	512,800	166,900	376,600	184,200	1,207,000	441,000	2,116,500	179,900	106,500	7,492,100
1958	23,300	37,600	90,000	162,000	448,800	719,700	47,200	338,500	196,800	1,632,900	627,900	2,182,600	140,200	50,900	6,698,400
1959	11,500	33,600	137,000	121,400	521,900	484,000	55,300	330,900	228,900	1,421,300	539,700	2,760,900	110,800	69,100	6,826,300
1960	7,100	51,600	43,900	47,600	543,700	345,900	76,000	203,900	76,400	1,322,500	276,300	3,462,500	133,000	69,100	6,659,500
1961	11,600	62,100	43,900	378,500	384,200	270,800	147,800	230,300	63,200	1,235,500	321,800	4,477,400	115,900	108,200	7,851,200
1962	4,100	34,100	14,200	10,000	98,900	24,200	49,500	226,800	119,800	905,500	167,600	4,654,600	205,800	139,300	6,654,400
1963	9,300	36,300	39,600	144,400	435,900	72,800	62,500	256,400	97,900	1,161,100	257,500	4,406,600	145,500	102,000	7,227,800
1964	8,800	38,900	63,800	112,600	948,300	57,600	128,600	352,600	112,600	1,353,900	490,600	6,885,900	192,300	118,700	10,865,200
1965	15,400	29,800	58,300	103,400	274,700	22,000	114,800	314,500	32,700	1,372,000	451,800	4,769,100	152,500	76,100	7,787,100
1966	13,900	44,100	57,700	287,800	553,600	67,900	85,500	554,000	46,200	1,543,400	536,800	4,971,600	247,800	88,000	9,098,300
1967	16,200	44,600	31,700	123,300	501,800	72,000	148,000	508,600	8,800	1,631,400	638,900	4,494,300	281,700	112,000	8,613,300
1968	8,700	17,900	61,300	107,400	174,800	14,700	33,000	186,700	34,900	971,300	357,000	4,235,600	378,600	91,200	6,673,100
1969	10,000	27,900	70,800	37,700	164,600	10,400	115,800	244,000	17,700	1,030,500	382,800	5,294,400	227,200	87,100	7,720,900
1970	18,700	14,500	52,800	83,200	469,900	2,700	60,100	355,600	41,300	1,685,600	436,000	5,156,400	497,500	138,700	9,013,000
1971	17,600	10,800	48,900	145,100	605,500	28,300	96,700	305,500	29,700	1,953,800	334,300	4,139,100	396,400	91,000	8,202,700
1972	18,100	19,200	40,700	163,900	325,700	32,000	190,300	318,200	23,500	1,200,600	357,500	2,749,300	159,000	77,000	5,575,000
1973	19,900	15,400	49,500	40,100	459,700	17,700	40,200	229,300	67,800	784,500	486,000	4,414,200	658,000	111,300	7,393,600
1974	19,500	16,400	45,000	43,600	87,600	10,600	26,400	184,100	8,000	938,000	346,000	4,245,600	397,800	68,300	6,436,900
1975	12,100	21,900	48,800	73,500	277,700	68,200	95,600	344,800	39,500	1,274,700	294,700	2,882,500	593,000	71,900	6,098,900
1976	29,300	28,500	49,600	148,300	793,600	58,400	42,800	465,800	49,200	1,132,800	452,700	5,515,100	810,900	112,800	9,689,800
1977	27,900	22,100	26,600	114,500	513,900	33,100	54,300	287,600	15,400	300,800	476,400	4,837,300	207,400	106,100	7,023,400
1978	25,300	24,000	43,100	144,200	288,000	47,600	25,700	516,100	48,800	691,600	392,500	2,070,500	265,000	137,200	4,719,600
1979	26,900	20,700	22,500	26,800	242,500	60,000	32,500	157,000	49,600	626,100	374,500	4,451,200	251,800	93,800	6,435,900
1980	62,300	27,400	50,700	241,900	525,400	17,900	43,300	315,400	91,800	414,000	442,200	2,684,000	266,700	90,900	5,273,900
1981	42,300	27,000	47,600	131,300	422,800	47,700	46,900	213,400	57,700	964,700	390,000	3,201,400	214,600	99,300	5,906,700
1982	25,000	19,400	39,900	87,400	305,700	33,200	35,000	219,200	20,000	1,200,000	299,200	3,591,800	232,600	87,800	6,196,200
1983	22,300	33,200	58,000	64,600	168,300	22,000	75,100	404,800	43,700	719,200	283,700	2,326,100	331,200	58,300	4,610,500
1984	16,900	32,000	43,400	5,500	76,600	13,800	32,300	61,700	32,500	219,200	214,200	2,638,000	486,200	65,200	3,937,500
1985	22,400	40,800	30,300	9,700	63,600	24,000	36,600	163,700	27,100	1,454,500	190,600	3,186,200	130,000	46,800	5,426,300
1986	16,500	33,600	19,200	28,000	268,500	27,400	77,300	209,700	31,800	1,032,000	283,800	2,598,600	359,900	78,000	5,064,300
1987	18,400	34,900	27,900	81,200	324,200	21,600	104,300	152,600	23,900	658,800	318,900	2,124,200	203,400	79,500	4,173,800
1988	16,700	38,800	102,300	42,000	229,200	23,400	67,800	164,700	35,800	1,520,900	468,800	3,131,900	196,900	91,000	6,130,200
AVERAGES:															
55-60	15,867	42,433	138,717	91,567	976,433	556,067	101,283	368,100	156,983	1,328,217	390,117	2,271,283	159,567	89,867	6,686,500
61-65	9,840	40,240	43,960	149,780	428,400	89,480	100,640	276,120	85,240	1,205,600	337,860	5,038,720	162,400	108,860	8,077,140
66-70	13,500	29,800	54,860	127,880	372,940	33,540	88,480	369,780	29,780	1,372,440	470,300	4,830,460	326,560	103,400	8,223,720
71-75	17,440	16,740	46,580	93,240	351,240	31,360	89,840	276,380	33,700	1,230,320	363,700	3,686,140	440,840	83,900	6,761,420
76-80	34,340	24,540	38,500	135,140	472,680	43,400	39,720	348,380	50,960	633,060	427,660	3,911,620	360,360	108,160	6,628,520
81-85	25,780	30,480	43,840	59,700	207,400	28,140	45,180	212,560	36,200	911,520	275,540	2,988,700	278,920	71,480	5,215,440
86-88	17,200	35,767	49,800	50,400	273,967	24,133	83,133	175,667	30,500	1,070,567	357,167	2,618,233	253,400	82,833	5,122,767

Table 57. Numbers of dabbling ducks* observed during the midwinter waterfowl survey in the Mississippi Flyway
 (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife
 Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1955	9,300	11,600	45,300	43,100	1,073,400	224,500	92,500	508,000	80,100	1,045,700	151,800	1,141,000	120,300	71,000	4,617,600
1956	3,900	17,600	54,000	55,600	1,311,100	1,034,700	118,300	431,900	147,400	1,326,000	201,100	1,656,500	193,100	116,700	6,667,900
1957	30,200	21,900	45,500	108,000	1,832,100	509,000	159,400	366,900	172,000	1,186,000	408,700	1,758,600	106,900	85,900	6,791,100
1958	17,400	9,700	20,600	161,300	411,000	709,600	41,900	329,700	182,100	1,604,100	565,400	1,939,200	92,400	38,700	6,123,100
1959	6,400	17,300	22,800	120,300	467,500	469,700	50,100	322,700	215,500	1,392,800	509,200	2,495,900	65,000	59,200	6,214,400
1960	4,300	18,100	21,300	47,600	497,700	341,400	70,600	198,300	75,300	1,297,300	255,700	2,491,700	103,700	63,900	5,486,900
1961	7,300	28,000	24,400	378,400	343,100	269,800	84,900	216,000	55,300	1,196,500	306,000	2,814,200	89,000	100,700	5,913,600
1962	3,300	8,800	6,300	9,900	63,600	22,300	41,900	213,700	117,700	868,200	138,200	2,862,100	127,400	121,500	4,604,900
1963	7,500	13,200	8,700	143,000	398,600	71,600	58,100	243,500	92,600	1,126,400	231,900	2,684,600	98,700	86,100	5,264,500
1964	6,800	14,200	26,300	112,200	925,100	56,500	97,700	343,200	77,900	1,282,300	426,800	6,017,000	131,800	83,600	9,601,400
1965	13,600	10,100	20,600	103,200	245,600	21,000	103,100	306,000	29,700	1,331,200	421,500	4,276,800	92,000	68,600	7,043,000
1966	12,900	17,000	27,600	287,100	490,500	65,700	74,500	545,000	37,400	1,520,800	489,800	4,608,200	189,300	74,800	8,440,600
1967	14,600	8,300	10,500	123,100	454,900	69,200	125,800	492,400	7,200	1,588,700	587,700	4,154,100	201,500	94,800	7,932,800
1968	7,600	7,400	10,400	107,400	161,000	13,900	31,600	173,000	30,500	949,100	326,300	3,405,400	290,800	77,500	5,591,900
1969	9,100	8,000	15,300	37,500	145,700	10,300	105,000	225,600	14,700	1,012,800	357,400	3,686,500	167,300	79,200	5,874,400
1970	17,500	7,200	14,300	83,100	443,500	2,400	59,800	343,200	37,500	1,643,900	392,400	4,013,000	446,500	118,500	7,622,800
1971	16,800	8,100	20,800	140,900	587,100	25,900	95,800	290,500	28,100	1,910,500	306,800	3,099,000	313,800	79,100	6,923,200
1972	17,100	6,400	10,800	162,500	305,200	31,200	174,900	305,700	23,100	1,168,500	337,500	2,569,300	107,600	68,900	5,288,700
1973	18,800	13,400	15,000	40,000	405,300	16,400	39,800	213,600	67,800	739,500	470,500	3,384,900	618,500	104,100	6,147,600
1974	18,800	11,300	9,200	43,500	71,300	8,500	24,700	161,700	7,100	925,300	328,300	3,468,400	334,500	57,100	5,469,700
1975	11,700	9,900	14,600	66,500	240,900	63,600	80,900	330,700	38,800	1,238,100	276,100	2,600,300	570,400	57,900	5,600,400
1976	28,800	11,700	26,300	141,200	749,700	57,300	39,600	437,200	47,700	1,095,700	426,600	4,800,400	765,500	89,100	8,716,800
1977	27,400	14,400	16,900	112,200	493,400	32,200	34,700	262,300	13,600	278,000	459,200	4,143,700	173,000	85,300	6,146,300
1978	25,000	12,800	18,100	140,100	246,500	46,200	21,200	488,300	47,100	662,500	371,300	1,879,000	232,300	106,700	4,297,100
1979	26,800	13,000	10,500	26,100	183,300	29,200	21,200	123,400	47,100	607,600	342,400	3,412,000	234,100	75,000	5,151,700
1980	62,200	12,900	17,300	223,500	415,700	17,300	36,900	296,100	91,800	385,000	423,800	2,313,500	224,200	63,000	4,583,200
1981	41,800	17,000	14,300	129,900	375,300	47,200	31,300	197,200	53,200	884,100	369,100	2,857,200	162,900	69,100	5,249,600
1982	24,700	14,600	13,300	87,000	250,600	32,000	27,300	205,100	19,500	1,139,700	286,300	2,900,800	215,100	66,000	5,282,000
1983	22,300	18,300	13,900	63,700	99,200	21,000	54,100	394,600	41,400	670,000	274,400	2,116,700	289,400	50,400	4,129,400
1984	16,800	24,000	13,300	5,500	57,600	11,400	28,300	50,800	29,600	213,500	208,300	2,168,200	447,800	51,200	3,326,300
1985	21,900	24,900	5,700	9,500	43,500	22,600	27,300	154,300	26,100	1,246,000	184,200	2,529,300	95,000	35,600	4,425,900
1986	15,900	26,800	8,200	28,000	209,800	25,800	50,600	185,800	28,900	935,700	278,300	2,193,400	248,100	67,200	4,302,500
1987	17,900	25,300	8,300	79,200	246,100	20,200	91,700	138,900	21,400	637,500	309,600	1,520,800	172,400	63,100	3,352,400
1988	16,000	28,300	7,500	41,400	149,500	18,900	58,200	138,800	30,800	1,432,300	452,500	2,398,800	153,300	75,300	5,001,600

AVERAGES:

55-60	11,917	16,033	34,917	89,317	932,133	548,150	88,800	359,583	145,400	1,308,650	348,650	1,913,817	113,567	72,567	5,983,500
61-65	7,700	14,860	17,260	149,340	395,200	88,240	77,140	264,480	74,640	1,160,920	304,880	3,730,940	107,780	92,100	6,485,480
66-70	12,340	9,580	15,620	127,640	339,120	32,300	79,340	355,840	25,460	1,343,060	430,720	3,973,440	259,080	88,960	7,092,500
71-75	16,640	9,820	14,080	90,680	321,960	29,120	83,220	260,440	32,980	1,196,380	343,840	3,024,380	388,960	73,420	5,885,920
76-80	34,040	12,960	17,820	128,620	417,720	36,440	30,720	321,460	49,460	605,760	404,660	3,309,720	325,820	83,820	5,779,020
81-85	25,500	19,760	12,100	59,120	165,240	26,840	33,660	200,400	33,960	830,660	264,460	2,514,440	242,040	54,460	4,482,640
86-88	16,600	26,800	8,000	49,533	201,800	21,633	66,833	154,500	27,033	1,001,833	346,800	2,037,667	191,267	68,533	4,218,833

=====

* MALLARD; BLACK DUCK; MOTTL ED DUCK; GADWALL; WIGEON; GW, BW, & CINN. TEAL; SHOVELER; PINTAIL; WOOD DUCK (SOME YEARS); WHISTLING DUCK.

Table 58. Numbers of diving ducks* observed during the midwinter waterfowl survey in the Mississippi Flyway
 (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and
 Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MFTOTAL
1955	1,100	11,200	206,300	3,900	31,200	9,000	10,600	2,900	3,000	4,600	24,300	154,800	29,800	12,100	504,800
1956	2,100	32,300	76,800	500	14,200	1,100	4,700	800	2,300	8,400	51,100	146,200	41,200	29,700	411,400
1957	3,200	11,900	69,300	600	34,400	3,500	1,900	1,300	1,600	21,000	25,600	342,800	67,100	15,200	599,400
1958	5,200	18,100	64,200	600	13,800	8,000	2,000	4,300	2,500	28,800	42,600	239,100	44,800	7,500	481,500
1959	1,700	13,800	112,000	TR**	21,600	1,800	3,000	1,600	5,900	26,500	28,500	257,500	42,200	8,700	524,800
1960	1,600	20,700	20,200	TR	15,200	2,700	1,300	1,300	1,100	21,900	15,400	962,900	26,400	4,800	1,095,500
1961	1,500	19,800	18,100	TR	15,800	700	6,500	3,200	6,600	35,400	12,900	1,651,600	22,600	7,200	1,801,900
1962	700	23,300	6,900	TR	14,700	900	5,300	3,100	900	36,300	23,300	1,779,300	72,600	17,300	1,984,600
1963	1,300	16,000	29,700	800	14,500	900	3,300	4,600	3,500	34,000	17,600	1,703,000	45,800	15,300	1,890,300
1964	1,900	20,900	31,500	200	10,800	400	1,200	1,000	3,800	46,200	27,500	817,600	32,500	10,000	1,005,500
1965	1,600	17,000	32,900	100	6,300	800	2,700	4,300	1,400	40,800	20,900	482,700	57,700	7,100	676,300
1966	1,000	23,100	25,400	200	49,100	1,600	4,700	6,600	7,800	22,100	37,900	354,000	55,200	12,400	601,100
1967	1,600	33,300	19,500	100	23,300	2,200	8,200	8,200	1,100	34,300	24,900	333,200	71,200	11,100	572,200
1968	1,100	8,900	49,900	TR	3,000	800	1,300	2,000	2,700	21,700	25,700	826,100	87,000	12,200	1,042,400
1969	900	16,300	54,300	200	9,000	100	8,100	4,500	1,800	17,300	20,000	1,587,900	56,700	6,600	1,783,700
1970	1,200	6,200	35,400	100	14,600	200	300	3,700	400	33,900	24,700	1,108,400	44,900	11,800	1,285,800
1971	800	2,400	23,800	4,200	13,900	2,100	900	5,200	100	36,200	11,700	1,025,100	32,400	3,600	1,162,400
1972	1,000	11,900	27,100	800	12,100	800	6,900	7,900	400	31,000	12,000	175,000	48,100	4,700	1,339,700
1973	1,100	1,800	29,300	0	34,300	1,200	400	8,400	0	37,000	8,400	1,017,400	36,100	4,100	1,179,500
1974	700	2,600	32,600	100	11,200	2,100	1,500	12,800	700	12,700	6,700	773,200	61,600	5,700	924,200
1975	400	6,100	28,900	6,800	30,500	4,100	9,200	9,900	500	24,200	11,400	271,500	18,600	7,300	429,400
1976	400	11,600	22,900	6,700	29,800	1,100	2,900	17,100	600	11,600	16,800	703,700	35,600	17,000	877,800
1977	500	4,700	6,200	1,000	15,100	400	19,600	6,300	1,600	4,100	9,500	693,600	25,700	11,500	799,800
1978	300	7,100	23,700	3,300	32,400	500	3,700	11,300	700	12,600	15,200	191,500	27,400	21,600	351,300
1979	100	5,000	12,000	500	41,300	200	11,000	16,700	1,100	3,900	23,500	1,039,100	14,000	12,400	1,180,800
1980	100	10,700	33,400	15,800	77,400	500	5,800	11,600	0	6,900	10,900	370,500	38,400	22,100	604,100
1981	500	7,500	32,800	1,000	31,400	400	14,700	6,900	4,300	55,500	15,100	343,600	40,700	24,900	579,300
1982	300	3,300	12,200	200	42,500	1,200	6,400	7,300	400	55,300	11,800	689,600	15,800	18,500	864,800
1983	TR	11,000	31,200	700	61,000	600	7,300	5,600	1,700	46,700	7,200	209,400	41,600	7,100	431,100
1984	100	5,800	10,200	TR	15,000	1,100	3,000	6,100	2,400	1,200	5,200	469,600	38,300	12,100	570,100
1985	500	11,100	23,500	200	15,600	1,200	8,400	6,100	1,000	207,800	6,200	656,900	34,300	10,400	983,200
1986	600	4,600	9,700	TR	45,500	800	20,900	11,200	1,600	95,000	3,300	405,200	106,600	9,700	714,700
1987	400	7,300	9,500	400	60,700	1,200	11,200	9,600	1,200	20,900	9,100	603,300	28,800	13,200	776,800
1988	600	3,700	41,800	100	63,700	300	4,000	13,400	1,700	88,200	15,100	733,100	42,900	13,000	1,021,600
AVERAGES:															
55-60	2,483	18,000	91,467	933	21,733	4,350	3,917	2,033	2,733	18,533	31,250	350,550	41,917	13,000	602,900
61-65	1,400	19,400	23,820	220	12,420	740	3,800	3,240	3,240	38,540	20,440	1,286,840	46,240	11,380	1,471,720
66-70	1,160	17,560	36,900	120	19,800	980	4,520	5,000	2,760	25,860	26,640	841,920	63,000	10,820	1,057,040
71-75	800	4,960	28,340	2,380	20,400	2,060	3,780	8,840	340	28,220	10,040	652,440	39,360	5,080	807,040
76-80	280	7,820	19,640	5,460	39,200	540	8,600	12,600	800	7,820	15,180	599,680	28,220	16,920	762,760
81-85	280	7,740	21,980	420	33,100	900	7,960	6,400	1,960	73,300	9,100	473,820	34,140	14,600	685,700
86-88	533	5,200	20,333	167	56,633	767	12,033	11,400	1,500	68,033	9,167	580,533	59,433	11,967	837,700

* - REDHEAD, CANVASBACK, SCAUP, RINGNECK, GOLDENEYE, BUFFLEHEAD, AND RUDDY DUCK.

** - TRace = LESS THAN 50

Table 59. Numbers of mallards observed during the midwinter waterfowl survey in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1955	8,800	7,900	22,000	43,100	1,033,100	187,100	37,600	497,700	70,000	1,000,000	107,900	458,400	68,600	34,500	3,576,700
1956	3,600	14,400	19,400	55,600	1,278,200	1,005,100	54,000	428,200	122,800	1,232,000	170,000	555,800	163,400	73,200	5,173,700
1957	29,700	17,000	15,000	107,700	1,786,600	474,700	96,000	363,400	154,100	1,075,000	354,100	663,900	84,100	46,900	5,268,200
1958	17,100	7,300	3,200	161,200	396,500	561,600	18,500	319,600	169,200	1,419,200	486,400	386,100	56,100	16,900	4,018,900
1959	6,200	12,800	10,000	120,300	461,500	439,400	25,000	320,200	192,700	1,283,100	419,500	531,200	61,400	34,400	3,917,700
1960	4,200	14,300	5,700	47,500	482,000	316,700	38,700	196,100	61,700	1,121,100	199,000	399,600	96,300	33,800	3,016,700
1961	7,200	22,100	12,300	378,400	327,300	264,400	32,400	213,700	49,800	1,023,200	247,600	531,200	75,000	60,300	3,244,900
1962	3,100	6,400	3,800	9,900	60,500	16,600	15,200	211,900	101,300	783,500	98,900	506,500	93,700	81,000	1,992,300
1963	7,200	10,200	4,700	142,900	380,500	62,100	20,300	235,700	76,100	995,800	171,800	510,200	69,100	43,100	2,729,700
1964	6,600	10,500	12,100	112,000	896,900	49,300	33,400	330,800	59,700	1,156,300	293,100	939,400	117,200	52,300	4,069,600
1965	13,500	7,500	7,400	103,200	230,700	15,700	36,800	288,800	23,100	1,151,400	324,400	651,500	79,300	38,800	2,972,100
1966	12,600	13,000	9,100	286,400	478,100	55,200	38,800	528,300	31,300	1,406,700	369,800	685,800	150,900	39,400	4,105,400
1967	14,300	5,300	7,200	123,100	439,300	64,700	54,200	483,100	4,700	1,440,900	457,100	445,100	141,600	48,200	3,728,800
1968	7,600	5,700	7,100	107,400	145,600	12,200	12,200	168,900	25,600	843,300	239,300	381,000	208,900	35,700	2,200,500
1969	8,800	6,600	10,000	37,500	131,500	8,300	50,400	221,400	10,900	881,600	278,400	308,100	131,900	38,300	2,123,700
1970	17,200	5,800	10,700	82,100	426,600	2,000	25,500	336,600	27,100	1,498,600	289,000	750,600	389,800	81,300	3,942,900
1971	16,000	6,800	16,800	140,800	566,100	18,200	64,800	275,600	22,700	1,678,800	209,000	415,600	274,600	45,500	3,751,300
1972	16,600	5,300	7,500	162,400	298,600	25,500	93,800	299,400	20,000	1,014,500	286,100	439,100	88,500	36,700	2,794,000
1973	18,300	12,400	12,300	40,000	383,700	12,400	18,000	202,800	53,300	667,500	386,100	480,600	546,500	77,700	2,911,600
1974	18,100	10,200	5,700	43,500	66,500	5,700	14,100	151,100	5,600	841,700	253,800	308,800	302,000	29,800	2,056,600
1975	11,300	8,700	10,700	66,100	223,500	53,000	39,700	320,200	36,100	1,064,600	186,500	305,500	504,700	30,000	2,860,600
1976	28,500	10,800	22,300	140,700	721,200	46,300	23,000	413,300	38,400	999,000	303,400	538,600	605,200	54,700	3,945,400
1977	26,800	13,600	15,200	111,600	483,000	28,800	22,000	259,800	8,700	254,300	344,700	1,361,300	152,300	51,100	3,133,200
1978	24,600	12,000	15,400	139,900	238,600	43,900	13,800	485,200	41,500	601,600	295,400	419,800	213,400	59,800	2,604,900
1979	26,300	11,600	9,400	26,100	175,000	26,000	13,300	122,100	38,700	569,000	253,700	1,557,400	207,800	36,400	3,072,800
1980	62,100	12,300	14,700	222,100	395,100	12,500	24,600	291,900	80,800	359,400	359,500	309,900	181,200	33,400	2,359,500
1981	41,600	15,800	12,100	129,500	358,600	39,200	21,700	196,500	40,500	785,000	318,600	508,200	117,700	36,800	2,621,800
1982	24,600	13,600	12,300	86,800	239,700	24,700	14,100	203,300	15,600	944,700	237,500	472,800	172,200	30,700	2,492,600
1983	22,200	17,300	10,800	63,600	93,700	16,100	25,800	388,800	31,500	497,300	207,700	305,800	176,600	20,800	1,878,000
1984	16,800	23,100	11,900	5,500	54,600	8,800	19,900	49,700	19,500	193,800	160,000	450,400	403,400	22,700	1,440,100
1985	21,800	23,800	5,100	9,500	39,700	18,400	19,600	152,400	21,200	1,070,800	144,200	380,100	49,500	12,500	1,968,600
1986	15,600	25,800	7,800	28,000	199,300	19,600	36,700	182,700	22,900	817,400	222,800	411,800	149,400	28,400	2,168,200
1987	17,900	24,000	6,900	79,200	231,600	17,200	58,200	136,400	16,100	495,900	283,000	396,300	127,800	33,800	1,924,300
1988	16,000	27,200	6,100	41,400	142,900	15,300	35,300	136,400	23,400	1,198,000	374,100	648,100	79,800	33,400	2,777,400

