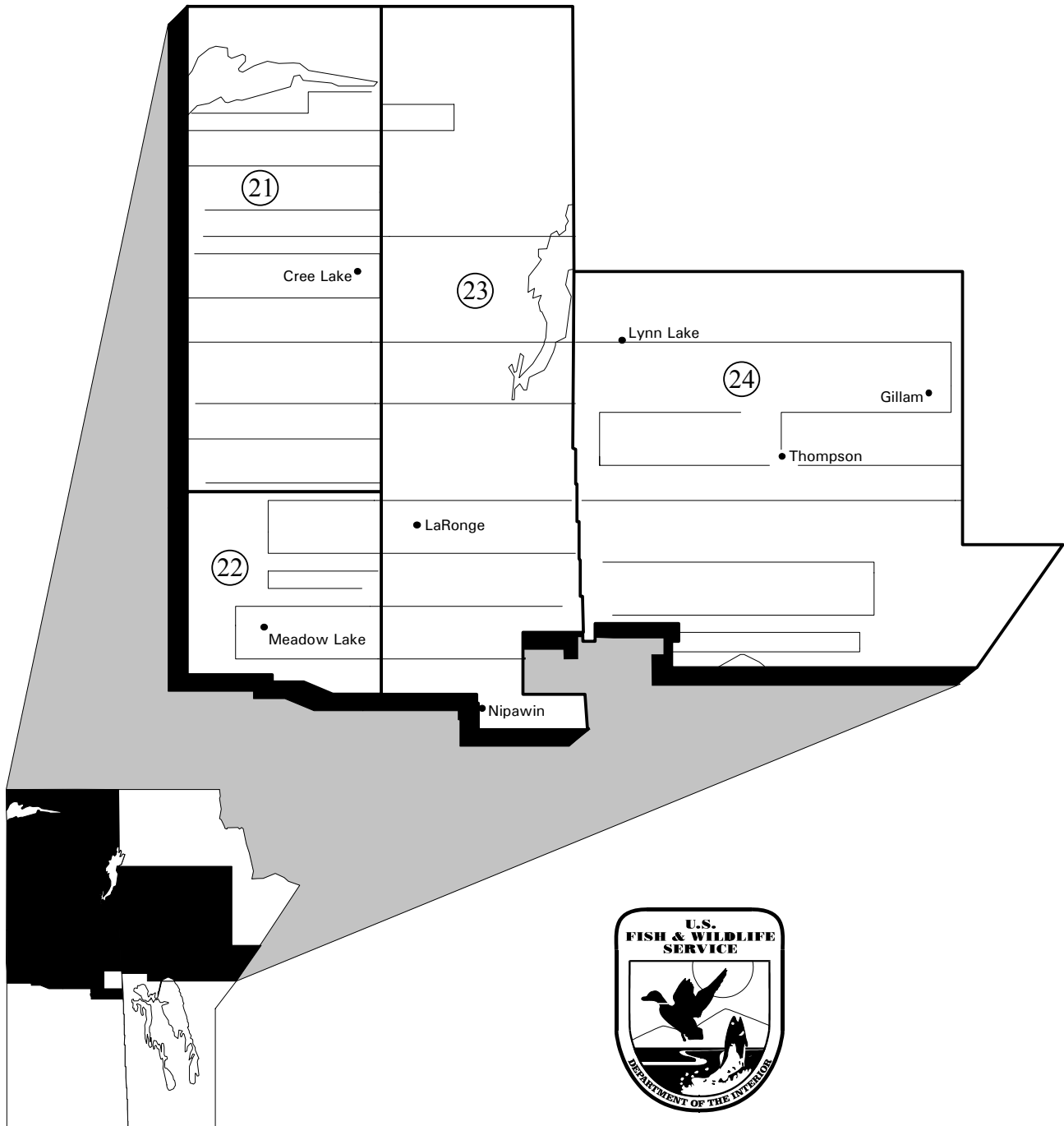


NORTHERN MANITOBA AND NORTHERN SASKATCHEWAN

Waterfowl Breeding Population Survey

2008



The data presented in this report are preliminary and subject to further editing. Final estimates will be available from the U.S. Fish and Wildlife Service, Office of Migratory Bird Management, Laurel, Maryland 20708

**Waterfowl Breeding Population Survey:
Northern Manitoba, Northern Saskatchewan**

STRATA SURVEYED:

21-24

DATES:

May 15-June 8, 2008

DATA SUPPLIED BY:

U. S. Fish and Wildlife Service

AERIAL CREW

Pilot/Observer:

Fred Roetker, Flyway Biologist
Division of Migratory Bird Management
Lafayette, LA

Observer:

Paul Yakupzack, Refuge Manager
Mandalay National Wildlife Refuge
Houma, LA

ABSTRACT: Waterfowl numbers were mixed in northern Saskatchewan and northern Manitoba. Mallard numbers were 10.9% above 2007 values. Results from selected species are listed below:

	Estimates in thousands	% change from 2007	% change from 10 yr. mean	% change from 1955-07 mean
Mallard	532.2	10.9%	-16.6%	-32.6%
Wigeon	78.5	-32.9%	