AVERAGES:

55-60	11,600	12,283	12,550	89,233	906,317	497,433	44,967	354,200	128,417	1,188,400	289,483	499,167	88,317	39,950	4,162,317
61-65	7,520	11,340	8,060	149,280	379,180	81,620	27,620	256,180	62,000	1,022,040	227,160	627,760	86,860	55,100	3,001,720
66-70	12,100	7,280	8,820	127,300	324,220	28,480	36,220	347,660	19,920	1,214,220	326,720	514,120	204,620	48,580	3,220,260
71-75	16,060	8,680	10,600	90,560	307,680	22,960	46,080	249,820	27,540	1,053,420	264,300	389,920	343,260	43,940	2,874,820
76-80	33,660	12,060	15,400	128,080	402,580	31,500	19,340	314,460	41,620	556,660	311,340	837,400	271,980	47,080	3,023,160
81-85	25,400	18,720	10,440	58,980	157,260	21,440	20,220	198,140	25,660	698,320	213,600	423,460	183,880	24,700	2,080,220
86-88	16,500	25,667	6,933	49,533	191,267	17,367	43,400	151,833	20,800	837,100	293,300	485,400	119,000	31,867	2,289,967

Table 60. Numbers of black ducks observed during the midwinter waterfowl survey in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MF TOTAL
1955	400	3,700	23,200	0	26,700	32,700	48,500	1,700	6,000	700	11,200	15,000	4,000	4,600	178,400
1956	400	3,200	34,600	TR	32,000	29,500	63,700	1,500	21,000	1,000	9,300	6,700	4,200	6,200	213,300
1957	400	5,000	30,300	100	44,500	33,800	62,800	200	12,300	1,000	20,000	17,000	1,300	3,200	231,900
1958	300	2,400	17,400	TR	14,000	143,400	22,900	6,400	9,200	1,000	18,900	22,300	2,600	3,600	264,400
1959	100	4,500	12,800	TR	6,000	28,600	24,700	1,000	14,500	11,200	32,700	36,700	400	3,700	176,900
1960	100	3,900	15,600	100	15,600	24,100	31,500	600	11,700	8,300	15,300	32,300	1,000	5,000	165,100
1961	100	5,800	12,200	TR	15,800	5,000	52,200	700	5,100	2,200	32,200	14,300	2,600	10,500	158,700
1962	100	2,400	2,500	0	2,800	5,500	26,500	300	15,500	2,900	16,900	14,800	4,900	15,600	110,700
1963	200	3,000	4,000	TR	18,000	9,400	37,500	2,300	15,000	4,000	20,090	13,900	4,900	9,000	141,200
1964	100	3,700	14,200	200	28,000	7,200	63,900	5,000	17,400	3,900	48,700	12,700	2,900	10,200	218,100
1965	100	2,600	13,200	TR	14,700	5,200	66,100	1,300	5,600	3,200	33,100	7,100	1,600	5,000	158,800
1966	300	4,000	18,400	TR	9,100	9,600	34,300	900	4,900	2,200	45,700	7,100	8,600	7,100	152,200
1967	300	3,000	3,300	TR	15,400	4,400	70,300	1,100	900	2,800	73,200	14,100	8,200	10,400	207,400
1968	TR	1,700	3,300	TR	15,400	1,700	19,300	900	3,800	6,100	38,700	8,100	21,800	14,700	135,500
1969	300	1,400	3,300	0	14,200	2,000	54,600	1,300	3,600	10,600	40,300	500	4,700	10,300	149,100
1970	300	1,400	3,600	1,000	13,000	400	34,300	4,300	10,200	11,200	39,500	1,600	11,500	5,400	137,700
1971	800	1,300	4,000	0	17,900	7,700	30,900	1,900	5,200	3,700	51,200	600	2,500	7,000	134,700
1972	500	1,100	3,300	100	6,600	5,400	80,000	800	2,900	5,400	29,300	100	2,000	6,400	143,900
1973	500	1,000	2,700	0	20,800	3,900	21,800	9,800	13,500	3,500	64,100	300	3,000	9,100	154,000
1974	700	1,100	3,500	0	4,100	2,800	10,400	3,100	1,500	0	43,600	0	1,700	6,300	78,800
1975	400	1,100	3,600	100	14,200	9,800	41,000	900	2,300	800	34,300	0	300	7,200	116,000
1976	300	800	3,700	400	24,400	10,600	16,500	6,300	7,000	1,400	69,400	TR	2,000	9,600	152,400
1977	600	800	1,400	600	10,200	3,400	12,300	800	4,400	3,000	57,500	100	300	5,200	100,600
1978	400	700	2,400	200	6,700	2,300	7,300	1,700	3,300	3,400	50,700	0	2,300	10,000	91,400
1979	500	1,000	1,100	TR	5,700	3,200	7,800	300	6,900	2,700	42,900	300	900	5,200	78,500
1980	100	600	2,600	400	12,600	4,600	11,900	800	10,100	1,700	27,600	0	100	4,600	77,700
1981	200	800	2,200	300	13,700	6,700	9,400	200	10,100	1,500	35,100	100	700	8,600	89,600
1982	100	700	1,000	200	8,600	6,900	13,100	TR	3,500	5,100	24,300	0	200	7,200	70,900
1983	100	800	2,900	100	4,400	4,100	27,400	100	6,900	1,700	39,400	0	600	4,000	92,500
1984	TR	800	1,400	TR	2,500	2,200	8,100	TR	7,500	700	32,800	0	3,000	2,300	61,300
1985	100	1,000	500	TR	3,000	3,800	7,300	TR	4,200	2,600	31,000	100	200	3,900	57,700
1986	300	1,000	400	TR	7,600	5,700	13,600	100	3,900	6,600	49,900	100	1,700	5,700	96,600
1987	TR	1,200	1,200	TR	7,900	2,600	32,000	300	2,100	3,400	18,600	100	1,600	3,100	74,100
1988	TR	900	1,400	TR	4,800	3,600	22,500	TR	6,600	8,100	56,200	TR	300	4,900	109,300

AVERAGES:

55-60	283	3,783	22,317	33	23,133	48,683	42,350	1,900	12,450	3,867	17,900	21,667	2,250	4,383	205,000
61-65	120	3,500	9,220	40	15,860	6,460	49,240	1,920	11,720	3,240	30,180	12,560	3,380	10,060	157,500
66-70	240	2,300	6,780	200	13,420	3,620	42,560	1,700	4,680	6,580	47,480	6,280	10,960	9,580	156,380
71-75	580	1,120	3,420	40	12,720	5,920	36,820	3,300	5,080	2,680	44,500	200	1,900	7,200	125,480
76-80	380	780	2,240	320	11,920	4,820	11,160	1,980	6,340	2,440	49,620	80	1,120	6,920	100,120
81-85	100	820	1,600	120	6,440	4,740	13,060	60	6,440	2,320	32,520	40	940	5,200	74,400
86-88	100	1,033	1,000	0	6,767	3,967	22,700	133	4,200	6,033	41,567	67	1,200	4,567	93,333

Table 61. December estimates of Canada geese in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	ONT	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MFTOTAL
<hr/>																
1969	NO SURV.	15,900	11,500	17,000	700	261,400	17,400	23,200	111,000	40,000	1,700	53,500	1,600	2,100	32,000	589,000
1970	21,800	25,100	41,600	21,200	5,300	225,000	10,800	27,000	126,400	16,500	2,000	56,900	1,400	1,400	27,900	610,300
1971	30,700	19,200	19,400	11,800	1,700	242,800	13,500	29,400	158,700	20,000	1,300	38,800	1,300	3,600	32,500	624,700
1972	23,800	23,800	10,200	20,200	1,800	245,000	9,000	19,400	192,000	21,000	2,200	42,400	1,000	3,000	18,000	632,800
1973	32,400	41,500	21,200	25,400	2,100	218,200	5,700	30,400	197,900	34,200	1,400	40,300	1,000	2,800	22,800	677,300
1974	10,000	35,300	3,600	14,800	200	254,700	10,800	15,000	196,100	21,100	1,900	63,700	1,000	3,600	27,700	659,500
1975	21,900	25,600	33,900	33,400	6,100	226,600	8,800	16,300	213,500	17,300	1,800	49,100	1,000	3,900	27,700	686,900
1976	16,400	26,400	25,700	12,800	600	378,000	10,200	24,700	257,800	61,400	4,800	70,800	1,200	5,000	25,200	921,000
1977	19,000	23,800	2,600	26,600	2,600	486,500	23,800	28,200	274,900	60,200	5,800	89,400	6,400	4,400	32,000	1,086,200
1978	17,400	30,200	2,200	24,500	1,900	338,600	28,000	24,200	223,600	42,100	7,900	86,400	4,300	3,400	26,800	861,500
1979	31,600	64,500	69,100	40,100	8,200	278,200	12,500	18,700	148,300	11,100	1,900	65,200	4,600	1,600	24,500	780,100
1980	19,500	80,200	69,000	40,900	11,300	245,000	17,100	21,600	123,100	16,800	3,100	63,000	5,700	2,100	26,600	745,000
1981	20,700	53,400	63,300	39,100	19,500	153,900	15,400	29,500	126,700	17,600	5,600	56,800	7,300	5,100	20,400	634,300
1982	32,100	78,500	101,300	51,300	16,700	167,700	12,300	36,200	206,900	18,100	4,700	49,300	3,600	3,300	21,200	803,200
1983	25,300	35,800	1,700	35,100	7,900	290,300	17,900	27,500	162,700	41,000	4,600	72,200	3,700	4,100	24,100	753,900
1984	28,100	95,700	268,600	60,900	18,100	150,500	15,900	49,600	118,600	21,600	11,300	63,700	5,900	2,700	23,500	934,700
1985	30,200	37,700	29,200	69,900	3,300	487,600	22,300	55,800	192,200	70,300	30,000	63,200	2,500	5,200	28,100	1,127,500
1986	37,500	147,000	180,400	66,700	35,300	301,200	7,800	64,000	81,700	68,900	5,600	43,800	2,300	5,400	16,300	1,063,900
1987	39,700	191,000	291,600	95,200	34,600	248,600	14,000	68,300	86,700	41,200	7,600	45,000	1,500	4,500	16,600	1,186,100
<hr/>																
AVERAGES:																
69-70	10,900	20,500	26,550	19,100	3,000	243,200	14,100	25,100	118,700	28,250	1,850	55,200	1,500	1,750	29,950	599,650
71-75	23,760	29,080	17,660	21,120	2,380	237,460	9,560	22,100	191,640	22,720	1,720	46,860	1,060	3,380	25,740	656,240
76-80	20,780	45,020	33,720	28,980	4,920	345,260	18,320	23,480	205,540	38,320	4,700	74,960	4,440	3,300	27,020	878,760
81-85	27,280	60,220	92,820	51,260	13,100	250,000	16,760	39,720	161,420	33,720	11,240	61,040	4,600	4,080	23,460	850,720
86-87	38,600	169,000	236,000	80,950	34,950	274,900	10,900	66,150	84,200	55,050	6,600	44,400	1,900	4,950	16,450	1,125,000
<hr/>																

Table 62. December estimates of eastern prairie population Canada geese in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	ONT	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MFTOTAL
1969		2,700			200				101,700		900		1,100			106,600
1970		4,000				1,500			119,000		1,000		800			126,300
1971		4,600			700				150,800		600		700			157,400
1972		3,300			1,300				175,500		900		400			181,400
1973		18,300			TR*				186,100		1,000		400			205,800
1974		9,300			0				186,200		1,200		400			197,100
1975		2,200			3,200				197,400		1,200		400			204,400
1976		5,600			TR				246,200		1,800		600			254,200
1977		800			1,300				261,600		2,800		3,700			270,200
1978		5,800			500				193,900		5,300		1,700			207,200
1979		33,600			1,000				135,000		1,200		1,000			171,800
1980		42,200			900				106,100		1,600		100			150,900
1981		24,700			8,500				108,900		3,200		0			145,300
1982		18,000			3,600				185,800		3,000		0			210,400
1983		14,000			1,800				143,900		3,000		0			162,700
1984		57,200			3,600				101,800		5,000		0			167,600
1985		7,000			TR				151,400		10,600		0			169,000
1986		112,700			3,600				62,800		3,600		0			182,700
1987		153,300			6,100				65,200		3,800		0			228,400
<hr/>																
AVERAGES:																
69-70		3,350			850				110,350		950		950			116,450
71-75		7,540			1,040				179,200		980		460			189,220
76-80		17,600			740				188,560		2,540		1,420			210,860
81-85		24,180			3,500				138,360		4,960		0			171,000
86-87		133,000			4,850				64,000		3,700		0			205,550
<hr/>																

* - TRACE = FEWER THAN 50 BIRDS

Table 63. December estimates of Mississippi Valley population Canada geese in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	ONT	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MFTOTAL	
1969		0	9,200		0	259,900	5,800		4,900	35,000	800	9,100	0	0		324,700	
1970		0	38,600		0	224,100	3,600		2,100	13,000	900	10,000	0	0		292,300	
1971		0	17,000		0	242,800	4,500		300	16,500	600	12,200	0	0		293,900	
1972		0	8,700		0	244,200	3,000		13,000	15,000	1,100	10,900	0	0		295,900	
1973		800	20,300		0	700	216,600	1,900		4,200	31,400	400	1,600	0	0		277,900
1974		0	1,800	4,400		0	253,900	3,600		6,300	18,000	700	15,700	0	0		304,400
1975		0	32,700	6,300	800	226,100	4,100		9,300	15,000	600	10,000	0	0		304,900	
1976		0	24,000	3,800	100	376,400	3,600		6,800	50,000	3,000	10,800	0	0		478,500	
1977		100	1,400	5,600	100	485,600	9,000		8,200	50,000	3,000	12,300	200	0		575,500	
1978		0	1,000	7,800	900	335,300	11,000		19,200	36,100	2,600	20,300	100	200		434,500	
1979		0	67,200	11,000	3,500	277,400	4,500		5,500	8,100	700	16,800	100	100		394,900	
1980		0	66,900	10,900	4,600	244,800	5,200		8,900	9,000	1,500	15,400	100	100		367,400	
1981		0	61,200	6,800	1,600	146,600	4,800		4,000	9,300	2,400	14,100	TR*	100		250,900	
1982		0	97,000	8,800	1,200	160,000	2,000		7,400	11,300	900	14,400	0	700		303,700	
1983		0	600	6,000	1,900	286,900	4,400		8,800	27,800	900	14,500	0	1,000		352,800	
1984		0	258,000	13,400	1,900	142,900	2,200		7,300	13,800	6,200	31,300	0	200		477,200	
1985		0	22,300	15,900	300	459,800	4,500		27,200	47,700	19,000	19,300	0	2,900		618,900	
1986		0	156,400	10,600	5,400	267,400	1,200		6,400	55,100	1,000	8,900	0	2,200		514,600	
1987		1,400	269,300	20,000	3,400	216,700	2,600		12,900	21,700	1,600	13,300	0	1,700		564,600	

	AVERAGES:

69-70		0	23,900	0	0	242,000	4,700		3,500	24,000	850	9,550	0	0		308,500
71-75		160	16,100	2,140	300	236,720	3,420		6,620	19,180	680	10,080	0	0		295,400
76-80		20	32,100	7,820	1,840	343,900	6,660		9,720	30,640	2,160	15,120	100	80		450,160
81-85		0	87,820	10,180	1,380	239,240	3,580		10,940	21,980	5,880	18,720	0	980		400,700
86-87		700	212,850	15,300	4,400	242,050	1,900		9,650	38,400	1,300	11,100	0	1,950		539,600

* - TRACE = FEWER THAN 50 BIRDS

Table 64. December estimates of giant (maxima) Canada geese in the Mississippi Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	ONT	MN	WI	MI	IA	IL	IN	OH	MO	KY	AR	TN	LA	MS	AL	MFTOTAL
1969	NO SURV.	13,200	2,300	8,500	500	1,500	5,800	11,600	4,400	0	TR*	400	500	2,100	0	50,800
1970	0	21,100	3,000	10,600	3,800	900	3,600	13,500	5,300	0	100	400	600	1,400	100	64,400
1971	0	14,600	2,400	5,900	1,000	0	4,500	14,700	7,600	0	100	800	600	3,600	0	55,800
1972	0	20,500	1,500	10,100	500	800	3,000	9,700	3,500	0	200	800	600	3,000	0	54,200
1973	0	22,400	900	8,900	1,400	1,600	1,900	8,200	7,600	0	0	1,300	600	2,800	0	57,600
1974	1,500	26,000	1,800	3,500	200	800	3,600	9,800	3,600	0	0	2,000	600	3,600	0	57,000
1975	3,500	23,400	1,200	6,100	2,100	500	600	10,600	6,800	0	0	2,600	600	3,900	200	62,100
1976	4,300	20,800	1,700	3,800	500	1,600	1,300	8,200	4,800	0	0	5,700	600	5,000	200	58,500
1977	1,500	22,900	1,200	4,200	1,200	900	1,900	9,800	5,100	0	0	4,100	2,500	4,400	400	60,100
1978	6,200	24,400	1,200	4,400	500	3,300	2,500	13,100	10,500	0	0	5,100	2,500	3,200	200	77,100
1979	5,700	30,900	1,900	9,500	3,700	800	2,400	12,900	7,800	0	0	5,400	3,500	1,500	400	86,400
1980	6,100	38,000	2,100	11,900	5,800	200	3,700	16,900	6,600	100	0	5,700	3,500	2,000	300	102,900
1981	9,100	27,700	2,100	10,100	9,400	7,300	4,100	15,200	6,600	200	0	6,900	3,500	5,000	400	107,600
1982	6,300	59,500	4,300	17,400	11,900	7,700	7,300	16,200	8,000	300	800	5,800	1,000	2,600	800	149,900
1983	9,500	21,800	1,100	13,800	3,700	3,400	10,500	17,900	7,600	1,300	700	6,900	2,000	3,100	600	103,900
1984	11,800	38,500	10,600	16,100	11,300	7,600	12,200	25,100	7,700	300	100	7,000	100	2,500	800	151,700
1985	13,700	30,700	6,900	21,000	3,000	27,800	15,100	32,300	13,600	500	400	10,600	1,000	2,300	1,200	180,100
1986	17,700	34,300	24,000	29,100	26,000	31,900	5,800	35,900	11,100	500	1,000	9,500	1,000	3,200	900	231,900
1987	17,300	36,300	22,300	30,400	23,600	28,300	9,700	35,300	5,800	800	2,200	8,900	1,000	2,800	1,200	225,900

AVERAGES:

69-70	0	17,150	2,650	9,550	2,150	1,200	4,700	12,550	4,850	0	50	400	550	1,750	50	57,600
71-75	1,000	21,380	1,560	6,900	1,040	740	2,720	10,600	5,820	0	60	1,500	600	3,380	40	57,340
76-80	4,760	27,400	1,620	6,760	2,340	1,360	2,360	12,180	6,960	20	0	5,200	2,520	3,220	300	77,000
81-85	10,080	35,640	5,000	15,680	7,860	10,760	9,840	21,340	8,700	520	400	7,440	1,520	3,100	760	138,640
86-87	17,500	35,300	23,150	29,750	24,800	30,100	7,750	35,600	8,450	650	1,600	9,200	1,000	3,000	1,050	228,900

* - TRACE = FEWER THAN 50 BIRDS

Table 65. Duck stamp sales in the Central Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MT	ND	SD	WY	NE	CO	KS	NM	OK	TX	CF TOTAL
1961	13,768	25,597	30,549	5,147	33,409	25,625	40,275	3,789	24,844	68,862	271,865
1962	7,476	25,550	28,127	2,332	19,027	13,325	21,988	1,461	14,829	51,518	185,633
1963	11,920	36,502	36,359	3,491	26,531	20,232	28,797	4,838	19,877	73,923	262,470
1964	13,079	39,120	34,668	4,309	28,732	23,453	27,801	4,419	21,787	83,442	280,810
1965	4,813	33,983	31,071	1,802	24,382	18,723	32,384	3,674	20,870	88,325	260,027
1966	6,100	39,070	35,695	4,178	32,284	27,037	35,264	4,704	25,723	101,161	311,216
1967	6,449	40,114	41,798	4,879	40,540	28,931	47,935	5,226	32,806	111,479	360,157
1968	6,462	39,993	38,280	4,979	34,090	28,718	44,601	5,552	25,179	96,031	323,885
1969	7,394	42,395	40,043	5,499	42,116	31,312	53,721	4,844	30,528	115,899	373,751
1970	7,744	50,015	41,220	6,502	48,774	37,316	60,633	5,800	34,184	144,932	437,120
1971	8,345	53,600	46,670	7,705	50,898	43,203	63,756	6,362	36,049	138,047	454,635
1972	8,054	50,944	45,753	6,553	48,677	37,331	61,467	5,599	31,172	129,453	425,003
1973	8,216	49,193	45,471	6,537	50,839	39,046	58,805	5,311	31,456	117,446	412,320
1974	7,930	54,917	41,476	6,803	48,195	39,062	64,440	6,474	34,019	122,819	426,135
1975	8,848	58,896	41,004	7,134	41,978	39,079	58,005	7,389	34,978	133,307	430,618
1976	8,748	57,105	30,101	8,006	44,000	40,953	58,220	6,793	33,895	141,840	429,661
1977	7,892	57,035	34,783	8,463	44,502	39,808	57,592	6,766	30,256	136,774	423,871
1978	8,588	60,147	43,415	9,231	43,177	42,138	50,724	7,321	25,642	140,207	430,590
1979	7,884	57,298	42,684	9,544	41,804	40,531	46,077	6,862	24,565	137,721	414,970
1980	7,758	53,286	37,214	10,126	38,867	41,257	36,536	6,457	17,626	139,738	388,865
1981	5,076	48,141	32,872	9,209	31,960	38,400	34,296	5,719	18,176	115,509	339,358
1982	7,021	49,936	35,648	9,743	33,956	43,332	32,603	6,615	17,776	122,278	358,908
1983	7,782	45,389	35,447	9,136	33,835	40,215	30,835	6,238	18,346	111,512	338,735
1984	7,692	42,680	38,700	11,030	36,488	45,549	33,363	6,517	20,442	111,845	354,306
1985	6,960	40,466	34,878	9,122	34,510	44,336	33,663	6,375	18,980	99,720	329,010
1986*	5,779	42,136	37,052	9,644	36,827	43,681	35,553	5,309	18,550	101,113	335,644
1987*	5,455	39,318	33,090	9,384	32,926	35,650	26,847	4,911	15,650	94,144	297,375

AVERAGES:

61-65	10,211	32,150	32,155	3,416	26,416	20,272	30,249	3,636	20,441	73,214	252,161
66-70	6,830	42,317	39,407	5,207	39,561	30,663	48,431	5,225	29,684	113,900	361,226
71-75	8,279	53,510	44,075	6,946	48,117	39,544	61,295	6,227	33,535	128,214	429,742
76-80	8,174	56,974	37,639	9,074	42,470	40,937	49,830	6,840	26,397	139,256	417,591
81-85	6,906	45,322	35,509	9,648	34,150	42,366	32,952	6,203	18,744	112,173	344,063
86-87	5,617	40,727	35,071	9,514	34,877	39,666	31,200	5,110	17,100	97,629	316,510

=====

* - THROUGH THIRD QUARTER ONLY

Table 66. Estimates of regular-season all-duck harvests in the Central Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.).

YEAR	MT	ND	SD	WY	NE	CO	KS	NM	OK	TX	CF TOTAL
1961	42,800	77,600	89,200	20,400	110,700	55,100	114,900	9,700	60,800	207,000	788,200
1962	5,800	92,500	78,800	3,600	33,100	15,900	34,100	3,600	23,500	137,100	428,000
1963	24,000	169,700	215,000	8,700	102,100	65,100	88,600	22,600	38,900	267,600	1,002,300
1964	36,900	211,400	166,600	18,800	139,500	54,100	117,800	17,400	88,700	456,900	1,308,100
1965	15,600	201,100	146,200	3,600	81,500	43,100	100,100	15,500	72,400	400,200	1,079,300
1966	26,300	325,500	259,600	20,200	165,200	80,500	142,600	27,100	141,600	771,100	1,959,700
1967	20,700	319,000	264,300	21,400	258,300	124,700	269,000	26,100	185,600	538,600	2,027,700
1968	22,900	211,000	122,200	23,000	141,400	75,200	150,400	24,700	70,200	381,400	1,222,400
1969	42,700	365,000	268,900	23,900	256,400	97,800	228,800	21,200	144,400	953,200	2,402,300
1970	47,000	389,200	253,000	36,200	303,300	137,500	297,400	32,400	173,700	1,161,100	2,830,800
1971	56,400	444,900	372,600	42,500	302,100	207,900	430,000	27,000	197,500	622,500	2,703,400
1972	43,400	415,800	327,500	36,300	287,200	169,100	397,400	30,100	215,600	953,700	2,876,100
1973	29,800	229,000	304,800	35,300	300,600	148,500	336,700	12,700	225,200	740,800	2,363,400
1974	33,100	362,000	145,800	25,500	117,800	97,700	260,000	34,500	195,900	833,100	2,105,400
1975	51,900	376,500	199,000	52,200	244,200	111,400	262,400	47,600	251,300	1,200,300	2,796,800
1976	56,100	363,900	151,600	40,800	254,300	155,200	287,000	54,600	216,000	1,103,200	2,682,700
1977	34,300	196,000	148,900	42,300	257,700	108,800	336,200	31,100	213,300	968,000	2,336,600
1978	43,300	430,200	420,800	47,900	309,400	123,300	243,000	35,900	149,400	1,053,800	2,857,000
1979	37,700	393,800	271,200	42,200	243,500	108,200	213,500	36,000	157,400	1,084,400	2,587,900
1980	26,400	256,100	161,200	37,400	188,300	102,300	127,400	26,900	128,400	959,900	2,014,300
1981	22,900	287,800	134,200	39,100	217,800	130,300	167,100	21,600	137,700	799,200	1,957,700
1982	38,000	252,000	135,900	45,500	221,700	123,000	139,200	40,400	137,100	1,002,600	2,135,400
1983	38,100	254,200	189,700	47,300	247,700	132,800	179,400	38,800	121,900	809,800	2,059,700
1984	29,000	226,300	256,200	48,000	228,800	123,600	147,000	36,300	197,400	925,700	2,218,300
1985	28,300	135,000	136,200	28,300	155,600	89,400	121,000	23,700	144,200	560,000	1,421,700
1986	28,600	216,400	172,200	34,500	158,000	87,100	132,200	18,100	116,900	548,700	1,512,700
1987*	21,200	235,300	133,800	32,500	147,500	76,300	107,400	29,800	131,800	697,500	1,613,100
AVERAGES:											
61-65	25,020	150,460	139,160	11,020	93,380	46,660	91,100	13,760	56,860	293,760	921,180
66-70	31,920	321,940	233,600	24,940	224,920	103,140	217,640	26,300	143,100	761,080	2,088,580
71-75	42,920	365,640	269,940	38,360	250,380	146,920	337,300	30,380	217,100	870,080	2,569,020
76-80	39,560	328,000	230,740	42,120	250,640	119,560	241,420	36,900	172,900	1,033,860	2,495,700
81-85	31,260	231,060	170,440	41,640	214,320	119,820	150,740	32,160	147,660	819,460	1,958,560
86-87	24,900	225,850	153,000	33,500	152,750	81,700	119,800	23,950	124,350	623,100	1,562,900

* - PRELIMINARY

Table 67. Estimates of regular-season mallard harvests in the Central Flyway
 (from: Waterfowl harvest and population survey data. Compiled by
 Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	MT	ND	SD	WY	NE	CO	KS	NM	OK	TX	CF TOTAL
1961	30,300	57,500	65,600	15,100	93,500	46,000	37,800	3,400	30,200	29,600	409,000
1962	3,900	58,800	41,000	2,900	18,500	11,900	10,400	1,800	9,300	32,000	190,500
1963	19,700	91,300	93,100	6,500	52,800	48,000	24,500	8,200	12,300	48,300	404,700
1964	24,600	115,200	89,200	12,400	74,500	40,800	35,200	5,600	38,300	74,200	510,000
1965	8,100	91,700	52,600	700	43,000	24,900	26,600	2,400	14,100	54,000	318,100
1966	20,100	166,500	123,600	10,300	102,500	48,300	57,200	7,900	52,800	98,300	687,500
1967	16,100	160,300	149,500	12,300	153,100	85,300	100,300	8,900	50,100	72,100	808,000
1968	19,700	98,300	70,600	18,300	80,100	65,100	78,300	11,800	44,000	60,000	546,200
1969	34,000	162,600	110,200	16,700	156,000	70,100	86,600	9,700	47,200	109,300	802,400
1970	42,700	202,800	136,800	25,000	191,500	102,600	116,800	11,600	68,500	157,000	1,055,300
1971	51,800	237,700	194,000	29,000	181,900	137,900	206,600	9,000	90,400	93,500	1,231,800
1972	36,500	260,000	176,600	25,300	172,500	113,200	212,800	9,700	105,200	143,600	1,255,400
1973	22,200	120,900	181,100	24,800	146,600	93,900	154,800	4,700	102,800	155,200	1,007,000
1974	22,000	192,500	64,600	18,200	66,200	56,100	123,800	14,100	102,700	149,200	809,400
1975	37,500	173,000	99,100	34,700	117,500	72,400	114,900	16,600	106,600	162,500	934,800
1976	34,000	172,400	59,700	22,700	139,900	83,900	119,100	21,500	101,900	220,600	975,700
1977	25,200	94,700	57,600	26,700	144,700	56,900	151,000	8,500	67,800	156,300	789,400
1978	30,000	224,400	177,400	29,300	184,500	77,500	129,400	13,200	55,700	138,400	1,059,800
1979	25,000	193,800	138,400	25,100	133,400	66,900	104,200	13,600	76,100	146,600	923,100
1980	21,600	145,600	83,200	24,500	128,100	52,200	78,600	12,100	64,600	176,400	786,900
1981	17,800	165,100	69,500	20,600	141,700	83,000	91,900	8,300	62,600	123,900	784,400
1982	28,400	134,700	68,600	27,900	118,400	65,700	71,500	14,800	62,600	90,200	682,800
1983	26,400	130,300	91,000	32,700	132,900	86,500	88,100	20,000	49,500	115,100	772,500
1984	22,600	128,900	123,400	27,300	135,500	61,300	54,300	13,600	86,300	89,700	742,900
1985	19,700	74,500	59,600	17,900	81,200	49,400	46,700	11,400	68,500	81,900	510,800
1986	20,900	134,100	72,300	19,000	87,100	46,600	63,900	7,900	66,900	67,900	586,600
1987*	14,800	141,000	66,000	21,100	93,300	46,600	49,400	14,500	67,000	94,600	608,300

AVERAGES:

61-65	17,320	82,900	68,300	7,520	56,460	34,320	26,900	4,280	20,840	47,620	366,460
66-70	26,520	158,100	118,140	16,520	136,640	74,280	87,840	9,980	52,520	99,340	779,880
71-75	34,000	196,820	143,080	26,400	136,940	94,700	162,580	10,820	101,540	140,800	1,047,680
76-80	27,160	166,180	103,260	25,660	146,120	67,480	116,460	13,780	73,220	167,660	906,980
81-85	22,980	126,700	82,420	25,280	121,940	69,180	70,500	13,620	65,900	100,160	698,680
86-87	17,850	137,550	69,150	20,050	90,200	46,600	56,650	11,200	66,950	81,250	597,450

* - PRELIMINARY

Table 68. Duck stamp sales in the Pacific Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	WA	OR	ID	MT	WY	CA	NV	UT	CO	AZ	NM	AK	PF	TOTAL
1961	63,374	42,446	25,295	7,960		123,302	5,427	19,086		7,288		10,157	304,335	
1962	62,091	39,102	22,389	7,085	1,330	125,199	7,983	21,907	2,298	6,040	496	10,371	306,291	
1963	66,335	43,981	23,669	8,151	1,348	136,833	8,749	25,114	2,860	7,418	669	10,456	335,583	
1964	64,262	43,741	25,266	7,813	1,435	135,419	9,639	25,621	2,822	8,432	669	9,244	334,363	
1965	65,534	44,558	24,217	18,307	1,354	141,664	10,673	25,488	2,606	7,859	796	9,406	352,462	
1966	69,235	48,884	27,400	21,156	1,430	153,308	11,928	32,877	3,605	8,773	955	10,640	390,191	
1967	70,974	48,332	28,595	19,715	1,467	153,053	12,713	32,128	3,238	10,281	868	10,358	391,722	
1968	72,290	48,261	29,350	19,349	1,576	162,622	12,491	33,864	3,362	10,196	847	12,411	406,619	
1969	80,565	55,122	30,929	19,912	1,554	175,628	13,220	33,928	3,584	12,745	833	13,281	441,301	
1970	84,112	61,343	31,768	20,600	1,635	188,861	14,361	35,946	3,913	14,199	807	12,936	470,481	
1971	77,067	58,730	33,640	19,896	1,781	173,474	15,029	37,588	4,514	15,465	962	14,423	452,569	
1972	69,743	52,203	31,378	19,674	1,744	152,409	12,701	33,042	3,812	11,952	928	14,918	404,504	
1973	72,502	50,986	32,810	19,013	1,715	144,582	13,732	35,665	4,167	11,059	925	17,068	404,224	
1974	70,353	51,290	34,377	19,892	2,053	149,548	11,714	38,575	4,562	13,474	1,022	16,018	412,878	
1975	72,189	55,569	35,589	20,991	2,152	143,289	13,856	39,652	4,633	11,924	1,020	16,310	417,174	
1976	68,573	53,108	35,158	21,366	2,378	135,268	13,146	40,658	5,024	12,642	1,019	18,455	406,795	
1977	70,261	56,224	35,484	21,966	2,479	128,280	11,145	40,319	5,423	10,566	1,048	19,253	402,448	
1978	69,210	54,847	38,051	21,813	2,700	126,091	12,154	38,091	5,598	11,735	1,012	19,689	400,991	
1979	69,668	55,079	34,503	20,620	2,725	121,027	11,370	35,255	6,397	11,211	995	19,046	387,896	
1980	70,388	54,814	35,055	19,688	2,830	114,825	11,705	34,369	6,489	11,580	947	20,110	382,800	
1981	66,783	48,809	33,459	13,617	2,285	108,367	10,496	32,135	6,499	9,166	839	15,814	348,269	
1982	62,470	47,981	33,671	16,642	2,806	109,654	11,969	35,250	7,174	11,711	1,011	18,000	358,339	
1983	61,832	47,904	34,397	16,987	2,981	110,546	12,925	33,622	6,617	10,800	1,029	18,388	358,028	
1984	60,894	40,635	33,638	17,353	2,935	107,736	12,950	31,893	6,506	10,877	1,044	18,475	344,936	
1985	52,881	35,256	31,012	16,330	2,920	101,442	12,421	30,627	6,259	10,250	1,114	15,592	316,104	
1986	43,181	34,813	27,922	13,432	2,792	95,541	11,749	25,033	6,767	10,607	1,098	19,424	292,359	
1987*	39,265	30,398	20,233	12,668	2,725	89,893	10,147	20,018	5,516	8,744	1,013	14,392	255,012	

AVERAGES:

61-65	64,319	42,766	24,167	9,863	1,367	132,483	8,494	23,443	2,647	7,407	658	9,927	326,607
66-70	75,435	52,388	29,608	20,146	1,532	166,694	12,943	33,749	3,540	11,239	862	11,925	420,063
71-75	72,371	53,756	33,559	19,893	1,889	152,660	13,406	36,904	4,338	12,775	971	15,747	418,270
76-80	69,620	54,814	35,650	21,091	2,622	125,098	11,904	37,738	5,786	11,547	1,004	19,311	396,186
81-85	60,972	44,117	33,235	16,186	2,785	107,549	12,152	32,705	6,611	10,561	1,007	17,254	345,135
86-87	41,223	32,606	24,078	13,050	2,759	92,717	10,948	22,526	6,142	9,676	1,056	16,908	273,686

* - THROUGH THIRD QUARTER ONLY

Table 69. Estimates of all-duck harvests in the Pacific Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	WA	OR	ID	MT	WY	CA	NV	UT	CO	AZ	NM	AK	PF	TOTAL
1961	406,600	199,500	194,400	54,800		1,047,800	23,000	119,900		19,800			2,065,800	
1962	377,200	234,100	162,100	33,100	8,900	962,200	25,200	114,300	9,800	19,300	1,400		1,947,600	
1963	465,700	254,000	243,600	61,700	9,300	1,460,000	55,500	236,400	13,700	26,700	5,600		2,832,200	
1964	442,700	232,500	250,200	44,000	9,600	1,247,300	73,400	166,200	20,300	40,800	2,700		2,529,700	
1965	512,800	247,700	188,400	103,200	7,600	1,460,300	74,200	264,200	13,500	34,000	8,300		2,914,200	
1966	537,800	363,100	246,500	161,000	11,100	1,743,200	98,400	284,000	23,500	48,200	4,600	48,700	3,570,100	
1967	524,600	356,200	346,900	142,900	8,800	2,455,200	108,500	325,700	28,700	69,900	5,200	65,500	4,438,100	
1968	547,300	343,200	235,300	96,900	10,900	1,333,400	98,400	290,200	16,800	48,200	5,200	69,200	3,095,000	
1969	520,700	404,400	276,900	157,600	14,100	2,215,800	110,600	259,300	19,700	81,700	3,600	43,800	4,108,200	
1970	575,800	422,500	279,400	129,200	16,000	2,451,500	121,100	318,400	21,600	76,700	6,300	61,600	4,480,100	
1971	491,000	372,400	316,100	122,500	8,400	2,075,000	119,700	338,800	32,200	98,000	6,800	67,900	4,048,800	
1972	541,100	401,800	341,700	135,300	11,100	1,991,000	87,200	229,400	27,200	98,500	7,600	92,300	3,964,200	
1973	550,900	348,000	268,800	96,600	10,100	1,451,000	86,000	339,900	24,400	41,400	5,000	83,700	3,305,800	
1974	483,600	280,800	331,300	101,400	10,500	1,923,000	77,600	274,300	28,200	85,400	7,000	53,600	3,656,700	
1975	533,600	452,300	315,600	131,000	12,000	1,959,600	127,100	389,400	26,000	73,400	5,000	66,400	4,091,400	
1976	549,300	469,700	320,300	160,300	14,900	2,080,600	101,400	340,900	29,500	74,300	9,500	105,400	4,256,100	
1977	569,400	361,800	223,500	139,600	10,000	1,373,500	76,900	242,300	27,600	55,500	4,600	108,300	3,193,000	
1978	577,900	505,700	331,100	143,700	15,700	1,857,200	88,500	337,700	43,900	62,700	11,300	124,100	4,099,500	
1979	471,000	400,000	220,600	134,900	14,900	1,662,300	74,200	283,200	29,800	62,400	7,400	114,800	3,475,500	
1980	531,100	361,800	250,800	118,200	9,900	1,401,800	85,500	342,700	26,800	64,300	4,900	112,000	3,309,800	
1981	432,700	307,200	317,800	110,500	10,800	1,140,300	80,700	225,000	25,800	40,800	6,700	75,700	2,774,000	
1982	350,700	286,000	285,100	108,800	12,100	1,353,100	77,300	334,200	36,300	51,500	5,500	85,500	2,986,100	
1983	467,300	376,300	282,900	114,100	12,400	1,287,000	113,100	311,500	32,300	60,900	7,800	92,200	3,157,800	
1984	443,500	319,400	225,000	80,100	12,900	1,005,900	100,100	213,500	26,500	44,900	6,900	89,400	2,568,100	
1985	377,300	289,600	217,000	79,100	6,900	1,027,000	52,100	157,300	25,700	45,900	5,700	74,100	2,357,700	
1986	349,400	270,800	169,600	78,900	12,100	990,200	51,800	156,200	24,900	45,200	3,400	98,900	2,251,400	
1987*	301,300	247,200	158,300	76,800	9,800	1,063,800	60,500	97,600	21,000	67,700	4,400	84,600	2,193,000	

AVERAGES:

61-65	441,000	233,560	207,740	59,360	8,850	1,235,520	50,260	180,200	14,325	28,120	4,500		2,457,900
66-70	541,240	377,880	277,000	137,520	12,180	2,039,820	107,400	295,520	22,060	64,940	4,980	57,760	3,938,300
71-75	520,040	371,060	314,700	117,360	10,420	1,879,920	99,520	314,360	27,600	79,340	6,280	72,780	3,813,380
76-80	539,740	419,800	269,260	139,340	13,080	1,675,080	85,300	309,360	31,520	63,840	7,540	112,920	3,666,780
81-85	414,300	315,700	265,560	98,520	11,020	1,162,660	84,660	248,300	29,320	48,800	6,520	83,380	2,768,740
86-87	325,350	259,000	163,950	77,850	10,950	1,027,000	56,150	126,900	22,950	56,450	3,900	91,750	2,222,200

* - PRELIMINARY

Table 70. Estimates of mallard harvests in the Pacific Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	WA	OR	ID	MT	WY	CA	NV	UT	CO	AZ	NM	AK	PF	TOTAL
1961	210,800	85,000	138,800	44,400		197,000	8,900	35,200		2,300			722,400	
1962	176,800	90,500	121,400	27,400	8,100	167,000	9,300	32,800	9,300	4,200	1,100		647,900	
1963	228,600	88,800	185,400	49,100	7,500	267,500	22,200	76,500	12,000	4,700	3,000		945,300	
1964	262,600	96,800	200,800	35,600	8,200	249,000	28,600	58,300	16,400	5,700	1,600		963,600	
1965	298,000	93,300	150,700	77,800	6,000	295,000	25,100	64,400	11,300	3,500	5,300		1,030,400	
1966	299,700	131,200	195,100	114,100	9,300	288,400	31,900	74,000	18,600	9,100	2,500	12,400	1,186,300	
1967	295,500	149,900	238,600	106,400	7,700	446,000	30,300	85,600	22,000	10,000	1,900	19,500	1,413,400	
1968	265,400	126,900	180,100	55,500	8,400	236,200	34,300	84,900	13,300	5,800	1,700	17,000	1,029,500	
1969	243,800	156,500	202,400	107,300	10,300	331,700	25,400	65,000	17,100	13,400	2,200	12,400	1,187,500	
1970	310,700	171,100	203,600	95,600	13,400	371,000	39,500	102,500	17,600	10,500	2,400	20,000	1,357,900	
1971	298,300	123,500	251,100	90,700	6,000	313,400	36,000	107,000	22,700	14,500	1,200	22,600	1,287,000	
1972	316,700	182,500	267,200	76,700	8,600	321,800	25,000	81,900	17,600	12,900	2,100	24,600	1,337,600	
1973	350,900	149,500	216,000	68,500	7,400	219,400	24,000	85,400	21,200	8,000	2,100	23,500	1,175,900	
1974	300,900	130,100	254,900	68,300	6,000	292,300	19,500	63,900	20,000	9,300	1,600	15,300	1,182,100	
1975	277,500	146,200	230,700	79,200	6,200	293,100	28,200	69,500	19,800	6,100	2,200	16,100	1,174,800	
1976	276,000	182,500	228,200	93,900	5,100	305,600	29,100	71,100	20,800	10,900	3,000	33,500	1,259,700	
1977	283,500	137,200	141,000	90,500	6,200	229,700	16,100	57,100	19,200	5,700	1,700	32,200	1,020,100	
1978	312,600	164,600	221,000	77,400	10,000	294,300	26,000	112,500	32,600	10,000	4,300	40,800	1,306,100	
1979	274,800	143,100	159,500	83,000	10,400	260,700	23,800	78,300	17,200	12,500	2,400	42,000	1,107,700	
1980	283,000	131,100	183,500	63,500	7,200	238,600	24,000	111,300	21,000	17,000	1,500	31,400	1,113,100	
1981	249,200	117,100	252,500	60,600	8,000	239,000	26,200	69,900	19,000	8,300	1,700	22,900	1,074,400	
1982	201,300	132,200	202,700	65,700	6,500	284,200	19,400	92,300	27,100	12,100	3,700	29,000	1,076,200	
1983	287,000	174,900	218,800	68,400	7,800	298,600	39,900	72,000	24,900	15,700	3,700	27,500	1,239,200	
1984	241,900	141,100	152,000	50,400	7,100	265,100	35,800	74,400	20,800	11,000	3,300	27,200	1,030,100	
1985	227,500	129,900	168,100	53,000	4,500	261,800	17,300	64,600	18,200	10,900	1,900	20,100	977,800	
1986	219,200	133,600	113,600	51,900	6,100	257,600	15,400	46,200	15,700	9,700	1,900	29,300	900,200	
1987*	184,900	103,100	119,700	56,000	6,700	223,400	22,700	46,400	15,900	13,300	1,300	25,800	819,200	
AVERAGES:														
61-65	235,360	90,880	159,420	46,860	7,450	235,100	18,820	53,440	12,250	4,080	2,750		861,920	
66-70	283,020	147,120	203,960	95,780	9,820	334,660	32,280	82,400	17,720	9,760	2,140	16,260	1,234,920	
71-75	308,860	146,360	243,980	76,680	6,840	288,000	26,540	81,540	20,260	10,160	1,840	20,420	1,231,480	
76-80	285,980	151,700	186,640	81,660	7,780	265,780	23,800	86,060	22,160	11,220	2,580	35,980	1,161,340	
81-85	241,380	139,040	198,820	59,620	6,780	269,740	27,720	74,640	22,000	11,600	2,860	25,340	1,079,540	
86-87	202,050	118,350	116,650	53,950	6,400	240,500	19,050	46,300	15,800	11,500	1,600	27,550	859,700	

* - PRELIMINARY

Table 71. Estimates of pintail harvests in the Pacific Flyway (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	WA	OR	ID	MT	WY	CA	NV	UT	CO	AZ	NM	AK	PF	TOTAL
1961	35,700	15,900	9,800	2,400		299,300	1,700	15,200		2,300			382,300	
1962	43,600	33,100	7,200	800	100	285,300	2,700	27,100	0	3,000	0		402,900	
1963	46,800	41,700	10,900	1,900	100	415,700	5,400	49,400	200	2,600	200		574,900	
1964	37,400	35,000	6,000	1,500	200	342,000	9,300	26,200	400	4,400	TR		462,400	
1965	38,100	39,800	5,100	2,900	TR	373,000	12,300	60,500	0	7,700	200		539,600	
1966	44,800	54,100	10,900	6,700	100	563,000	12,500	61,000	100	5,600	100	10,500	769,400	
1967	42,200	42,700	17,400	5,700	100	798,500	24,800	81,200	500	11,500	200	11,300	1,036,100	
1968	45,300	44,400	11,000	6,200	500	381,100	12,500	58,700	200	7,400	400	17,200	584,900	
1969	52,400	66,300	5,300	4,700	300	900,500	18,100	55,100	200	10,400	100	7,200	1,120,600	
1970	52,100	64,300	18,000	4,300	700	1,032,900	26,400	69,300	100	13,800	300	12,600	1,294,800	
1971	40,700	49,100	13,900	8,500	900	752,100	20,700	57,400	500	15,600	400	15,400	975,200	
1972	54,700	60,800	19,000	12,800	300	715,300	21,300	38,500	400	18,000	900	25,400	967,400	
1973	49,600	59,300	13,000	6,300	300	477,000	19,700	81,900	300	8,100	400	23,600	739,500	
1974	45,500	52,600	14,200	5,300	300	712,400	12,000	67,800	300	17,700	200	8,900	937,200	
1975	54,200	90,600	16,900	7,300	300	746,900	28,400	88,800	600	11,400	200	14,800	1,060,400	
1976	45,900	79,700	17,400	7,100	200	680,600	13,200	72,800	700	10,300	300	22,200	950,400	
1977	61,700	46,200	10,600	7,500	500	350,800	12,700	42,200	100	8,400	TR	26,900	567,600	
1978	65,400	85,000	15,800	13,600	300	596,000	14,000	52,200	700	8,500	100	18,900	870,500	
1979	31,800	53,100	8,300	8,200	400	641,500	11,200	65,000	1,100	8,100	600	16,300	845,600	
1980	52,900	49,700	8,900	8,100	200	410,000	17,500	78,000	400	7,500	100	23,900	657,200	
1981	27,700	43,400	10,000	6,200	200	261,000	9,900	41,000	300	3,900	200	18,100	421,900	
1982	22,300	21,000	9,000	5,400	300	327,900	13,400	61,600	700	6,000	0	11,800	479,400	
1983	30,400	37,700	7,200	4,300	200	334,300	12,800	33,100	200	4,600	200	13,200	478,200	
1984	32,400	34,000	9,400	3,200	500	194,900	12,200	19,500	300	5,600	300	16,500	328,800	
1985	24,100	37,600	7,700	2,600	100	200,300	5,800	11,300	500	2,500	300	13,300	306,100	
1986	20,900	23,600	5,900	3,400	300	194,500	6,200	16,800	600	2,600	100	13,100	288,000	
1987*	17,500	18,900	6,400	2,600	200	239,100	5,400	9,800	100	7,400	0	11,300	318,700	
AVERAGES:														
61-65	40,320	33,100	7,800	1,900	100	343,060	6,280	35,680	150	4,000	100		472,420	
66-70	47,360	54,360	12,520	5,520	340	735,200	18,860	65,060	220	9,740	220	11,760	961,160	
71-75	48,940	62,480	15,400	8,040	420	680,740	20,420	66,880	420	14,160	420	17,620	935,940	
76-80	51,540	62,740	12,200	8,900	320	535,780	13,720	62,040	600	8,560	220	21,640	778,260	
81-85	27,380	34,740	8,660	4,340	260	263,680	10,820	33,300	400	4,520	200	14,580	402,880	
86-87	19,200	21,250	6,150	3,000	250	216,800	5,800	13,300	350	5,000	50	12,200	303,350	

* - PRELIMINARY

Table 72. Duck stamp sales in the United States (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	AF	MF	CF	P		AK	TOTAL	US TOTAL
				LWR	STS			
1961	232,578	527,145	271,865	294,178	10,157	304,335	1,335,923	
1962	236,311	411,981	185,633	295,920	10,371	306,291	1,140,216	
1963	270,382	571,667	262,470	325,127	10,456	335,583	1,440,102	
1964	284,756	663,791	280,810	325,119	9,244	334,363	1,563,720	
1965	301,088	636,470	260,027	343,056	9,406	352,462	1,550,047	
1966	336,472	758,768	311,216	379,551	10,640	390,191	1,796,647	
1967	360,937	813,797	360,157	381,364	10,358	391,722	1,926,613	
1968	384,762	711,745	323,885	394,208	12,411	406,619	1,827,011	
1969	438,372	810,588	373,751	428,020	13,281	441,301	2,064,012	
1970	496,387	1,005,265	437,120	457,545	12,936	470,481	2,409,253	
1971	501,289	1,003,218	454,635	438,146	14,423	452,569	2,411,711	
1972	438,264	892,774	425,003	389,586	14,918	404,504	2,160,545	
1973	434,851	826,911	412,320	387,156	17,068	404,224	2,078,306	
1974	448,849	892,017	426,135	396,860	16,018	412,878	2,179,879	
1975	441,838	916,734	430,618	400,864	16,310	417,174	2,206,364	
1976	435,933	854,924	429,661	388,340	18,455	406,795	2,127,313	
1977	434,558	872,064	423,871	383,195	19,253	402,448	2,132,941	
1978	451,321	848,856	430,590	381,302	19,689	400,991	2,131,758	
1979	416,574	808,051	414,970	368,850	19,046	387,896	2,027,491	
1980	409,281	787,236	388,865	362,690	20,110	382,800	1,968,182	
1981	407,905	724,334	339,358	332,455	15,814	348,269	1,819,866	
1982	402,927	709,923	358,908	340,339	18,000	358,339	1,830,097	
1983	390,894	686,016	338,735	339,640	18,388	358,028	1,773,673	
1984	412,865	703,159	354,306	326,461	18,475	344,936	1,815,266	
1985	382,544	651,194	329,010	300,512	15,592	316,104	1,678,852	
1986	387,742	673,864	335,644	272,935	19,424	292,359	1,689,609	
1987*	367,410	629,016	297,375	240,620	14,392	255,012	1,548,813	

AVERAGES:

61-65	265,023	562,211	252,161	316,680	9,927	326,607	1,406,002
66-70	403,386	820,033	361,226	408,138	11,925	420,063	2,004,707
71-75	453,018	906,331	429,742	402,522	15,747	418,270	2,207,361
76-80	429,533	834,226	417,591	376,875	19,311	396,186	2,077,537
81-85	399,427	694,925	344,063	327,881	17,254	345,135	1,783,551
86-87	377,576	651,440	316,510	256,778	16,908	273,686	1,619,211

* - THROUGH THIRD QUARTER ONLY

Table 73. Estimates of regular-season all-duck harvests in the United States (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	AF	MF	CF	P F		TOTAL	US TOTAL
				LWR	STS		
1961	737,800	1,746,700	788,300	2,065,900		2,065,900	5,338,700
1962	742,000	1,129,200	428,000	1,947,700		1,947,700	4,246,900
1963	905,000	2,505,300	1,002,400	2,832,100		2,832,100	7,244,800
1964	993,700	3,536,800	1,308,000	2,529,700		2,529,700	8,368,200
1965	1,021,400	3,311,400	1,079,300	2,914,200		2,914,200	8,326,300
1966	1,400,500	4,721,400	1,959,800	3,521,300	48,700	3,570,000	11,651,700
1967	1,331,200	4,506,400	2,027,700	4,372,700	65,500	4,438,200	12,303,500
1968	1,372,000	2,383,600	1,222,400	3,025,800	69,200	3,095,000	8,073,000
1969	1,802,300	4,278,100	2,402,200	4,064,400	43,800	4,108,200	12,590,800
1970	1,980,000	6,175,700	2,830,700	4,418,500	61,600	4,480,100	15,466,500
1971	1,720,100	5,207,100	2,703,400	3,981,100	67,900	4,049,000	13,679,600
1972	1,644,600	4,836,200	2,876,200	3,871,800	92,300	3,964,100	13,321,100
1973	1,547,200	4,421,400	2,363,400	3,222,000	83,700	3,305,700	11,637,700
1974	1,732,700	5,058,500	2,105,500	3,603,000	53,600	3,656,600	12,553,300
1975	1,858,100	6,387,700	2,796,800	4,025,000	66,400	4,091,400	15,134,000
1976	2,093,400	5,843,500	2,682,700	4,150,800	105,400	4,256,200	14,875,800
1977	1,881,900	5,794,200	2,336,600	3,084,500	108,300	3,192,800	13,205,500
1978	1,945,900	6,115,000	2,856,900	3,975,400	124,100	4,099,500	15,017,300
1979	1,849,500	6,197,200	2,587,700	3,360,700	114,800	3,475,500	14,109,900
1980	1,936,300	5,712,000	2,014,400	3,197,800	112,000	3,309,800	12,972,500
1981	1,889,900	5,286,100	1,957,900	2,698,300	75,700	2,774,000	11,907,900
1982	1,608,600	4,715,100	2,135,500	2,900,700	85,500	2,986,200	11,445,400
1983	1,669,800	5,580,800	2,059,700	3,065,500	92,200	3,157,700	12,468,000
1984	1,810,400	5,526,000	2,218,300	2,478,600	89,400	2,568,000	12,122,700
1985	1,400,600	3,965,700	1,421,800	2,283,600	74,100	2,357,700	9,145,800
1986	1,412,600	3,982,300	1,512,700	2,152,600	98,900	2,251,500	9,159,100
1987*	1,386,200	3,643,900	1,613,300	2,108,600	84,600	2,193,200	8,836,600
AVERAGES:							
61-65	879,980	2,445,880	921,200	2,457,920		2,457,920	6,704,980
66-70	1,577,200	4,413,040	2,088,560	3,880,540	57,760	3,938,300	12,017,100
71-75	1,700,540	5,182,180	2,569,060	3,740,580	72,780	3,813,360	13,265,140
76-80	1,941,400	5,932,380	2,495,660	3,553,840	112,920	3,666,760	14,036,200
81-85	1,675,860	5,014,740	1,958,640	2,685,340	83,380	2,768,720	11,417,960
86-87	1,399,400	3,813,100	1,563,000	2,130,600	91,750	2,222,350	8,997,850

* - PRELIMINARY

Table 74. Estimates of regular-season mallard harvests in the United States (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	AF	MF	CF	LWR STS	P F		US TOTAL
					AK	TOTAL	
1961	105,000	866,900	409,000	722,400		722,400	2,103,300
1962	116,000	437,700	190,500	647,900		647,900	1,392,100
1963	137,100	926,300	404,500	945,300		945,300	2,413,200
1964	163,000	1,321,000	510,100	963,500		963,500	2,957,600
1965	160,800	919,200	318,000	1,030,500		1,030,500	2,428,500
1966	223,100	1,650,000	687,400	1,174,000	12,400	1,186,400	3,746,900
1967	231,300	1,732,300	807,800	1,393,900	19,500	1,413,400	4,184,800
1968	257,800	830,900	546,200	1,012,600	17,000	1,029,600	2,664,500
1969	330,400	1,431,600	802,500	1,175,300	12,400	1,187,700	3,752,200
1970	356,200	2,529,500	1,055,200	1,337,900	20,000	1,357,900	5,298,800
1971	339,100	2,163,700	1,231,800	1,264,400	22,600	1,287,000	5,021,600
1972	358,000	1,950,100	1,255,400	1,312,900	24,600	1,337,500	4,901,000
1973	335,800	1,687,900	1,007,000	1,152,300	23,500	1,175,800	4,206,500
1974	383,600	2,244,900	809,500	1,166,700	15,300	1,182,000	4,620,000
1975	409,300	2,518,200	934,900	1,159,000	16,100	1,175,100	5,037,500
1976	478,400	2,409,600	975,700	1,226,400	33,500	1,259,900	5,123,600
1977	388,100	2,270,200	789,500	987,900	32,200	1,020,100	4,467,900
1978	442,400	2,257,100	1,059,800	1,265,600	40,800	1,306,400	5,065,700
1979	437,800	2,346,100	923,100	1,065,700	42,000	1,107,700	4,814,700
1980	435,000	2,347,400	786,800	1,081,600	31,400	1,113,000	4,682,200
1981	444,600	2,062,100	784,400	1,051,600	22,900	1,074,500	4,365,600
1982	396,000	1,781,500	683,100	1,047,100	29,000	1,076,100	3,936,700
1983	417,400	2,017,900	772,600	1,211,500	27,500	1,239,000	4,446,900
1984	382,700	1,796,200	742,800	1,002,900	27,200	1,030,100	3,951,800
1985	319,900	1,532,900	510,800	957,900	20,100	978,000	3,341,600
1986	362,600	1,550,000	586,500	870,900	29,300	900,200	3,399,300
1987*	342,100	1,478,200	608,200	793,400	25,800	819,200	3,247,700
<hr/>							
AVERAGES:							
61-65	136,380	894,220	366,420	861,920		861,920	2,258,940
66-70	279,760	1,634,860	779,820	1,218,740	16,260	1,235,000	3,929,440
71-75	365,160	2,112,960	1,047,720	1,211,060	20,420	1,231,480	4,757,320
76-80	436,340	2,326,080	906,980	1,125,440	35,980	1,161,420	4,830,820
81-85	392,120	1,838,120	698,740	1,054,200	25,340	1,079,540	4,008,520
86-87	352,350	1,514,100	597,350	832,150	27,550	859,700	3,323,500
<hr/>							

* - PRELIMINARY

Table 75. Estimates of blue-winged teal harvests in the United States (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

	U.S. TOTAL											
	A F			M F			C F			P F		
	SEPT.	RG.	SEAS.	TOTAL	SEPT.	RG.	SEAS.	TOTAL	SEPT.	RG.	SEAS.	TOTAL
1961	12,000	12,000		35,200	35,200		9,600	9,600	39,200	39,200	96,000	96,000
1962	10,700	10,700		55,400	55,400		8,600	8,600	62,300	62,300	137,000	137,000
1963	18,100	18,100		203,600	203,600		41,500	41,500	82,400	82,400	345,600	345,600
1964	18,300	18,300		171,900	171,900		31,600	31,600	65,200	65,200	287,000	287,000
1965	19,200	19,200	281,200	138,500	419,700	104,200	32,700	136,900	84,100	385,400	274,500	659,900
1966	33,000	33,000	152,600	220,800	373,400	128,800	36,900	165,700	45,300	281,400	336,000	617,400
1967	28,900	28,900	205,500	217,700	423,200	148,000	58,400	206,400	105,100	105,200	353,500	410,200
1968	23,000	23,000		89,500	89,500		27,400	27,400	57,100	600	57,700	197,600
1969	51,900	51,900	193,100	267,800	460,900	154,600	50,700	205,300	59,700	100	59,800	347,700
1970	4,800	86,300	91,100	243,400	370,100	613,500	107,500	78,600	186,100	65,600	300	65,900
1971	3,300	42,700	46,000	156,200	435,700	591,900	69,400	134,400	203,800	72,800	0	72,800
1972	5,000	79,300	84,300	159,500	282,400	441,900	78,100	130,600	208,700	95,900	200	96,100
1973	80,100	80,100	151,900	351,000	502,900	69,800	157,400	227,200	121,700	300	122,000	221,700
1974	56,000	56,000	125,600	287,800	413,400	89,600	108,900	198,500	95,100	100	95,200	215,200
1975	63,000	63,000	190,200	520,400	710,600	103,600	151,500	255,100	87,100	0	87,100	293,800
1976	90,100	90,100	167,700	307,700	475,400	84,900	92,500	177,400	87,100	300	87,400	252,600
1977	48,000	48,000	128,000	344,400	472,400	78,000	57,300	135,300	79,600	700	80,300	206,000
1978	89,000	89,000	205,300	379,000	584,300	94,800	114,300	209,100	85,000	100	85,100	300,100
1979	101,500	101,500	165,100	432,600	597,700	93,500	116,800	210,300	64,500	600	65,100	258,600
1980	55,300	55,300	163,100	248,200	411,300	65,600	43,100	108,700	48,700	1,200	49,900	228,700
1981	5,700	42,100	47,800	138,800	232,200	371,000	60,000	90,400	150,400	49,300	400	49,700
1982	6,500	57,400	63,900	252,900	359,400	612,300	84,900	82,100	167,000	87,500	300	87,800
1983	11,600	90,900	102,500	284,600	522,700	807,300	75,600	97,200	172,800	91,800	200	92,000
1984	14,100	74,500	88,600	246,300	530,800	777,100	85,200	123,100	208,300	73,300	200	73,500
1985	12,900	54,600	67,500	211,700	237,600	449,300	82,200	42,700	124,900	38,700	200	38,900
1986	7,700	51,400	59,100	189,800	286,400	476,200	79,300	95,000	174,300	31,900	300	32,200
1987*	7,700	34,800	42,500	195,800	153,500	349,300	77,300	36,400	113,700	34,500	0	34,500
AVERAGES:												
61-65	15,660	15,660	281,200	120,920	177,160	104,200	24,800	45,640	66,640	66,640	385,400	228,020
66-70	4,800	44,620	45,580	198,650	233,180	392,100	134,725	50,400	158,180	66,560	275	66,780
71-75	4,150	64,220	65,880	156,680	375,460	532,140	82,100	136,560	218,660	94,520	120	94,640
76-80		76,780	76,780	165,840	342,380	508,220	83,360	84,800	168,160	72,980	580	73,560
81-85	10,160	63,900	74,060	226,860	376,540	603,400	77,580	87,100	164,680	68,120	260	68,380
86-87	7,700	43,100	50,800	192,800	219,950	412,750	78,300	65,700	144,000	33,200	150	33,350

* - PRELIMINARY

Table 76. Estimates of all-duck harvests in Canada (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	NFL	PEI	NS	NB	QUE	ONT	MAN	SAS	ALB	BC	NWT	YUK	CAN TOTAL
<hr/>													
1968*	44,300	19,400	54,800	59,600	333,300	794,000	295,700	292,700	459,100	362,600			2,715,500
1969*	62,700	25,300	50,100	62,900	465,700	928,100	467,300	557,700	778,200	270,100			3,668,100
1970*	66,500	28,900	59,200	61,000	464,900	872,300	518,100	930,500	904,700	283,900			4,190,000
1971*	53,300	30,500	71,100	56,600	454,500	739,000	332,200	690,200	848,000	228,600			3,504,000
1972	56,200	18,200	55,700	51,100	414,900	815,700	356,200	615,100	800,200	260,700			3,444,000
1973	111,500	18,000	117,400	51,900	493,100	752,700	251,900	471,900	831,600	255,400			3,355,400
1974	103,800	31,400	105,500	58,700	569,500	811,500	249,600	699,700	1,014,300	210,900			3,854,900
1975	101,700	28,400	118,000	59,100	467,900	938,300	299,200	807,300	850,700	236,200	9,500	5,000	3,921,300
1976	98,400	37,400	117,900	68,600	602,900	976,400	352,300	807,800	886,600	231,200	29,200	3,900	4,212,600
1977	132,900	30,200	134,500	53,800	631,200	913,300	259,400	508,800	781,100	259,600	20,800	3,100	3,728,700
1978	142,700	30,000	109,500	65,800	529,100	943,200	361,200	527,300	581,700	210,500	18,100	3,000	3,522,100
1979	122,200	20,900	88,400	49,100	460,400	845,400	383,400	582,700	679,300	204,400	9,400	3,000	3,448,600
1980	106,000	31,900	124,700	59,900	500,200	912,100	335,100	443,600	688,800	186,300	11,500	3,000	3,403,100
1981	114,400	26,200	113,600	59,000	507,900	850,100	293,900	273,300	525,600	188,300	5,000	1,500	2,958,800
1982	111,500	39,600	87,700	60,600	512,500	862,000	280,900	324,100	458,200	163,100	3,100	1,100	2,904,400
1983	119,500	36,100	117,300	72,900	454,000	888,400	284,400	381,700	515,700	193,500	13,000	3,000	3,079,500
1984	115,500	35,000	95,600	68,900	439,800	832,800	215,300	258,300	438,500	173,700	11,500	3,200	2,688,100
1985	110,700	31,100	92,300	69,600	494,900	871,500	174,500	210,900	282,800	145,400	15,500	3,000	2,502,200
1986	124,700	29,600	99,800	71,000	434,300	821,800	207,800	226,500	273,600	124,400	5,500	2,900	2,421,900
1987	74,400	28,900	78,100	59,600	466,000	759,400	208,000	201,500	297,500	125,900	4,200	1,400	2,304,900

AVERAGES:

68-71	56,700	26,025	58,800	60,025	429,600	833,350	403,325	617,775	747,500	286,300			3,519,400
72-75	93,300	24,000	99,150	55,200	486,350	829,550	289,225	648,500	874,200	240,800	9,500	5,000	3,643,900
76-80	120,440	30,080	115,000	59,440	544,760	918,080	338,280	574,040	723,500	218,400	17,800	3,200	3,663,020
81-85	114,320	33,600	101,300	66,200	481,820	860,960	249,800	289,660	444,160	172,800	9,620	2,360	2,826,600
86-87	99,550	29,250	88,950	65,300	450,150	790,600	207,900	214,000	285,550	125,150	4,850	2,150	2,363,400

* - 1968-71 ESTIMATES ARE USEFUL ONLY FOR DISTRIBUTION OF HARVEST AMONG PROVINCES. THEY ARE NOT COMPARABLE WITH ESTIMATES IN SUBSEQUENT YEARS BECAUSE DIFFERENT SURVEY PROCEDURES WERE USED.

Table 77. Estimates of mallard harvests in Canada (from: Waterfowl harvest and population survey data. Compiled by Ken Gamble. U.S. Fish and Wildlife Service. July 1988. 74pp.)

YEAR	NFL	PEI	NS	NB	QUE	ONT	MAN	SAS	ALB	BC	NWT	YUK	CAN TOTAL
1968*					41,800	231,700	148,600	191,500	275,000	138,300			1,026,900
1969*	100	200	900	500	38,400	228,900	281,300	386,300	541,800	131,900			1,610,300
1970*			700	1,000	42,200	213,900	310,300	687,200	634,300	133,800			2,023,400
1971*			400	700	800	42,400	223,800	198,000	531,700	568,000	113,700		1,679,500
1972	400	100	800	800	61,500	254,200	214,500	477,800	557,600	114,800			1,682,500
1973	100	400	1,200	1,200	72,300	255,400	137,500	349,100	546,900	106,000			1,470,100
1974	300	200	500	1,300	74,100	257,200	145,000	499,600	714,100	108,600			1,800,900
1975	700	400	900	700	58,200	296,200	154,300	572,100	531,500	122,700	4,700	1,300	1,743,700
1976	700	300	1,500	800	73,700	318,200	205,100	608,700	612,300	116,200	13,800	1,000	1,952,300
1977	1,100	200	2,300	700	83,600	264,900	163,100	392,400	515,600	129,300	10,700	800	1,564,700
1978	800	300	1,200	1,500	62,400	322,400	239,600	396,700	379,600	116,800	6,700	1,300	1,529,300
1979	500	500	800	1,600	68,300	265,600	245,100	422,700	486,500	116,500	2,700	1,900	1,612,700
1980	0	1,000	3,200	1,400	81,300	290,500	210,000	354,600	482,400	103,400	5,000	1,400	1,534,200
1981	2,400	1,400	2,400	2,500	92,800	281,400	174,600	230,200	388,200	115,000	2,400	900	1,294,200
1982	500	400	1,400	1,800	94,800	333,700	150,300	241,100	295,000	91,500	3,100	0	1,213,600
1983	1,100	1,000	4,100	2,500	87,100	297,800	159,800	285,800	363,700	121,600	4,000	900	1,329,400
1984	800	700	2,100	1,600	66,800	283,600	118,100	181,700	304,800	89,900	7,500	1,700	1,059,300
1985	400	1,300	3,200	3,300	97,200	290,500	84,500	158,400	180,900	81,800	5,800	1,200	908,500
1986	2,500	700	3,200	2,500	84,400	265,400	113,500	151,100	182,000	72,200	800	900	879,200
1987	1,600	1,100	3,700	3,200	116,100	313,800	134,000	159,000	209,700	74,100	600	300	1,017,200

AVERAGES:

68-71	100	300	767	767	41,200	224,575	234,550	449,175	504,775	129,425			1,585,025
72-75	375	275	850	1,000	66,525	265,750	162,825	474,650	587,525	113,025	4,700	1,300	1,674,300
76-80	620	460	1,800	1,200	73,860	292,320	212,580	435,020	495,280	116,440	7,780	1,280	1,638,540
81-85	1,040	960	2,640	2,340	87,740	297,400	137,460	219,440	306,520	99,960	4,560	940	1,161,000
86-87	2,050	900	3,450	2,850	100,250	289,600	123,750	155,050	195,850	73,150	700	600	948,200

* - 1968-71 ESTIMATES ARE USEFUL ONLY FOR DISTRIBUTION OF HARVEST AMONG PROVINCES. THEY ARE NOT COMPARABLE WITH ESTIMATES IN SUBSEQUENT YEARS BECAUSE DIFFERENT SURVEY PROCEDURES WERE USED.

Table 78. Summary of frameworks for duck hunting regulations by flyway during a period of stabilized regulations (1979-84) and afterwards.

Shooting Hours:

1979-87

Alaska	1/2 hour before sunrise to sunset
Pacific	1/2 hour before sunrise to sunset
Central	1/2 hour before sunrise to sunset
Mississippi	1/2 hour before sunrise to sunset

Earliest Hunting Date:

	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	Sep. 1	Sep. 1	Sep. 1	Sep. 1
Pacific	Sat. closest to Oct. 1	Oct. 8	Oct. 4	Oct. 3
Central	Sat. closest to Oct. 1	Oct. 5	Oct. 4	Oct. 3
Mississippi	Sat. closest to Oct. 1	Oct. 5	Oct. 4	Oct. 3&1
Atlantic	Oct. 1	Oct. 5&8	Oct. 4	Oct. 1

Latest Hunting Date:

	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	Jan. 26	Jan. 26	Jan. 26	Jan. 26
Pacific	Sun. closest to Jan. 20	Jan. 13	Jan. 11	Jan. 10
Central	Sun. closest to Jan. 20	Jan. 13	Jan. 18	Jan. 17
Mississippi	Jan. 20	Jan. 13	Jan. 18	Jan. 17
Atlantic	Jan. 20	Jan. 13	Jan. 18	Jan. 18

Season Length (Days):

	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	107	107	107	107
Pacific	93 (100 Columbia Basin)	79 (86)	79 (86)	79 (86)
Central	60 (83 High Plains)	50 (65)	51 (67)	51 (67)
Mississippi	50	40	40	40
Atlantic	50	40	40	40

Conventional Daily Bag Limit and (Points) Under Optional Point System for Certain Species and Sex of Ducks:

Hen Mallard:	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7-10	7-10	7-10	7-10
Pacific	7	1	1	1
Central	1 (70)	1 (100)	1 (100)	1 (100)
Mississippi	2 (70)	1 (100)	1 (100)	1 (100)
Atlantic	5 or 4 (70)	1 (100)	1 (100)	1 (100)

Table 78. Continued.

Drake Mallard:	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7-10	7-10	7-10	7-10
Pacific	7	5	4	4
Central	5 (20)	3 (35)	3 (35)	3 (35)
Mississippi	3 (25)	2 (35)	2 (35)	2 (35)
Atlantic	5 or 4 (25)	3 (35)	3 (35)	3 (35)
Black Duck:	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska ^a	7-10	7-10	7-10	7-10
Pacific ^a	7	5	5	5
Central	1 (70)	1 (100)	1 (100)	1 (100)
Mississippi	2 (70)	1 (100)	1 (100)	1 (100)
Atlantic	1 w/ 5-duck bag or 2 w/ 4-duck bag (70; NJ & MD 100)	1 (100)	1 (100)	1 (100)
Hen Pintail:	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7-10	3	3	3
Pacific	7	1	1	1
Central	5 (10)	1 (35)	1 (35)	1 (35)
Mississippi	5 (10)	2 (35)	2 (35)	2 (35)
Atlantic	5 or 4 (10)	2 (35)	2 (35)	1 (100)
Drake Pintail:	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7-10	3	3	3
Pacific	7	5	4	4
Central	5 (10)	3 (35)	3 (35)	3 (35)
Mississippi	5 (10)	2 (35)	2 (35)	2 (35)
Atlantic	5 or 4 (10)	2 (35)	2 (35)	1 (100)
Blue-winged Teal:	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7-10	7-10	7-10	7-10
Pacific	7	5 ^b	5 ^b	5 ^b
Central	5 ^b (10)	4 ^b (20)	4 ^b (20)	4 ^b (20)
Mississippi	5 ^b (10)	4 ^b (20)	4 ^b (20)	4 ^b (20)
Atlantic	5 ^b or 4 ^b (10)	4 ^b (20)	4 ^b (20)	4 ^b (20)

^a Black ducks are rarely, if ever, encountered in the harvest.

^b In lieu of September Teal Seasons, during 9 days of regular duck season, 2 additional blue-winged teal in Central and Mississippi Flyways and 2 additional blue- or green-winged teal singly or in aggregate in the Atlantic Flyway.

Table 78. Continued.

Green-winged Teal: <u>1979-84</u>		<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7-10	7-10	7-10	7-10
Pacific	7	5	5	5
Central	5 (10)	4 (20)	4 (20)	4 (20)
Mississippi	5 (10)	4 (20)	4 (20)	4 (20)
Atlantic	5 ^c or 4 ^c (10)	4 ^c (20)	4 ^c (20)	4 ^c (20)
Wigeon: <u>1979-84</u>		<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7-10	7-10	7-10	7-10
Pacific	7	5	5	4
Central	5 (10)	4 (20)	4 (20)	4 (20)
Mississippi	5 (10)	4 (20)	4 (20)	4 (20)
Atlantic	5 (10)	4 (20)	4 (20)	4 (20)
Wood Duck: <u>1979-84</u>		<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska ^d	7-10	7-10	7-10	7-10
Pacific	7	5	5	5
Central	2 (70)	2 (70)	2 (70)	2 (70)
Mississippi	2 (70)	2 (70)	2 (70)	2 (70)
Atlantic	2 (70)	2 (70)	2 (70)	2 (70)
Split Seasons: <u>1979-84</u>		<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	No, except 2-way for Kodiak Zone	Same	Same	Same
Pacific	2-way	2-way	2-way	2-way
Central	2/3 ^e -way	2/3 ^e -way	2/3 ^e -way	2/3 ^e -way
Mississippi	2-way	2-way	2-way	2-way
Atlantic	2/3 ^e -way	2/3 ^e -way	2/3 ^e -way	2/3 ^e -way

Zoning:

	No. States in Flyway	States Zoned (No. Zones)	States (Zones)	States (Zones)	States (Zones)
Alaska	1	1 (5)	1 (5)	1 (5)	1 (5)
Pacific	11	2 (6)	5 (12)	3 (8)	3 (8)
Central	10	0-6 (0-16)	6 (16)	6 (16)	6 (16)
Mississippi	14	8-10 (18-21)	9 (22)	9 (22)	9 (22)
Atlantic	18	6-9 (15-25)	9 (25)	8 (23)	9 (25)

Note: The above does not include quasi zoning between the Pacific and Central Flyway portions of MT, WY, CO, & NM, High and Low Plains of Central Flyway, Columbia Basin of Pacific Flyway, Eastern and Western Louisiana, or Pymatuning Reservoir Area in Ohio.

^c In lieu of September Teal Seasons, during 9 days of regular duck season, 2 additional blue- or green-winged teal singly or in aggregate.

^d Wood ducks are rarely, if ever, encountered in the harvest.

^e 3-way split in lieu of zoning offered Atlantic Flyway since 1979 and Central Flyway since 1981.

Table 78. Continued.

Conventional Daily Bag/Possession Limits:

	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7-10/21-30, plus 15/30 seaducks	Same	Same	Same
Pacific	7/14	5/10	5/10	5/10
Central	5/10	4/8	4/8	4/8
Mississippi	5/10	4/8	4/8	4/8
Atlantic	5/10 w1 bl duck or 4/8 w/2 bl ducks	4/8	4/8	4/8
Canvasback:	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7 _f 10	7 _f 10	7 _f 10	7 _f 10
Pacific	2 _f	2 _f	2 _f	2 _f
Central	1 (100)	1 (100)	No season	No season
Mississippi	1 _f (100)	1 _f (100)	No season	No season
Atlantic	1 _f (100)	1(100)	No season	No season
Redhead:	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7 _f 10	7 _f 10	7 _f 10	7 _f 10
Pacific	2 _f	2 _f	2 _f	2 _f
Central	1 (70)	1 (70)	1 (70)	1 (70)
Mississippi	2 (70)	1 (100)	1 (100)	1 (100)
Atlantic	2 (70)	2 (70)	2 (70)	2 (70)
Scaup:	<u>1979-84</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Alaska	7-10	7-10	7-10	7-10
Pacific	7	5	5	5
Central	5 ^g (10)	4 ^g (20)	4 ^g (20)	4 ^g (20)
Mississippi	5 ^g (10)	4 ^g (20)	4 ^g (20)	4 ^g (20)
Atlantic	5 ^g or 4 ^g (10)	4 ^g (20)	4 ^g (20)	4 ^g (20)

^f Canvasbacks or redheads, either singly or in the aggregate.

^g In lieu of Special Scaup-only Seasons and only in designated areas, during the regular duck season, 2 additional scaup.

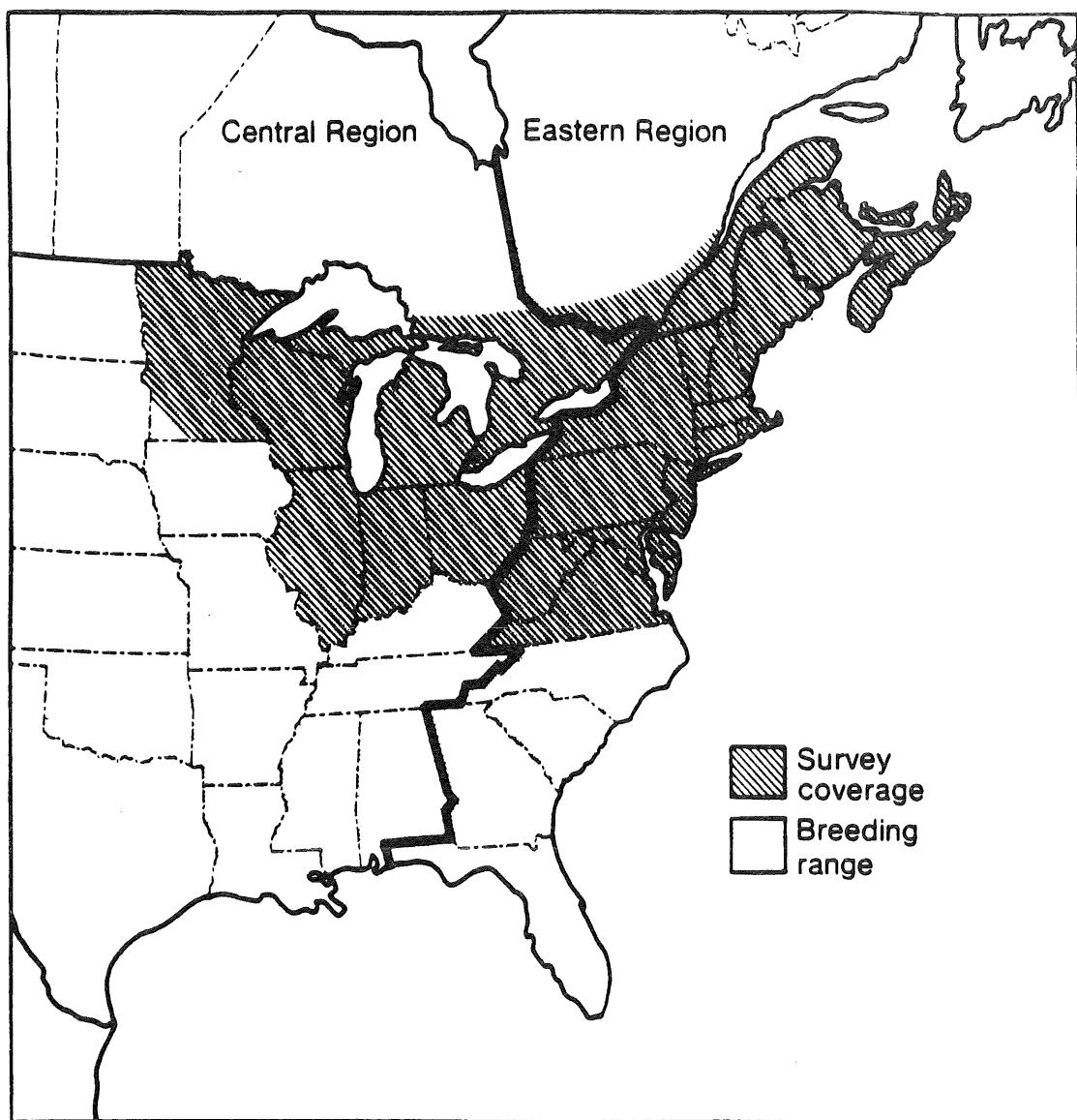


Figure 30. Approximate woodcock breeding range and states covered in singing ground survey. (from: Bortner, James B. 1988. American woodcock harvest and breeding population status, 1988. U.S. Fish and Wildlife Service, Office of Migratory Bird Management, Laurel, MD. 13pp).

Table 79. Woodcock breeding population indices in the U.S. Central Region as indicated by singing-ground surveys in 1987 and 1988 (from: Bortner, J.B. 1988. American woodcock harvest and breeding status, 1988. U.S. Fish and Wildlife Service, Office of Migratory Bird Management, Laurel, MD. 13pp.).

State or Province	Number of routes conducted		Comparable routes ^a	Woodcock heard per comparable route		Percent change
	1987	1988		1987	1988	
IL	7	13	94	0.2	0.1	0.0
IN	14	17	62	0.4	0.2	20.8
MI	115	120	114	4.8	5.0	-6.3
MN	77	79	111	3.4	3.6	-1.1
OH	31	31	80	0.8	1.0	15.1
WI	77	75	106	2.9	2.9	6.0
Totals	321	335	567			
			Weighted Averages ^b		3.54	-1.4

^a Includes routes carried as constant zero routes.

^b 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 Delaware, Connecticut, Illinois, Indiana, Maryland, Rhode Island, Virginia and Quebec did not meet these criteria.

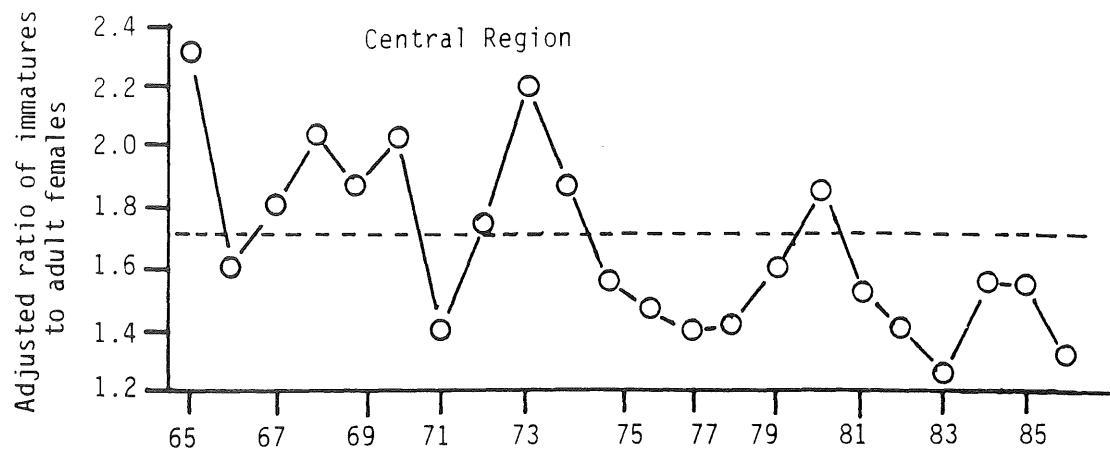


Figure 31. Adjusted index of American woodcock recruitment, 1965-1987, base year 1969. (from: Bortner, James B. 1988. American woodcock harvest and breeding population status, 1988. U.S. Fish and Wildlife Service, Office of Migratory Bird Management, Laurel, MD. 13pp).

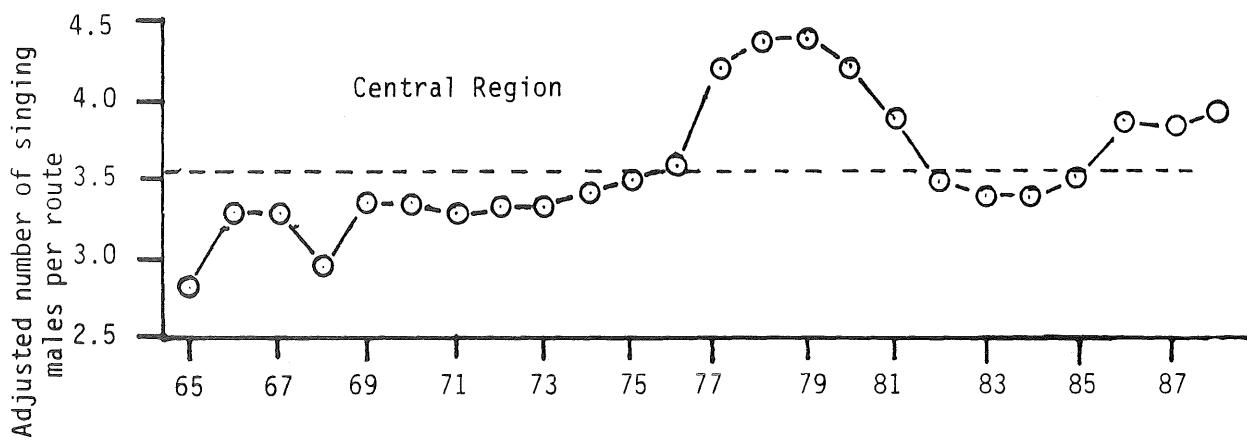


Figure 32. Adjusted index of American woodcock breeding population, 1968-1988, base year 1970. (from: Bortner, James B. 1988. American woodcock harvest and breeding population status, 1988. U.S. Fish and Wildlife Service, Office of Migratory Bird Management, Laurel, MD. 13pp).

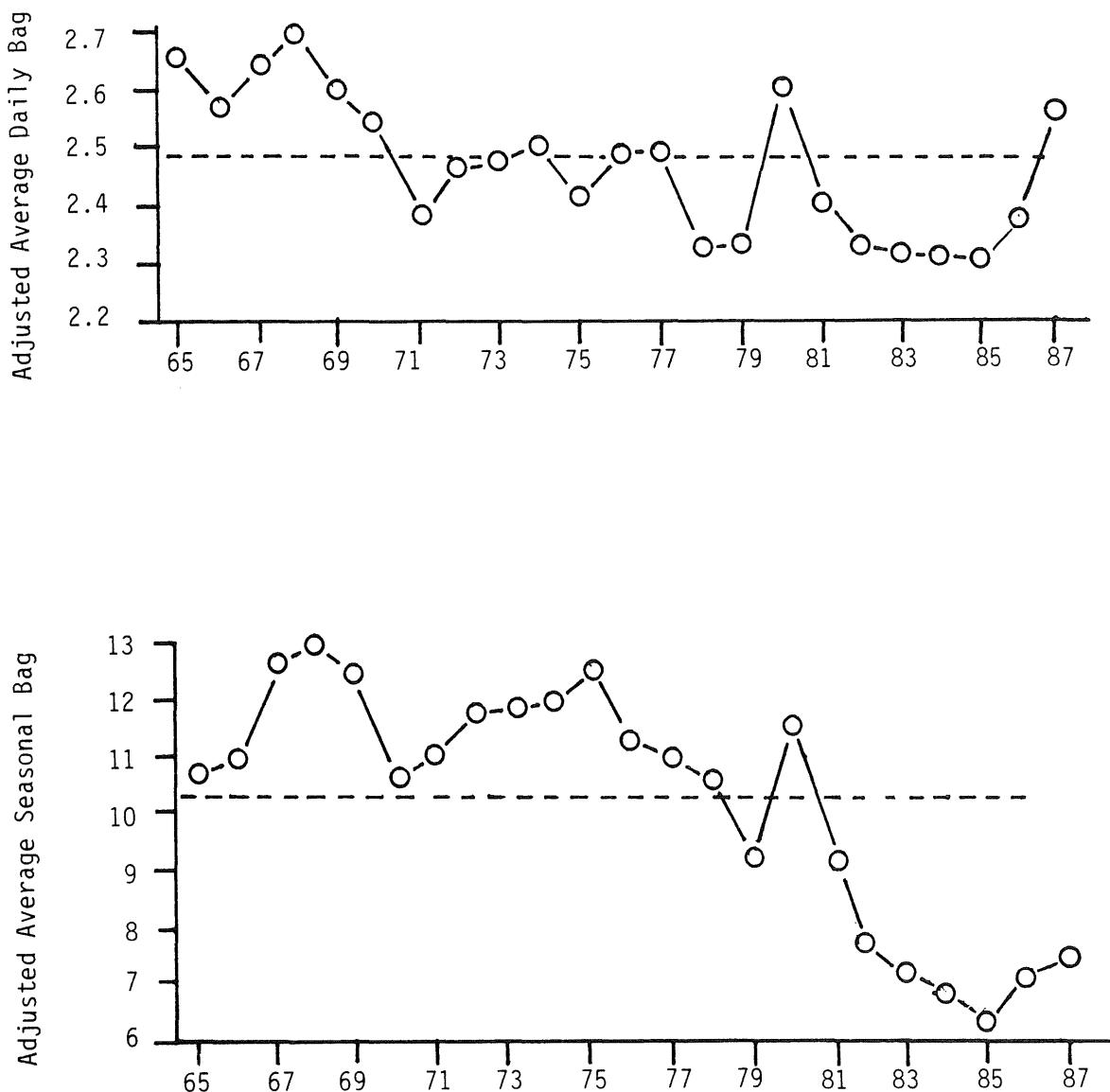


Figure 33. Adjusted indices of daily and seasonal hunting success of American woodcock, 1961-1987, base year 1969. (from: Bortner, James B. 1988. American woodcock harvest and breeding population status, 1988. U.S. Fish and Wildlife Service, Office of Migratory Bird Management, Laurel, MD. 13pp).

HUNTING

HARVEST STATISTICS

Table 80. Resident small game hunter^a response to mail surveys,
1979-80 through 1986-87.

Year	Number mailed	Number not delivered	<u>Delivered questionnaires completed and returned</u>	
			Number	Percent
1979-80	5,696	443	4,504	85.7
1980-81	6,434	385	4,963	82.0
1981-82	6,656	399	5,419	86.6
1982-83	5,963	266	4,792	84.1
1983-84	4,551	269	3,325	77.7 ^b
1984-85	4,096	127	3,280	82.6
1985-86	3,370	157	2,574	80.1
1986-87	4,668	208	3,623	81.2
1987-88	5,513	248	4,191	79.6

^a Includes individual and combination sportsman, regular small game, and senior licensees, and excludes duplicate licenses.

^b Includes only those survey returns received by 25 April 1984.

Table 81. Use of resident small game hunter licenses^a, 1979-80 through 1987-88.

	Returns from mail survey	Projections from license sales
1979-80		
Hunted	3,964 (88.0%)	296,766
Did not hunt	540 (12.0%)	40,468
	<u>4,504</u> (100.0%)	<u>337,234</u>
1980-81		
Hunted	4,288 (86.4%)	311,717
Did not hunt	675 (13.6%)	49,066
	<u>4,963</u> (100.0%)	<u>360,783</u>
1981-82		
Hunted	4,461 (82.3%)	306,843
Did not hunt	958 (17.7%)	65,992
	<u>5,419</u> (100.0%)	<u>372,835</u>
1982-83		
Hunted	3,908 (81.6%)	257,546
Did not hunt	884 (18.4%)	58,258
	<u>4,792</u> (100.0%)	<u>315,804</u>
1983-84		
Hunted	2,805 (84.4%)	232,973
Did not hunt	520 (15.6%)	43,061
	<u>3,325</u> (100.0%)	<u>276,034</u>
1984-85		
Hunted	2,663 (81.2%)	211,740
Did not hunt	617 (18.8%)	49,024
	<u>3,280</u> (100.0%)	<u>260,764</u>
1985-86		
Hunted	2,132 (82.8%)	213,883
Did not hunt	442 (17.2%)	44,342
	<u>2,574</u> (100.0%)	<u>258,225</u>
1986-87		
Hunted	3,006 (83.0%)	217,504
Did not hunt	617 (17.0%)	44,549
	<u>3,623</u> (100.0%)	<u>262,053</u>
1987-88		
Hunted	3,554 (84.8%)	242,875
Did not hunt	635 (15.2%)	43,395
	<u>4,189</u> (100.0%)	<u>286,270</u>

^a Includes individual and combination sportsman, regular small game, and senior licenses. Excludes duplicates.

Table 82. Estimated number of hunters and estimated take per hunter for various species, 1980-81 through 1987-88.

Species	Estimated number of hunters (thousands)								Estimated take per hunter							
	1980- 81	1981- 82	1982- 83	1983- 84	1984- 85	1985- 86	1986- 87	1987- 88	1980- 81	1981- 82	1982- 83	1983- 84	1984- 85	1985- 86	1986- 87	1987- 88
Ducks	128	138	134	117	134	122	132	114	9.3	8.4	8.1	10.6	10.8	9.1	9.0	8.2
Canada goose	51	47	52	41	51	55	58	56	1.4	1.4	1.6	1.6	1.6	1.9	1.8	1.9
Other geese	27	15	11	10	9	9	7	9	1.2	1.0	0.7	0.7	0.8	1.2	0.5	1.1
American coot	19	13	11	12	9	11	11	8	3.1	4.0	4.3	4.7	4.9	4.4	5.3	3.6
Common snipe	12	7	4	6	5	5	5	6	1.9	2.9	3.2	2.8	4.0	3.2	3.9	3.4
Rails/gallinules	*	1	1	2	1	1	1	1	*	1.6	3.1	1.2	1.4	2.3	1.1	3.6
American woodcock	25	23	20	16	17	19	21	27	2.7	2.8	2.7	3.9	4.3	4.3	4.3	4.5
Ring-necked pheasant	147	173	125	86	65	72	62	86	3.2	3.3	2.1	3.5	2.3	3.0	2.6	3.2
Ruffed grouse	150	145	115	78	87	94	107	132	6.3	3.9	2.6	2.4	3.7	3.8	4.2	6.3
Spruce grouse	25	15	13	9	12	12	12	16	1.3	1.7	1.1	1.1	1.7	2.1	1.7	2.3
Sharp-tailed grouse	27	16	14	9	9	10	9	10	2.1	2.2	1.2	1.1	0.8	1.9	1.5	2.4
Gray partridge (Hun)	38	32	21	21	15	20	17	23	2.7	3.4	2.5	3.6	2.1	4.3	3.3	3.1
Gray squirrel ^a	78	)	70	53	38	39	38	40	6.6	)	5.9	5.1	5.3	5.3	5.7	5.6
Fox squirrel ^a	78	)	48	39	28	26	29	26	6.6	)	4.6	4.2	4.5	4.1	5.0	5.1
Eastern cottontail	56	60	36	29	22	22	24	26	4.4	4.4	3.8	3.4	2.8	3.8	4.2	4.0
White-tailed jack rabbit	22	17	11	7	6	6	4	5	2.4	2.7	2.6	1.9	1.9	3.0	3.4	2.2
Snowshoe hare	37	25	15	9	7	7	8	10	7.8	4.4	4.2	2.3	2.3	2.3	3.2	2.6
Raccoon	20	19	13	11	12	10	11	13	4.4	7.0	6.3	8.0	9.4	9.4	10.9	13.1
Red fox	17	19	12	11	11	12	11	13	1.7	1.9	1.5	2.0	2.3	4.2	1.5	2.5
Gray fox	8	4	3	2	3	2	2	3	0.4	1.0	0.9	0.9	1.4	2.0	0.8	1.3
Coyote	8	4	3	3	3	5	4	5	0.5	0.9	0.8	0.8	1.8	3.1	1.6	1.1
Badger	*	7	1	1	1	1	1	1	0.7	1.1	1.9	0.3	3.9	1.8	1.0	1.6

* No estimate made.

^a Estimates for gray and fox squirrels prior to 1981 are for both species combined.

Table 83. Resident small game hunting license sales and estimated hunter harvest, 1980-81 through 1987-88.

	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Small game license sales ^a	360,783	372,835	314,477	276,034	260,764	258,225	262,053	286,270
Federal duck stamp sales ^b	158,311	142,345	134,803	138,161	138,820	134,594	142,011	128,257
State duck stamp sales ^b	144,256	129,546	123,834	125,212	131,394	125,559	146,747	120,235
Pheasant stamp sales ^b	-	-	-	114,189	81,587	85,252	81,027	102,944
Estimated harvest ^c (thousands)								
State duck stamp sales ^b	144,256	129,546	123,834	125,212	131,394	125,559	146,747	120,235
Ducks ^d	1,199	1,167	1,071	1,235	1,443	1,029	1,172	928
Canada geese ^e	72	71	81	62	82	86	101	106
Other geese ^e	33	16	7	8	8	9	3	11
American coot ^e	58	49	49	55	48	41	59	29
Common snipe	23	21	14	17	20	16	21	19
Rails/gallinules	*	2	3	2	1	2	1	5
American woodcock	67	63	54	58	70	70	87	113
Ring-necked pheasant	466	573	265	299	148	179	159	277
Ruffed grouse	941	576	302	183	320	315	442	817
Spruce grouse	34	24	14	10	21	21	20	36
Sharp-tailed grouse	56	34	17	10	7	14	13	24
Gray partridge (hun)	101	110	52	74	31	77	54	69
Gray squirrel ^d	514	)	409	271	199	208	186	235
Fox squirrel ^d		)	216	162	126	107	140	145
Eastern cottontail	249		263	135	98	61	75	102
White-tailed jack rabbit	52	45	27	13	11	17	14	12
Snowshoe hare	286	109	61	21	16	12	25	26
Raccoon	88	136	80	87	114	85	122	170
Red fox	28	37	19	21	26	44	15	33
Gray fox	3	4	2	2	4	4	2	4
Coyote (brush wolf)	4	4	2	3	5	11	7	6
Badger	5	2	2	<1	2	2	<1	2

Harvest estimates in this table, and the number of hunters and mean take per hunter in Table 82, are calculated from different questions on the survey form. The sample used in calculations differs from one estimator to the next. This is because some respondents give specific answers to one question but not to a related one. A formula is used to calculate the total estimated take for each species which appears in this table. In most years the formula produces results rather close to those obtained by multiplying the average take per hunter times the number of hunters. However, in other years (e.g., 1985) results of the two methods are quite divergent, perhaps as a result of an unusual sample. This is being investigated further, and as a result, numbers may change somewhat in future reports. The most current report of survey findings will have the best data available at that time.

* No estimate made.

^a Duplicate licenses not included.

^b Excluding stamps sold with an issuing fee, many of which probably were purchased by collectors.

^c Estimates based upon response of hunters to questionnaires.

^d Harvest estimates for gray and fox squirrels prior to 1981 are for both species combined.

^e U.S. Fish and Wildlife Service harvest estimates for 1987 are:

Ducks	586,258	Other geese	8,113
Canada geese	67,635	American coot	6,508

SMALL GAME LICENSE SALES

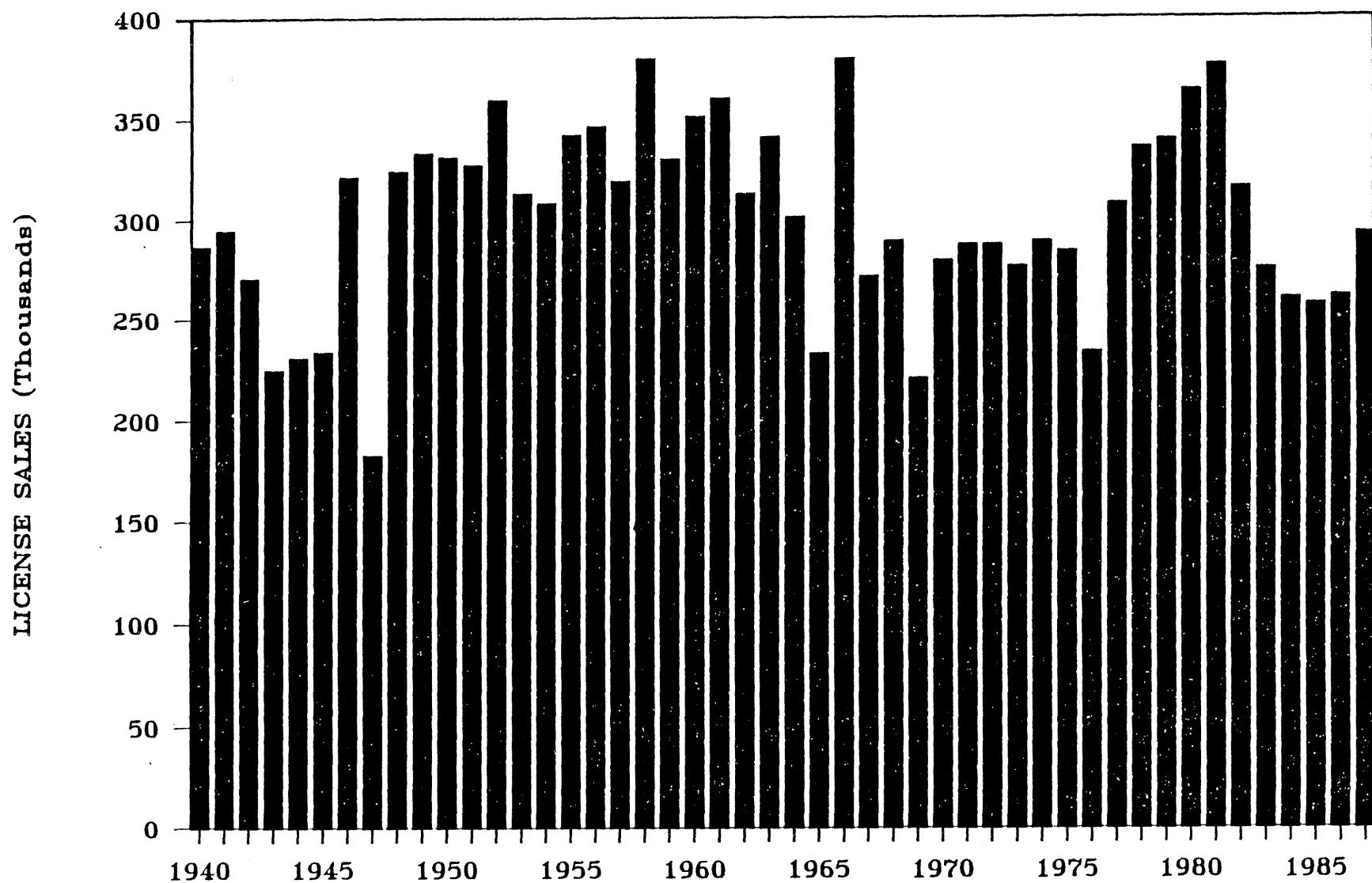


Figure 34. Minnesota small game license sales, 1940-1987.

Table 84. Mail survey results of nonresident small game hunters, 1980-81 through 1987-88.

	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Nonresident licenses issued ^a	3,981	4,271	3,187	2,911	3,060	3,271	3,078	3,596
Questionnaires								
Number mailed	222	280	361	384	237	338	406	429
Number not delivered	85	21	21	25	13	25	42	19
Number (percent) returned	117 (85.4)	214 (82.6)	281 (82.6)	280 (78.0) ^b	192 (86.0)	246 (78.6)	290 (79.7)	328 (80.0)
Total nonresidents and percent (in parens) of all nonresidents hunting:								
Ducks	2,000 (50)	2,055 (48)	1,840 (58)	1,500 (52)	2,090 (68)	1,900 (58)	1,810 (59)	990 (28)
Canada goose	600 (15)	718 (17)	830 (26)	580 (20)	820 (27)	800 (24)	850 (28)	515 (14)
Ruffed grouse	2,000 (50)	1,656 (39)	960 (30)	620 (21)	1,000 (33)	1,090 (33)	1,000 (32)	1,000 (28)
Ring-necked pheasant	800 (20)	1,436 (34)	680 (21)	500 (17)	390 (13)	720 (22)	510 (17)	400 (11)
Raccoon ^c	200 (5)	125 (3)	100 (3)	170 (6)	130 (4)	70 (2)	85 (3)	80 (2)
Total nonresident take:								
Ducks	17,000	19,000	15,000	17,500	24,000	14,400	14,600	6,300
Canada goose	1,000	2,000	1,500	1,300	1,300	1,400	1,400	900
Ruffed grouse	16,000	7,000	3,000	1,700	4,200	3,500	3,800	6,100
Ring-necked pheasant	2,000	5,000	1,500	2,200	1,500	1,900	1,100	1,100
Raccoon	1,000	1,000	700	1,400	1,100	1,400	600	1,200

^a Excludes duplicate licenses and nonresident shooting preserve licenses.

^b Includes only those survey returns received by 25 April 1984.

^c 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. The initial season bag limit of 8 was increased to 12 in 1983 and to 20 in 1985.

	Raccoon take per hunter		Number of nonresident raccoon licenses
	Resident	Nonresident	
1978	6	14	0
1979	6	6	404
1980	4	5	93
1981	7	7	121
1982	6	7	95
1983	8	8	102
1984	9	8	111
1985	9	20	108
1986	11	7	86
1987	13	15	145

Table 85. Species composition of the Minnesota waterfowl harvest, 1986 and 1987 (taken from: Carney, S.M., M.F. Sorenson, and E.M. Martin. 1988. Waterfowl harvest and hunter activity in the United States during the 1987 hunting season. U.S. Fish and Wildlife Service Adm. Rep., Office of Migratory Bird Management, Laurel, Maryland. July 1988. 23 pp.).

Species	1986		1987		Percent change
	Harvest	Pct of harvest	Harvest	Pct of harvest	
Mallard	230,300	29.73	185,900	31.71	-19
Domestic mallard	0	0.00	700	0.12	+100
American black duck	500	0.07	700	0.12	+40
Black x mallard	0	0.00	0	0.00	0
Gadwall	11,000	1.42	9,200	1.57	-16
American wigeon	30,100	3.89	23,300	3.97	-23
Green-winged teal	42,600	5.50	60,000	10.24	+41
Blue-winged/cinnamon teal	59,400	7.67	25,200	4.29	-58
Northern shoveler	7,800	1.01	7,100	1.21	-9
Northern pintail	4,400	0.57	4,200	0.72	-5
Wood duck	133,100	17.18	108,900	18.58	-18
Redhead	19,900	2.57	18,800	3.21	-6
Canvasback	0	0.00	0	0.00	0
Greater scaup	2,600	0.33	2,100	0.36	-19
Lesser scaup	74,100	9.57	29,200	4.98	-61
Ring-necked duck	125,900	16.25	85,500	14.59	-32
Goldeneyes	5,400	0.70	6,200	1.05	+15
Bufflehead	14,800	1.91	14,200	2.42	-4
Ruddy duck	1,500	0.20	1,400	0.24	-7
Scooters	5,400	0.70	1,400	0.24	-74
Hooded merganser	8,400	1.09	2,200	0.37	-74
Other mergansers	0	0.00	300	0.05	+100
Other ducks	0	0.00	0	0.00	0
Total	777,300	100.00	586,500	100.00	-25

Table 86. Top 10 states in number of adult waterfowl hunters, 1987, and number of hunter-days and retrieved duck kill, in each (taken from: Carney, S.M., M.F. Sorenson, and E.M. Martin. 1988. Waterfowl harvest and hunter activity in the United States during the 1987 hunting season. U.S. Fish and Wildlife Service Adm. Rep. Office of Migratory Bird Management, Laurel, Maryland. July 1988. 23 pp.).

State	Number of adult waterfowl hunters	Number of hunter-days	Retrieved duck kill	Ducks retrieved per hunter-day
Minnesota	120,344	814,195	586,258	0.72
Louisiana	92,583	823,406	1,234,916	1.49
Wisconsin	19,951	587,155	344,669	0.58
California	77,020	689,444	1,063,816	1.54
Texas	84,372	606,503	767,385	1.26
Michigan	51,182	386,170	216,961	0.58
Pennsylvania	49,263	264,359	83,920	0.32
Illinois	50,103	437,517	221,181	0.51
New York	50,643	307,060	224,049	0.73
Washington	35,739	269,165	301,328	1.11
Mississippi Flyway	588,302	4,664,678	3,882,996	0.83
United States	1,419,345	10,365,586	9,196,381	0.89

Table 87. Turkey hunting summary, 1978-88.

Year	Area of open hunt zone (mi ²)	Number of permit applicants	Number of permits available	Odds of drawing a permit ^a	Number of permits given	Number of persons hunting ^b	Registered turkey harvest	% success ^c
1978	389	10,740	420	25.6:1	411	398	94	23.6
1979	673	11,116	840	13.2:1	827	794	116	14.6
1980	858	9,613	1,200	8.0:1	1,191	1,072	98	9.1
1981	1,242	8,398	1,500	5.6:1	1,556	1,292	113	8.7
1982	1,490	7,223	2,000	3.6:1	1,992	1,625	106	6.5
1983	1,807	8,153	2,100	3.9:1	2,079	1,663	116	7.0
1984	2,061	7,123	3,000	2.4:1	2,837	2,270	178	7.8
1985	2,118	5,662	2,750	2.1:1	2,449	1,959	323	16.5
1986	1,897	5,715	2,500	2.3:1	2,251	1,801	333	18.5
1987	1,747	6,361	2,700	2.4:1	2,520	2,016	520	25.8
1988	1,781	8,402	3,000	2.8:1	2,994	2,395	674	28.1

^a Calculated with total permits available to be given, and not adjusting for undersubscribed zones and time periods.

^b For 1978-82, based on a post-hunt mail survey. Number actually hunting in 1983-87 was estimated at 80% (from last year the survey was run).

^c Registered turkey harvest divided by number actually hunting, expressed as %.

Table 88. Deer hunting license sales, 1957-87*.

Year	Firearms License Sales			Archery Licenses			Grand Total
	Resident	Non-resident	Total	Resident	Non-resident	Total	
1957	180,028	488	180,516	10,033	119	10,152	190,668
1958	203,430	552	203,982	10,968	118	11,086	215,068
1959	200,102	530	200,632	11,768	101	11,869	212,501
1960	233,593	621	234,214	11,834	122	11,956	246,170
1961	250,031	632	250,663	13,229	141	13,370	264,033
1962	244,166	676	244,842	11,776	150	11,926	256,768
1963	257,333	771	258,104	11,724	165	11,889	269,993
1964	278,032	1,021	279,053	13,472	193	13,665	292,718
1965	289,918	1,128	291,046	15,628	265	15,893	306,939
1966	284,195	1,287	285,482	17,203	277	17,480	302,962
1967	305,717	1,311	307,028	18,405	289	18,694	325,722
1968	302,216	1,442	303,658	20,188	292	20,480	324,138
1969	253,891	1,168	255,059	15,658	256	15,914	270,973
1970	188,166	334	188,500	12,277	220	12,497	200,997
1971	no firearms season			17,360	111	17,471	17,471
1972	257,998	959	258,957	21,985	326	22,311	281,268
1973	294,349	1,342	295,691	29,169	545	29,714	325,405
1974	296,248	1,747	297,995	30,701	644	31,345	329,340
1975	327,596	1,921	329,517	31,836	804	32,640	362,157
1976	263,868	1,029	264,897	21,773	263	22,036	286,933
1977	287,271	1,430	288,701	29,404	402	29,806	318,507
1978	307,910	1,776	309,686	32,546	476	33,022	342,708
1979	312,754	1,910	314,664	35,657	447	36,104	350,768
1980	344,516	2,378	346,894	41,328	634	41,962	388,856
1981	369,425	2,973	372,398	50,063	906	50,969	423,367
1982	369,018	3,038	372,056	54,084	848	54,932	426,988
1983	391,099	3,611	394,710	55,822	478	56,300	451,010
1984	396,074	4,307	400,381	61,576	583	62,159	462,540
1985 ^a	416,464	4,984	421,448	66,716	589	67,305	480,312
1986 ^a	413,542	4,476	418,018	68,689	547	69,236	487,254
1987	412,429	4,930	417,359	68,809	604	69,413	486,772

* Duplicate licenses not included. Leech Lake licenses are included during years they were issued.

^a Numbers include the following bonus deer licenses:

	1985	1986	1987
Resident firearms (regular quota areas)	8,418	1,192	2,044
Resident firearms (state parks)	-	271	254
Non-resident firearms (regular quota area)	23	3	1
Resident archery (state parks)	-	27	0
Resident archery (metro)	-	917	1,380
Resident archery (orchard zone)	-	-	54
Totals	8,441	2,410	3,733

Table 89. Registered deer harvest and success rates, 1974-87.

	Registered harvest				Percent success	
	Regular firearms	Archery	Special Muzzleloader season	Total	Regular firearms and special muzzleloader seasons	Archery
1974	64,997	2,176	-	67,173	21.9	6.9
1975	63,604	2,265	-	65,869	19.3	6.9
1976	28,613	1,167	-	29,780	10.8	5.3
1977	45,918	2,609	32*	48,559	15.9	8.8
1978	47,372	2,608	346	50,326	15.4	7.9
1979	44,340	2,577	318	47,235	14.2	7.1
1980	68,539	3,641	294	72,474	19.8	8.7
1981	93,027	5,535	385	98,947	25.1	10.8
1982	93,045	5,566	441	99,052	25.1	10.1
1983	132,457	5,977	652	139,086	33.7	10.6
1984	132,042	6,390	532	138,964	33.1	10.3
1985	138,065	7,575	563	146,203	32.9	11.2
1986	129,770	7,610	593	137,973	31.2	11.0
1987	135,003	7,535	535	143,073	32.5	10.9

* No special muzzleloader seasons were held before 1977.



Figure 35. Resident and nonresident firearms (above) and archery (below) deer hunting license sales and registered harvest, 1972-87.

Table 90. Harvest and success rates by DMU and Sub-DMU, 1987.

Unit	Permits Issued ^a	Antlerless Registered	Permit Success ^a	Bucks Registered	Total Reg. Kill
Red River W	1,100	392	35.6%	479	871
Red River E	8,800	3,359	38.2%	2,379	5,738
Red River Total	9,900	3,751	37.9%	2,858	6,609
Agassiz Total	11,400	4,913	43.1%	4,706	9,619
Rainy River W	1,000	577	57.7%	1,677	2,254
Rainy River C	900	518	57.6%	1,656	2,174
Rainy River E	1,700	891	52.4%	1,844	2,735
Rainy River Total	3,600	1,986	55.2%	5,177	7,163
Superior W	3,000	1,145	38.2%	1,552	2,697
Superior C	1,000	465	46.5%	1,339	1,804
Superior E	0	3	-	741	744
Superior Wild.	0	0	-	87	87
Superior IR	0	0	-	1	1
Superior Total	4,000	1,613	40.3%	3,720	5,333
Itasca NW	1,500	927	61.8%	3,050	3,977
Itasca SW	2,000	1,275	63.8%	4,303	5,578
Itasca NE	3,000	1,430	47.7%	3,424	4,854
Itasca SE	5,000	2,228	44.6%	3,951	6,179
LLIR	500	234	46.8%	917	1,151
Bemidji	4,000	2,178	54.4%	3,475	5,653
Itasca Total	16,000	8,272	51.7%	19,120	27,392
Mille Lacs W	4,000	2,169	54.2%	2,463	4,632
Mille Lacs C	3,800	2,226	58.6%	3,910	6,136
Mille Lacs E	1,750	1,242	71.0%	5,622	6,864
WEIR	300	162	54.0%	866	1,028
Mille Lacs Total	9,850	5,799	58.9%	12,861	18,660
Big Woods N	19,550	10,205	52.2%	7,818	18,023
Big Woods C	5,200	2,700	51.9%	3,372	6,072
Big Woods Metro	3,350	1,178	35.2%	1,376	2,554
Big Woods SE	14,000	6,807	48.6%	4,756	11,563
Big Woods Total	42,100	20,890	49.6%	17,322	38,212
Prairie N	2,900	1,653	55.0%	2,008	3,661
Prairie River	4,450	2,690	60.4%	2,507	5,197
Prairie SW	4,925	3,296	66.9%	3,907	7,203
Prairie SE	3,849	1,816	47.2%	1,771	3,374
Prairie Total	15,175	9,242	60.9%	10,193	19,435
Unknown	-	340	-	236	576
Total	113,519	57,298	50.7%	77,619	135,003

^a Bonus licenses not included.

Table 91. Archery deer harvest by county, 1977-87.

County	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Aitkin	24	30	34	68	110	107	94	88	140	130	137
Anoka	31	45	74	105	169	147	156	168	258	247	278
Becker	19	14	10	33	46	52	65	63	67	62	55
Beltrami	50	35	29	63	97	130	109	108	126	101	135
Benton	3	1	6	7	18	28	29	25	35	36	36
Big Stone	32	9	10	25	38	38	42	56	49	39	32
Blue Earth	34	48	35	73	80	78	116	94	116	95	123
Brown	23	25	27	36	46	48	47	50	38	66	60
Carlton	8	6	6	24	30	31	20	30	45	22	26
Carver	12	6	9	24	30	34	49	50	65	53	77
Cass	5	17	30	48	108	131	118	147	141	151	125
Chippewa	108	76	71	114	138	78	92	90	92	82	84
Chisago	19	26	31	38	68	78	95	103	142	135	121
Clay	49	21	19	44	75	84	94	123	111	132	109
Clearwater	12	8	3	17	21	21	27	20	22	29	30
Cook	1	2	0	1	12	7	5	9	29	12	8
Cottonwood	93	79	60	71	87	73	99	54	90	75	70
Crow Wing	5	19	32	47	123	105	99	156	177	159	165
Dakota	13	13	21	20	46	51	64	99	124	167	174
Dodge	21	14	17	19	26	22	45	76	52	63	77
Douglas	34	40	31	32	64	53	77	68	86	79	72
Faribault	20	30	31	51	46	49	57	47	58	73	53
Fillmore	21	49	22	46	50	64	75	81	108	83	109
Freeborn	28	40	38	37	47	34	69	60	61	67	87
Goodhue	32	37	34	57	63	69	71	69	113	112	111
Grant	6	8	10	19	18	22	27	27	33	26	19
Hennepin	11	19	35	78	69	44	97	78	105	156	176
Houston	20	36	25	46	55	70	58	67	79	75	92
Hubbard	26	32	42	56	97	130	102	98	126	138	127
Isanti	20	25	32	46	83	83	82	83	97	102	82
Itasca	59	59	36	98	171	146	113	127	155	169	140
Jackson	34	28	34	26	47	44	46	42	59	54	61
Kanabec	4	13	7	11	35	66	51	49	76	61	76
Kandiyohi	26	57	41	41	95	96	111	116	108	141	127
Kittson	11	13	1	8	12	10	28	32	24	23	47
Koochiching	15	19	23	28	33	18	21	29	20	29	27
Lac Qui Parle	54	28	38	53	87	82	78	108	141	107	96
Lake	7	8	8	18	40	46	30	39	50	40	40
Lake of the Woods	11	6	9	12	13	13	14	22	24	22	21
LeSueur	12	9	13	27	38	31	39	52	37	62	42
Lincoln	69	32	57	50	72	56	74	35	68	54	44
Lyon	57	57	36	84	94	74	110	72	104	104	82
McLeod	6	15	63	32	40	28	2	33	35	55	45
Mahnomen	3	0	1	5	4	7	5	6	9	8	4
Marshall	31	15	18	38	39	45	66	82	79	75	75
Martin	26	36	25	40	35	38	56	33	41	55	64
Meeker	29	25	37	43	44	43	37	54	59	61	76
Mille Lacs	12	10	8	21	40	57	35	63	51	40	64
Morrison ^a	4	18	19	30	66	158	127	108	114	66	388
Mower	43	35	27	46	55	42	80	64	113	121	105
Murray	63	48	49	81	130	83	61	39	90	71	86
Nicollet	28	28	40	61	80	67	65	52	64	88	50
Nobles	27	51	34	43	79	33	54	18	43	48	55
Norman	11	10	11	15	20	34	35	45	43	39	51
Olmsted	17	20	25	24	55	51	85	84	86	108	96
Ottertail	58	54	60	98	133	153	175	178	234	223	237
Pennington	3	1	3	9	12	18	15	19	12	19	15
Pine	36	45	73	123	166	171	134	166	229	186	201
Pipestone	7	21	34	32	40	30	67	1	42	53	55
Polk	24	24	32	42	50	78	70	102	98	102	110

Table 91. Continued.

County	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Pope	32	24	31	49	49	64	57	56	63	70	67
Ramsey	0	3	0	1	2	1	0	21	14	33	2
Red Lake	5	0	4	2	1	3	4	13	8	6	7
Redwood	43	38	38	50	81	63	82	63	72	68	63
Renville	29	20	20	35	55	63	59	32	62	60	66
Rice	22	19	31	38	45	51	39	54	56	59	93
Rock	6	34	16	14	38	31	14	22	51	39	51
Roseau	35	22	32	62	77	90	112	98	94	86	81
St. Louis	66	77	42	87	180	149	120	127	180	209	159
Scott	22	15	41	44	50	37	50	72	87	136	192
Sherburne	24	47	60	89	128	116	113	115	131	128	116
Sibley	14	15	22	33	41	30	32	43	43	44	46
Stearns	58	52	49	81	134	143	122	159	241	239	226
Steele	16	20	7	14	19	27	29	30	41	41	46
Stevens	1	10	13	9	11	21	27	26	25	20	26
Swift	45	25	23	42	67	49	67	59	68	67	84
Todd	29	33	45	52	95	109	103	126	169	141	127
Traverse	16	9	7	12	21	13	21	32	22	19	33
Wabasha	28	19	20	15	18	30	61	57	50	61	50
Wadena	9	10	14	21	45	69	70	64	43	62	43
Waseca	20	21	20	26	46	35	55	42	27	36	42
Washington	16	20	15	39	75	91	88	154	174	196	189
Watonwan	16	16	16	31	34	30	35	20	39	39	45
Wilkin	2	2	2	15	26	34	39	34	34	32	29
Winona	43	76	72	96	116	138	117	151	234	196	224
Wright	8	26	29	45	71	78	83	95	92	115	112
Yellow Medicine	49	32	34	35	47	38	54	47	47	44	49
Unknown	61	10	40	20	25	63	23	34	37	70	17
Camp Ripley	327	190	148	b	153	129	237	387	278	257	284
St. Croix St. Pk.	b	128	b	b	b	b	b	b	b	b	b
Totals	2,609	2,608	2,577	3,641	5,535	5,566	5,977	6,390	7,575	7,610	7,715

^a Camp Ripley not included.^b No archery hunt.

Table 92. 1987 deer harvest in Special Muzzleloader Season (Bonus License Deer).

	Adult		Fawn		Total	
	Male	Female	Male	Female	#	%
Carlos Avery WMA Sanctuary ^a	11	14	3	3	31	5.8%
Chengwatana SF	2	1	1	1	5	0.9%
Cloquet Valley SF	0	2	0	0	2	0.4%
Danvers WMA ^a	0	3	0	0	3	0.6%
Forestville SP ^a	0	5	4	1	10	1.9%
Fort Snelling	1	2	1	0	4	0.8%
George Washington SF	1	3	0	0	4	0.8%
Gores Pool WMA	0	2	1	0	3	0.6%
Lac qui Parle WMA and Big Stone NWR ^a	12	44	26	30	112	20.9%
Lake Shetek SP ^a	5	8	5	7	25	4.7%
McCarthy Lake WMA	0	1	3	1	5	0.9%
Meadowbrook WMA	1	2	1	0	4	0.8%
Mille Lacs WMA	3	13	3	2	21	3.9%
Nemadji SF	1	1	0	0	2	0.4%
Paul Bunyan Game Refuge	2	8	12	5	27	5.0%
Red Lake WMA and Beltrami Island SF	3	6	3	2	14	2.6%
Roseau River SF	0	1	1	0	2	0.4%
Rum River SF	1	4	0	1	6	1.1%
Talcot Lake WMA ^a	2	9	8	10	29	5.4%
Thief Lake WMA	1	3	1	1	6	1.1%
Whitewater WMA	22	67	26	2	117	21.9%
"Sanctuary	26	45	6	19	96	17.9%
Walnut Lake WMA ^a	2	3	2	0	7	1.3%
Total	96	247	107	85	535	
Percent	17.9%	46.2%	20.0%	15.9%	100%	100%

^a Special Permit Areas.

Table 93. 1987 Muzzleloader Permit Area Information.

	Dates	Permits Issued	Number of Applications	Harvest (Bonus Deer)		
				Buck	Antlerless	Total
Carlos Avery (Sanctuary)	28-04 05-13	20 20	not available			
Danvers WMA	28-04 05-13	3 5	3 5	0 0	3	3
Forestville SP	10-13	54	54	0	10	10
Lac qui Parle WMA and Big Stone NWR	28-04 05-13	175 252	175 252	6 6	24 74	30 80
Lake Shetek SP	28-04	32	99	5	20	25
Minnesota Valley	11-13	13	13	1	1 (2)	4
Talcot Lake WMA	28-04 05-13	52 30	54 30	2 0	16 11	18 11
Walnut Lake WMA	28-04 05-13	21 12	6	2	5	7
Whitewater WMA Sanctuary	28-13	104	174	29	51	80

Table 94. Special Muzzleloader Season Harvests, 1981-87.

	1981	1982	1983	1984	1985	1986	1987
Carlos Avery WMA	53	31	57	22	23	41	31
Carlos Avery WMA (Sanctuary)	--	--	--	--	16	6	
Chengwatana SF	--	--	1	1	4	5	5
Cloquet Valley SF	--	--	--	2	1	0	2
Danvers WMA	--	3	1	7	7	9	3
Forestville SP	--	--	--	--	--	--	10
Fort Snelling SP	--	--	--	--	3	--	4
George Washington SF	--	--	5	14	16	17	4
Gores Pool WMA	--	--	5	5	1	2	3
Lac qui Parle WMA and Big Stone NWR	91	130	168	151	199	146	112
Lake Shetek SP	19	36	35	30	25	28	25
McCarthy Lake WMA	1	0	1	0	0	2	5
Meadowbrook WMA	3	4	11	6	6	1	4
Mille Lacs WMA	54	25	5	14	13	13	21
Nemadji SF	--	--	1	1	0	3	2
Paul Bunyan Game Refuge	--	--	19	33	27	28	27
Red Lake WMA and Beltrami Island SF	14	14	29	11	21	27	14
R. J. Dorer Memorial SF	7	32	10	6	1	2	0
Roseau River WMA	4	1	3	5	3	4	2
Rum River SF	--	--	3	1	7	5	6
Savanna SF	--	--	2	2	6	6	0
Talcot Lake WMA	16	61	137	13	43	19	29
Thief Lake WMA	12	6	5	7	8	2	6
Whitewater WMA	90	80	150	139	97	143	117
Whitewater Sanctuary	--	--	--	45	--	--	96
Walnut Lake WMA	5	0	4	6	5	6	7
Totals	385	441	652	532	563	593	535

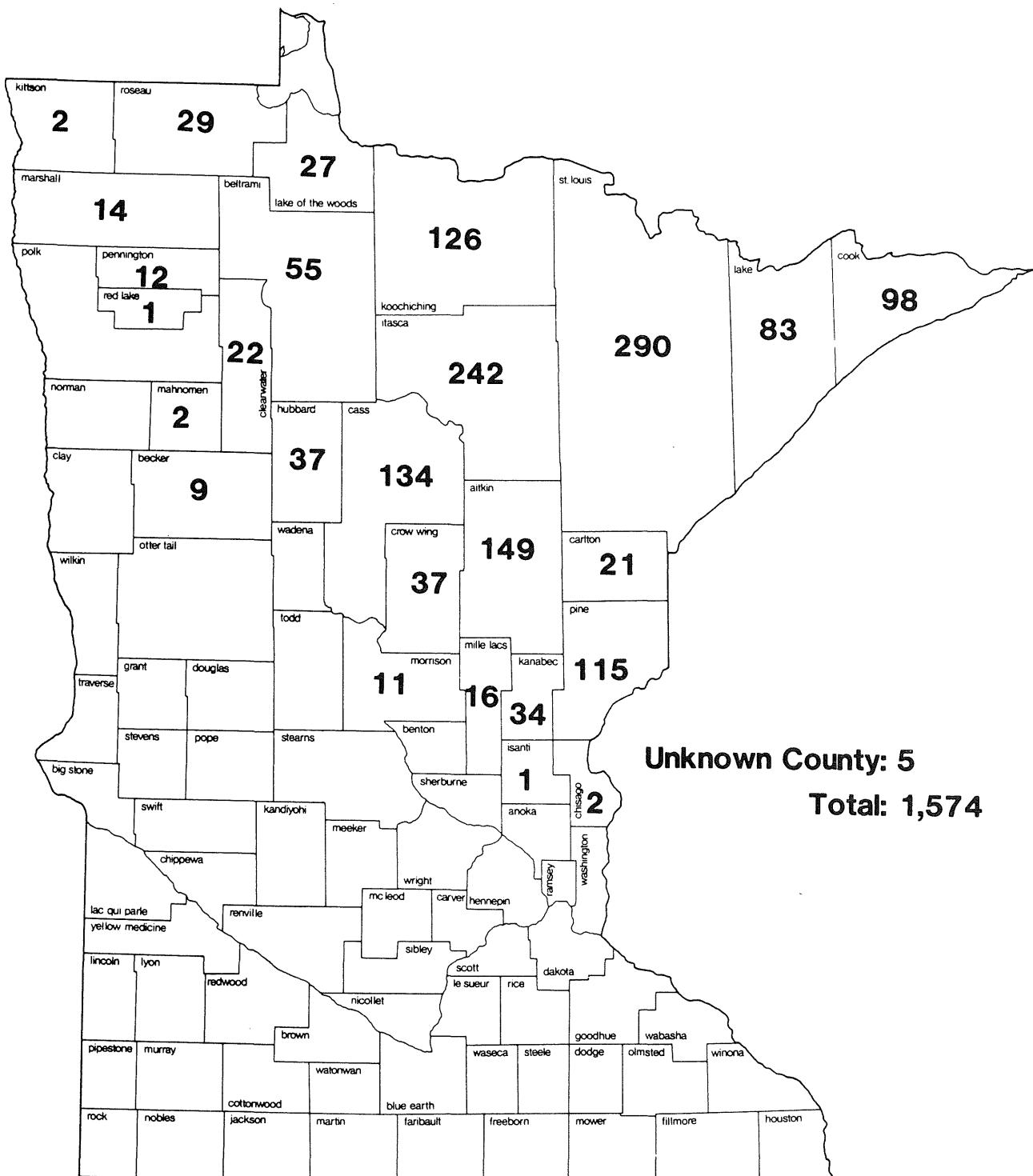


Figure 36. Black bear registered harvest by county, 1987 season.

Table 95. Registered bear harvest by county, 1977-1987.

County	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	Total
Aitkin	65	103	55	92	128	39	102	96	118	153	149	1,100
Becker	8	12	13	7	9	1	14	9	10	3	9	95
Beltrami	36	44	42	28	79	24	78	60	58	53	55	557
Carlton	12	14	7	17	18	3	9	19	34	39	21	193
Cass	56	51	57	69	110	29	93	73	114	89	134	875
Chisago	1	0	0	0	1	0	0	0	0	1	2	5
Clearwater	4	2	12	3	18	4	8	7	17	12	22	109
Cook	72	98	72	148	79	7	46	30	62	65	98	777
Crow Wing	7	9	12	9	33	8	26	21	36	22	37	220
Hubbard	8	23	16	15	19	11	25	45	41	36	37	275
Isanti	0	0	0	1	3	0	0	0	1	2	1	8
Itasca	134	158	108	212	172	50	121	128	170	183	242	1,678
Kanabec	20	28	10	12	18	8	19	19	18	36	34	222
Kittson	0	0	1	0	0	0	1	8	0	2	2	14
Koochiching	41	91	89	137	149	66	105	89	95	113	126	1,101
Lake	50	78	40	74	80	17	42	28	60	79	83	631
Lake of the Woods	8	16	12	30	43	25	32	41	29	32	27	295
Mahnomen	1	3	0	0	1	2	2	5	1	4	2	21
Marshall	1	0	1	2	3	1	9	17	12	5	14	65
Mille Lacs	10	7	5	5	12	3	11	11	28	14	16	122
Morrison	0	4	3	1	1	1	10	5	4	8	11	48
Norman	0	1	0	0	0	0	0	0	0	0	0	1
Pennington	0	0	0	0	1	0	3	2	1	1	12	20
Pine	36	58	31	62	73	20	55	52	98	113	115	713
Polk	0	0	0	1	0	0	0	0	1	0	0	2
Red Lake	0	0	0	3	2	0	0	0	0	0	1	6
Roseau	4	8	4	18	18	7	23	32	19	28	29	190
St. Louis	124	210	148	289	284	64	197	122	302	317	290	2,348
Wadena	0	1	0	0	1	0	0	0	0	0	0	2
Wilkin	0	0	1	0	0	0	0	0	0	0	0	1
Unknown	3	9	4	13	4	22	7	0	11	6	5	64
Total	701	1,028	743	1,247	1,359	392	1,038	919	1,340	1,416	1,574	11,758

Table 96. Estimates of registration compliance for black bears harvested in Minnesota.^a

	1980	1981	1982	1983	1984	1985	1986	1987
Compliance estimated from hunting success ^b	83%	75%	92%	95%	95%	92%	92%	92%
Compliance calculated directly ^c	d	d	d	98%	99%	97%	99%	98%

^a From a bear hunter survey conducted by the Forest Wildlife Populations and Research Group.

^b Compliance rate = $\frac{\text{Registered harvest}}{(\text{estimated hunting success}) \times (\text{number of hunters})} \times 100$.

^c Compliance rate = $\frac{\text{Number of bears registered by survey respondents}}{\text{Number of bears taken by survey respondents}} \times 100$.

^d Direct comparisons not made.

Table 97. Percent hunting success of those Minnesota bear hunters that hunted.^a

Area	1980	1981	1982	1983	1984	1985	1986	1987
11	C	C	10	36	54	21	46	29
12	13	19	14	38	42	32	25	32
13	19	27	30	29	35	45	33	48
21	24	22	34	42	28	43	46	45
22	42	19	44	36	25	13	18	19
31	23	16	33	44	20	52	46	40
40	13	11	16	31	34	37	37	44
51	14	16	28	29	30	39	40	30
52 ^b	10	18	25	28	34	33	41	12
Statewide	17	17	24	35	31	40	40	31 ^d

^a From a bear hunter survey conducted by the Forest Wildlife Populations and Research Group.

^b Area numbers not officially recognized, but used herein to designate no-quota hunting areas established in 1987 (see figure below. Hunting licenses were controlled by a quota within these areas during 1980-86.

^c Few or no hunters in this area in 1980 and 1981.

d Statewide hunting success low due to increased number of hunters and consequent reduced success in no-quota areas (11 and 52). With these areas excluded, hunting success was 39%.

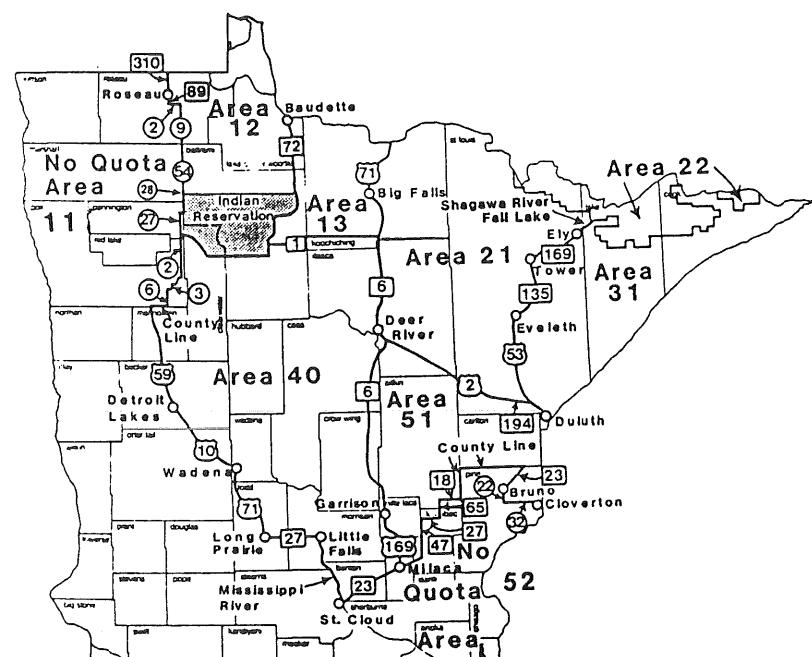


Figure 37. Boundaries of bear management units, 1987.

Table 98. Percent of Minnesota bear hunters using bows^a, baits, and guides, with the estimated number of hunters using guides shown parenthetically.

Method	1980	1981	1982	1983	1984	1985	1986	1987
Bow	b	17	14	19	21	16	19	23
Bait	b	53	55	62	61	66	69	75
Guide	5	7	6	5	6	5	6	6

^a From a bear hunter survey conducted by the Forest Wildlife Populations and Research Group.

^b Not recorded in this survey.

144

Table 99. Percent hunting success of Minnesota bear hunters by method of hunt.^a

Method	1980	1981	1982	1983	1984	1985	1986	1987
Firearm		15	23	36	32	39	41	32
Bow only		22	19	34	27	42	33	31
Bait		21	25	37	33	42	42	32
No bait		11	21	32	26	34	33	30
Guide	50	19	33	50	57	36	48	56
No guide	17	16	22	34	30	39	39	30

^a From a bear hunter survey conducted by the Forest Wildlife Populations and Research Group.

Table 100. Moose hunt quota and harvest statistics 1971-87.

Year	Area	Number of 4-person licenses issued	Number of 4-person 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	147 (65%)	80 (35%)
1977	NW	630	16,586	1:18	598	94.9	348 (58%)	250 (42%)
	NE	300			243	81.0	172 (71%)	71 (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%)
1983	NW	780	17,754	1:14	737	94.5	493 (67%)	244 (33%)
	NE	523			442	84.5	273 (62%)	169 (38%)
1985	NW	768	20,553	1:19	718	93.5	419 (58%)	299 (42%)
	NE	300			250	83.3	165 (66%)	85 (34%)
1987	NW	772	17,087	1:13	727	94.2	505 (69%)	222 (31%)
	NE	528			436	82.6	292 (67%)	144 (33%)

TRAPPING

HARVEST STATISTICS

Table 101. Trapper response to mail surveys, 1979-80 through 1987-88.

Year	Number mailed	Number not delivered	Delivered questionnaires completed and returned	
			Number	Percent
1979-80	1,011	29	888	90.4
1980-81	1,345	110	1,072	86.8
1981-82	1,345	36	1,167	89.2
1982-83	925	28	794	88.5
1983-84	770	10	663 ^a	87.2 ^a
1984-85	556	9	495	90.5
1985-86	581	13	506	89.1
1986-87	582	8	514	89.5
1987-88	721	11	607	85.5

^a Includes only those surveys returned by 25 April 1984.

Table 102. Use of trapper licenses, 1979-80 through 1987-88.

		Return from mail survey	Projections from license sales
1979-80			
	Trapped	760 (85.6%)	15,512
	Did not trap	128 (14.4%)	2,609
		<u>888 (100.0%)</u>	<u>18,121</u>
1980-81			
	Trapped	918 (85.6%)	20,548
	Did not trap	154 (14.4%)	3,457
		<u>1,072 (100.0%)</u>	<u>24,005</u>
1981-82			
	Trapped	972 (83.3%)	19,725
	Did not trap	195 (16.7%)	3,954
		<u>1,167 (100.0%)</u>	<u>23,679</u>
1982-83			
	Trapped	688 (86.6%)	17,526
	Did not trap	106 (13.4%)	2,700
		<u>794 (100.0%)</u>	<u>20,226</u>
1983-84			
	Trapped	549 (82.8%)	13,862
	Did not trap	114 (17.2%)	2,879
		<u>663 (100.0%)</u>	<u>16,741</u>
1984-85			
	Trapped	445 (89.9%)	15,136
	Did not trap	50 (10.1%)	1,700
		<u>495 (100.0%)</u>	<u>16,836</u>
1985-86			
	Trapped	420 (83.0%)	12,201
	Did not trap	86 (17.0%)	2,498
		<u>506 (100.0%)</u>	<u>14,699</u>
1986-87			
	Trapped	442 (86.0%)	13,240
	Did not trap	72 (14.0%)	2,155
		<u>514 (100.0%)</u>	<u>15,395</u>
1987-88			
	Trapped	512 (84.6%)	15,777
	Did not trap	93 (15.4%)	2,866
		<u>605 (100.0%)</u>	<u>18,643</u>

Table 103. Estimated number of trappers and estimated take per trapper of various furbearers, 1980-81 through 1987-88.

	Estimated number of trappers (thousands)								Estimated take per trapper reporting that species							
	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Muskrat	19	16	12	11	13	9	11	15	75.7	62.5	48.4	75.8	75.1	51.8	72.9	68.7
Mink	15	13	10	8	9	8	9	13	6.5	5.7	5.6	6.8	8.0	7.6	8.7	8.5
Ermine	2	1 ^a	1	<1	1	<1	1	1	3.1	3.2	2.2	4.6	3.5	2.6	4.2	4.7
Long-tailed weasel	1	1	1	<1	1	<1	1	2	2.9	2.8	1.6	4.0	2.1	2.0	5.2	4.4
Raccoon	11	12	9	9	9	8	8	11	5.4	6.2	6.4	7.8	8.3	11.3	11.4	11.9
Striped skunk	8	7	5	4	5	4	4	5	7.0	8.1	6.4	8.5	9.4	10.3	10.2	10.2
Eastern spotted skunk (civet)	<1	<1	<1	2	<1	<1	<1	<1	7.1	1.6	6.7	2.5	1.4	2.5	2.5	1.8
Badger	2	2	1	1	1	1	1	1	1.6	1.8	1.7	2.1	1.6	2.1	1.7	1.9
Opossum	<1	<1	<1	<1	<1	1	1	2	1.7	2.1	1.8	3.1	2.8	8.7	13.8	6.7
Red fox	7	8	6	6	6	5	5	6	6.3	6.8	6.3	6.9	9.2	6.1	7.5	8.7
Gray fox	2	2	2	2	2	2	2	2	2.8	2.7	2.7	2.5	2.9	3.5	2.9	2.6
Coyote (brush wolf)	1	1	2	2	2	1	2	2	3.6	2.4	3.2	4.8	5.3	4.5	3.8	3.3
Beaver (fall)	6	4	2	4	5	4	6	8	9.2	7.5	4.4	7.3	10.0	9.8	11.5	16.3
Beaver (spring)	1	1	3	4	3	4	4	4	14.5	12.6	25.5	25.4	30.3	21.7	21.7	22.7

^a 1 is any number which rounds to 1.

<1 is <0.5.

Table 104. Minnesota trapper license sales and estimated annual harvest, 1980-81 through 1987-88^a.

	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Trapper license sales ^b	24,005	23,679	20,196	16,741	16,836	14,699	15,395	18,643
Beaver license sales ^c	8,503	6,602	1,971	-	-	-	-	-
Estimated harvest^d (thousands)								
Muskrat	1,419	989	570	865	963	477	826	1,007
Mink	96	76	57 ^e	58	75	57	77	110
Ermine	7	3	1	2	3	1	3	5
Long-tailed weasel	3	4	1	1	1	1	3	7
Raccoon	61	72	60	69	78	89	95	134
Striped skunk	53	54	34	36	47	41	42	54
Eastern spotted skunk (civet)	1	<1	1	<1	<1	<1	<1	<1
Badger	3	3	2	2	2	2	2	3
Opossum	<1	1	<1	2	1	7	14	10
Red fox	42	53	41	42	58	29	40	57
Gray fox	5	5	5	5	5	6	6	5
Coyote (brush wolf)	4	3	5	9	10	7	7	7
Beaver (fall season)	51	30	24	30	51	43	71	132
Beaver (spring season)	16	10	76	101	103	92	101	-
Registered harvest								
Otter ^f	1,111	485	385	408	529	559	777	1,386
Lynx ^f	16	17	28	9	closed	closed	closed	closed
Bobcat ^f	210	260	274	208	280	119	160	214
Fisher	closed	862	912	631	1,289	678	1,067	1,642
Marten	closed	closed	closed	closed	closed	430	798	1,363

^a Includes data for all seasons from October through April of years indicated.

^b Separate licenses were issued for juveniles (13-17 years old) and adults (18 and older), beginning in 1982. Of 18,643 trapping licenses sold in 1987, 3,140 (16.8%) were juvenile licenses and 15,503 (83.2%) were adult licenses. Duplicate licenses excluded.

^c Beginning in fall 1982, beaver could be trapped with only a general trapping license; the separate beaver trapping license was dropped.

^d 1 is any number which rounds to 1.
<1 is <0.5.

^e Based upon trappers' responses to mail surveys.

^f Registered harvest for lynx and bobcat includes animals taken by hunting.

Table 105. Average price per pelt paid to hunters and trappers in Minnesota, 1976-77 through 1987-88.

Species	Average pelt prices paid hunters and trappers in Minnesota (dollars)											
	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Muskrat	4.03	4.25	4.56	5.90	5.62	3.47	2.19	2.24	2.81	1.85	2.89	3.12
Mink ^a (male)	27.40	22.15	36.69	42.83	37.55	34.35	24.43	30.33	28.40	25.29	35.75	40.54
Mink ^a (female)	10.07	8.86	14.80	18.61	16.04	17.22	10.63	14.55	14.04	13.37	18.43	20.25
Ermine (S.T. Weasel)	0.41	0.44	0.47	0.56	0.64	0.59	0.56	0.56	0.77	0.98	0.98	0.89
L.T. Weasel	0.87	0.85	1.01	0.94	0.84	0.96	0.80	0.93	1.10	1.06	1.28	1.02
Raccoon	23.54	22.30	45.83	36.42	27.44	32.35	17.95	12.66	19.91	15.51	21.81	16.67
Striped Skunk	2.95	2.78	4.13	4.14	4.74	3.46	2.58	2.77	2.74	1.58	2.06	2.47
Eastern Spotted Skunk	5.02	5.42	7.37	3.48	6.06	2.58	1.75	N.A.	3.00	6.17	N.A.	N.A.
Badger	18.66	21.07	39.55	24.02	18.39	18.14	9.04	10.96	9.18	6.45	5.43	5.74
Opossum	1.72	2.11	2.10	2.12	2.52	1.58	0.87	0.71	1.14	0.62	0.97	0.91
Red Fox	49.52	52.97	72.21	55.43	50.81	51.48	31.10	32.81	29.07	17.51	22.07	16.69
Gray Fox	24.75	25.51	45.44	42.51	37.87	26.74	23.48	22.95	21.58	15.00	22.60	22.56
Coyote	41.32	34.03	56.62	39.76	31.37	41.28	25.41	18.79	19.06	18.19	22.03	18.35
Lynx	183.00	137.86	269.44	199.19	94.91	180.33	94.17	125.00	-	-	-	-
Bobcat	78.77	73.98	163.76	117.74	78.55	73.35	66.40	61.40	75.81	70.00	120.15	101.10
Beaver ^a (fall-winter)	15.79	13.45	17.64	32.74	17.88	14.48	10.69	9.52	12.51	15.03	20.32	16.75
Beaver (spring)	13.45	17.64	28.71	19.58	16.52	12.55	11.60	12.24	16.11	17.90	-	17.12
Otter	36.99	41.23	58.85	63.37	32.78	29.80	25.65	24.79	21.56	20.81	24.15	22.85
Fisher ^a (male)	No Season (71.23)	131.89	107.67	89.51	94.42	69.91	70.59	70.26	73.55	84.32	84.36	
Fisher ^a (female)		147.23	127.79	104.29	110.08	99.08	121.08	121.76	130.47	162.29	170.31	
Marten (male)									30.29	35.68	43.13	
Marten (female)									27.61	26.58	39.20	
<hr/>												
<hr/>												
<hr/>												

^a Differences in pelt prices were not calculated before 1979 for beaver, and 1978 for fisher.

FURBEARER REGISTRATION STATISTICS

Table 106. Registered furbearer harvests and total permits issued, 1985-87^a.

Year	Bobcat		Fisher		Marten		Otter	
	Permits	Harvest	Permits	Harvest	Permits	Harvest	Permits	Harvest
1985	---	119	---	678	746	430	---	559
1986	---	160	3,302	1,067	2,171	798	3,198	777
1987	---	214	4,952	1,642	3,025	1,363	4,708	1,386

^a Prior request tags and permits were required beginning 1985 for marten and in 1986 for fisher and otter. No possession tags or permits are required for bobcat.

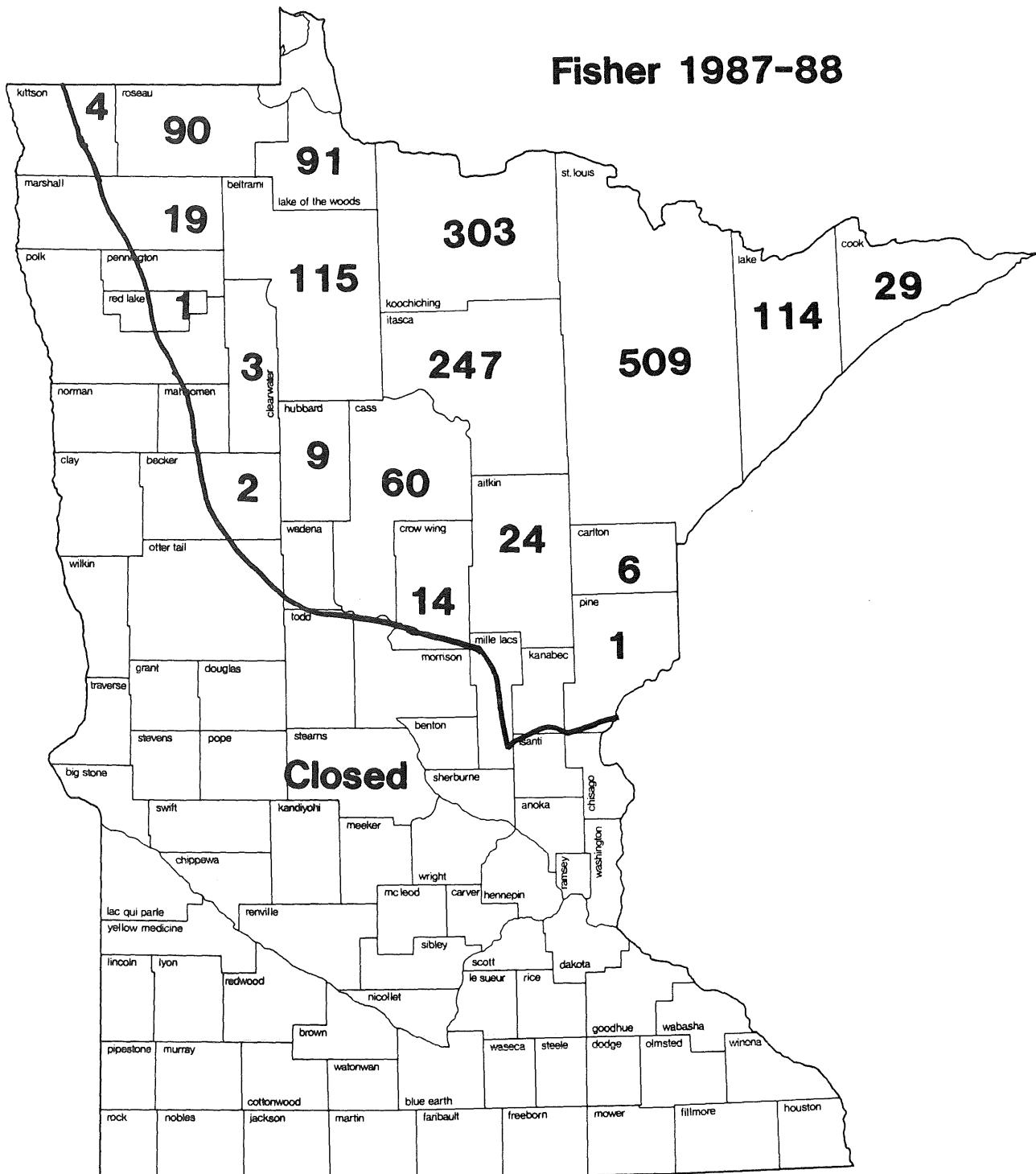


Figure 38. Fisher harvest by county, 1987-88.

Table 107. Fisher harvest by date and sex, 1987-88 season.

Date	Sex			Total	% of known total	Cumulative percent
	Male	Female	Unknown			
11/28	3	2	0	5	0.3	0.3
11/29	24	25	0	59	3.6	3.9
11/30	48	34	0	82	5.1	9.0
12/01	38	62	0	100	6.2	15.2
12/02	39	59	0	98	6.0	21.2
12/03	52	59	0	111	6.8	28.0
12/04	39	57	0	96	5.9	33.9
12/05	70	101	0	171	10.5	44.4
12/06	65	65	0	130	8.0	52.4
12/07	43	57	0	100	6.2	58.6
12/08	47	67	1	115	7.1	65.7
12/09	45	53	1	99	6.1	71.8
12/10	47	74	0	121	7.5	79.3
12/11	32	54	0	86	5.3	84.6
12/12	78	72	2	152	9.4	94.0
12/13	40	56	0	96	5.9	100.0
Unknown	3	10	8	21	-	-
Total	713	917	12	1,642	100.0	100.0

Table 108. Fisher harvest by county and sex, 1987 season.

County	Sex			Total
	Male	Female	Unknown	
Aitkin	13	11	0	24
Becker	1	1	0	2
Beltrami	53	62	0	115
Carlton	2	4	0	6
Cass	34	26	0	3
Clearwater	0	3	0	3
Cook	9	20	0	29
Crow Wing	6	8	0	14
Hubbard	5	4	0	9
Itasca	98	147	2	247
Kittson	1	3	0	4
Koochiching	114	188	1	303
Lake	45	68	1	114
Lake of the Woods	52	39	0	91
Marshall	13	6	0	19
Norman	0	1	0	1
Pine	1	0	0	1
Red Lake	1	0	0	1
Roseau	51	39	0	90
St. Louis	216	293	0	509
Total	715	923	4	1,642

Table 109. Comparison of fisher harvest by county, 1982-87.

County	1982	1983	1984	1985	1986	1987
Aitkin	15	5	10	8	8	24
Becker	2	4	3	1	4	2
Beltrami	41	25	96	27	71	115
Carlton	4	4	3	0	3	6
Cass	6	3	19	17	32	60
Clearwater	1	3	6	4	4	3
Cook	21	18	16	9	15	29
Crow Wing	6	2	11	6	11	14
Hubbard	0	0	7	1	7	9
Itasca	139	72	228	84	183	247
Kittson	0	6	2	1	1	4
Koochiching	182	123	255	157	195	303
Lake	115	37	80	49	81	114
Lake of the Woods	52	32	85	46	58	91
Marshall	6	13	10	5	2	19
Norman	0	0	0	0	1	1
Pine	0	1	1	0	0	1
Polk	0	0	0	0	1	0
Red Lake						1
Roseau	36	86	111	68	75	90
St. Louis	286	197	345	195	316	509
Unknown	0	0	1	0	0	0
Total	912	631	1,289	678	1,068	1,642

Otter 1987-88

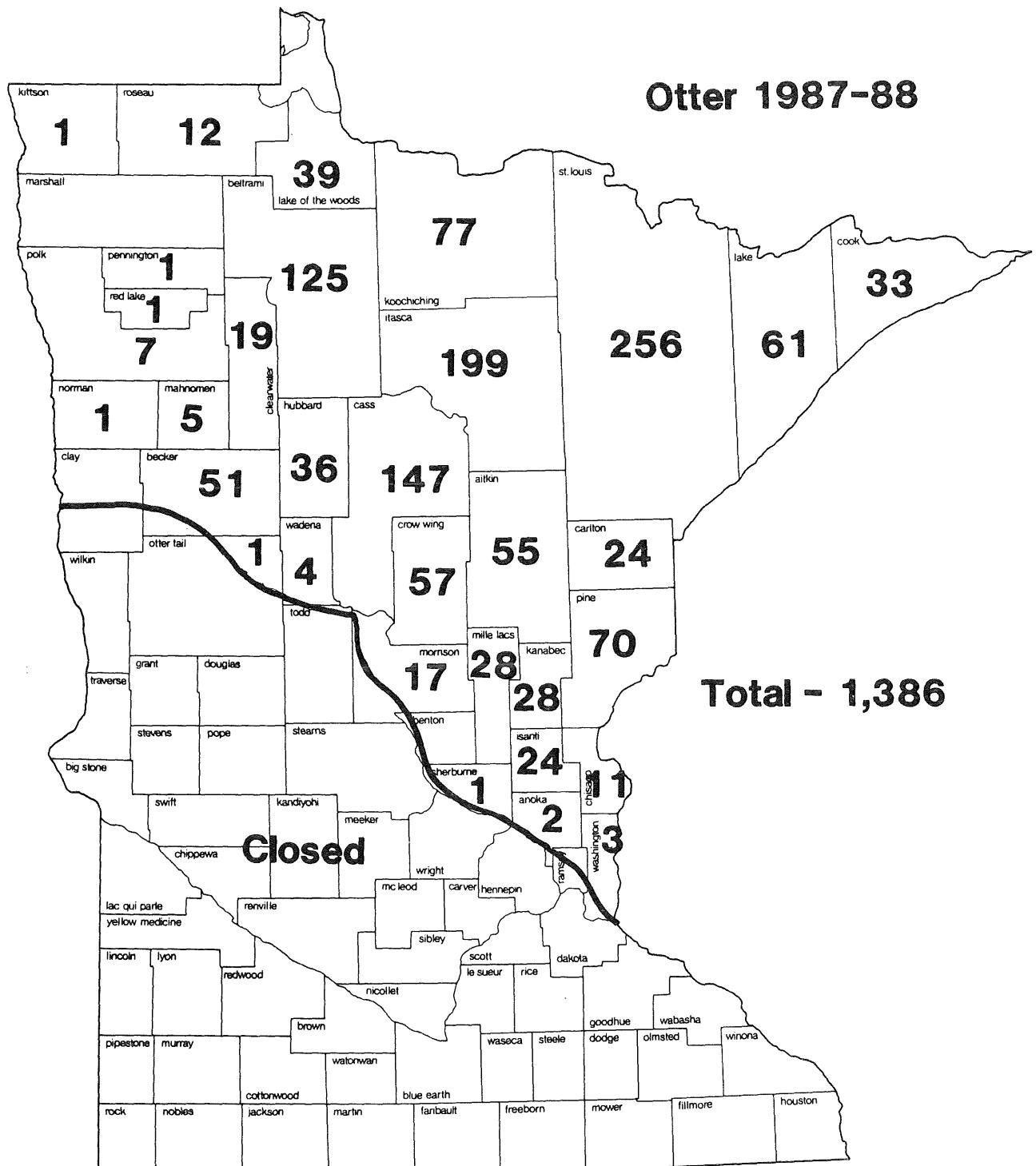


Figure 39. Otter harvest by county, 1987-88.

Table 110. Comparison of otter harvest by county, 1982-87.

County	1982	1983	1984	1985	1986	1987
Aitkin	20	25	34	17	43	55
Anoka	0	0	0	0	4	2
Becker	8	15	18	24	34	41
Beltrami	39	23	33	46	66	125
Carlton	4	5	13	10	13	24
Cass	36	33	49	59	67	147
Chisago	0	0	0	0	4	11
Clearwater	9	6	11	6	17	19
Cook	17	4	16	5	20	33
Crow Wing	15	13	15	26	27	57
Hubbard	21	15	22	25	27	36
Isanti	0	0	0	0	12	24
Itasca	56	69	94	96	123	199
Kanabec	4	9	9	4	14	28
Kittson	0	0	0	0	1	0
Koochiching	23	26	34	38	45	77
Lake	15	20	18	25	47	61
Lake of the Woods	9	11	13	5	9	39
Mahnomen	2	2	3	14	6	5
Marshall	0	2	0	1	0	1
Mille Lacs	2	7	7	4	9	28
Morrison	0	0	0	0	3	17
Norman						1
Ottertail	1	1	1	1	4	1
Pennington	0	0	0	1	0	1
Pine	21	14	29	20	21	70
Polk	3	4	5	6	5	7
Red Lake	3	0	0	0	0	1
Roseau	3	3	5	5	7	12
St. Louis	69	96	96	119	145	256
Sherburne	0	0	0	0	1	1
Wadena	4	4	2	2	1	4
Washington						3
Unknown	1	1	2	0	2	0
Total	385	408	529	559	777	1,386

Table 111. Otter harvest by date and sex, 1987-88 season.

Date	Sex			Total	% of known Total	Cumulative percent
	Male	Female	Unknown			
10/24*	2	1	0	3	0.2	0.2
10/25*	12	9	0	21	1.6	1.8
10/26*	15	8	0	23	1.7	3.5
10/27*	18	7	0	25	1.9	5.4
10/28*	17	19	0	36	2.7	8.1
10/29*	13	8	3	24	1.8	9.9
10/30*	7	7	0	14	1.0	10.9
11/01	20	21	0	41	3.1	15.4
11/02	19	27	0	46	3.4	18.9
11/03	30	18	0	48	3.6	22.5
11/04	16	20	0	36	2.7	25.2
11/05	34	21	0	55	4.1	29.3
11/06	21	22	0	43	3.2	49.0
11/07	23	13	0	36	2.7	35.3
11/08	18	23	0	41	3.1	38.4
11/09	14	23	0	37	2.8	41.2
11/10	26	34	0	60	4.6	45.8
11/11	21	22	0	43	3.2	49.0
11/12	14	9	0	23	1.7	50.7
11/13	13	12	0	25	1.9	52.6
11/14	22	24	0	46	3.4	56.0
11/15	37	43	0	80	6.0	62.0
11/16	17	18	0	35	2.6	64.4
11/17	13	23	0	36	2.7	67.3
11/18	24	22	0	46	3.4	70.7
11/19	18	6	0	24	1.8	72.5
11/20	35	24	0	59	4.4	76.9
11/21	16	18	0	34	2.5	79.4
11/22	21	11	0	32	2.4	81.8
11/23	23	10	0	31	2.3	84.1
11/24	27	19	0	46	3.4	87.5
11/25	13	17	0	30	2.2	89.7
11/26	19	13	0	32	2.4	92.1
11/27	6	9	0	24	1.8	93.9
11/28	20	13	0	33	2.5	96.4
11/29	20	27	0	47	3.6	100.0
Unknown	38	13	0	51	--	--
Total	746	637	0	1,386	100.0	100.0

* Open in North Zone only.

Table 112. Otter harvest by county and sex, 1987-88 season.

County	Sex			Total
	Male	Female	Unknown	
Aitkin	32	23	0	55
Anoka	1	1	0	2
Becker	22	19	0	41
Beltrami	61	64	0	125
Carlton	13	11	0	24
Cass	76	71	0	147
Chisago	6	5	0	11
Clearwater	12	7	0	19
Cook	21	12	0	33
Crow Wing	33	24	0	57
Hubbard	23	13	0	36
Isanti	14	10	0	24
Itasca	115	81	3	199
Kanabec	16	12	0	28
Koochiching	34	43	0	77
Lake	37	24	0	61
Lake of the Woods	20	19	0	39
Mahnomen	2	3	0	5
Marshall	1	0	0	1
Mille Lacs	9	19	0	28
Morrison	12	5	0	17
Norman	1	0	0	1
Ottertail	0	1	0	1
Pennington	1	0	0	1
Pine	32	38	0	70
Polk	4	3	0	7
Red Lake	1	0	0	1
Roseau	9	3	0	12
St. Louis	133	123	0	256
Sherburne	0	1	0	1
Wadena	2	2	0	4
Washington	3	0	0	3
Total	746	637	3	1,386

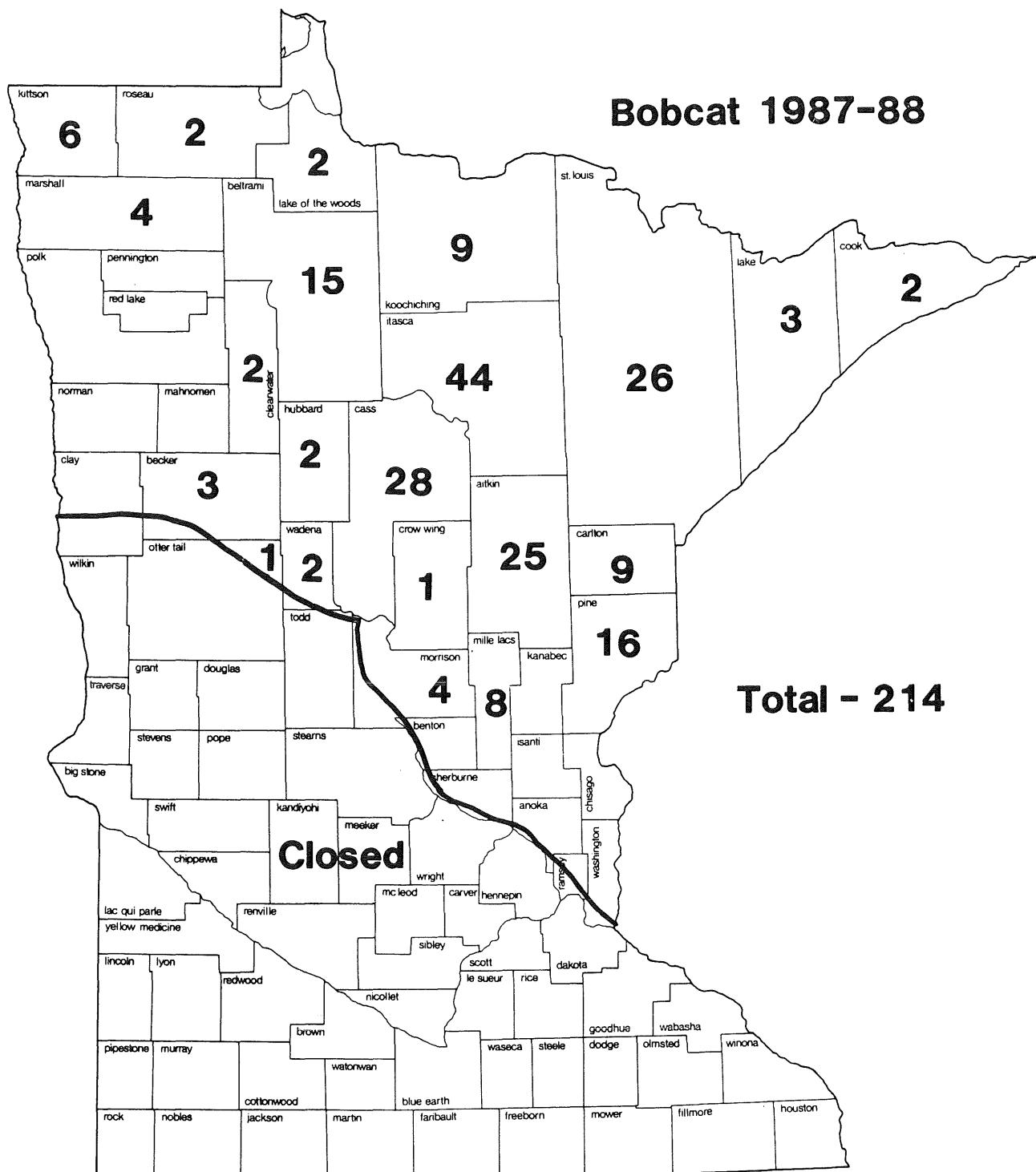


Figure 40. Bobcat harvest by county, 1987-88.

Table 113. Distribution of bobcat harvest among takers, 1979-80 through 1987-88.

Number taken Takers		1 #	1 %	2 #	2 %	3 #	3 %	4 #	4 %	5 #	5 %
1979-80		88	(61.1)	34	(23.6)	9	(6.2)	4	(2.8)	9	(6.2)
1980-81		51	(55.4)	21	(22.8)	6	(6.5)	4	(4.3)	10	(10.9)
1981-82		123	(71.1)	29	(16.8)	10	(5.8)	5	(2.9)	6	(3.5)
1982-83		111	(65.3)	30	(17.6)	16	(9.4)	10	(5.9)	3	(1.8)
1983-84		108	(72.0)	32	(21.3)	6	(4.0)	4	(2.7)	0	(0.0)
1984-85		116	(65.2)	39	(21.9)	13	(7.3)	9	(5.1)	1	(0.5)
1985-86		70	(78.7)	11	(12.4)	6	(6.7)	1	(1.1)	1	(1.1)
1986-87		92	(76.7)	18	(15.0)	9	(7.5)	0	(0.0)	1	(0.8)
1987-88		104	(71.7)	23	(15.9)	10	(6.9)	6	(4.1)	2	(1.4)
Total 1980-88		863	(68.4)	237	(18.8)	85	(6.7)	43	(3.4)	33	(2.6)

Table 114. Time distribution of bobcat harvest by 5-day increments, 1987-88 season.

Interval	Sex			Total	% of Total	Cumulative Percent
	M	F	U			
Nov. 28-Dec. 2	9	12	0	21	9.8	9.8
Dec. 3-7	17	27	0	44	20.6	30.4
Dec. 8-12	14	29	0	43	20.1	50.5
Dec. 18-22	15	10	1	26	12.1	73.3
Dec. 23-27	6	19	0	25	11.7	85.0
Dec. 28-Jan. 1	6	16	0	22	10.3	95.3
Jan. 2-3 ^a	0	6	0	6	2.8	98.1
Unknown	0	0	4	4	1.9	100.0
Total	76	133	5	214	100.0	100.0

^a 1-day interval

Table 115. Comparison of bobcat harvest by county, 1982-83 through 1987-88.

County	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Aitkin	28	20	25	14	12	25
Becker	6	8	9	1	1	3
Beltrami	18	17	24	5	7	15
Carlton	15	4	20	6	9	9
Cass	30	13	42	20	34	28
Chisago	1	0	0	1	0	0
Clearwater	1	1	0	0	3	2
Cook	2	0	1	0	1	2
Crow Wing	4	4	5	6	5	1
Hubbard	4	1	1	0	0	2
Isanti	0	0	0	0	1	0
Itasca	46	36	50	15	28	44
Kanabec	2	2	6	2	3	0
Kittson	5	3	0	0	3	6
Koochiching	3	12	8	8	6	9
Lake	8	3	1	1	1	3
Lake of the Woods	3	1	1	1	0	2
Marshall	2	3	1	1	3	4
Mille Lacs	0	6	0	4	3	8
Morrison	5	7	5	4	4	4
Ottertail	2	1	1	3	2	1
Pine	20	24	20	14	11	16
Polk	0	0	1	0	0	0
Red Lake	0	0	0	1	0	0
Renville	0	0	1	0	0	0
Roseau	9	9	14	2	2	2
St. Louis	59	32	43	8	19	26
Wadena	0	1	1	2	0	2
Unknown	1	0	1	0	2	0
Total	274	208	280	119	160	214

Table 117. Marten harvest by county and sex, 1987-88.

County	Sex			Total
	Male	Female	Unknown	
Cook	116	27	0	143
Koochiching	175	100	0	275
Lake	212	53	5	270
St. Louis	465	207	3	675
Total	968	387	4	1,363

Table 118. Comparison of marten harvest by county, 1985-87.

County	1985	1986	1987
Cook	51	75	143
Koochiching	72	159	275
Lake	119	160	270
St. Louis	188	401	675
Unknown	0	3	0
Total	430	798	1,363

Table 119. Marten harvest by date and sex, 1986-87.

Date	Male	Female	Unknown	Total	% of Total	Cumulative Percent
11/28	2	3	4	9	0.7	0.7
11/29	93	30	0	123	9.0	9.7
11/30	62	19	0	81	5.9	15.6
12/01	71	31	0	102	7.5	23.1
12/02	63	28	1	92	6.7	29.8
12/03	69	22	1	91	6.7	36.5
12/04	60	22	1	83	6.1	42.6
12/05	153	49	0	202	14.8	57.4
12/06	77	35	1	113	8.3	65.7
12/07	56	22	0	78	5.7	71.4
12/08	51	27	0	78	5.7	77.1
12/09	54	17	0	71	5.2	82.3
12/10	38	35	0	73	5.4	87.7
12/11	31	9	0	40	2.9	90.6
12/12	51	23	0	74	5.5	96.1
12/13	24	13	0	37	2.7	98.8
Unknown	13	2	1	16	1.2	100.0
Total	968	387	8	1,363	100.0	100.0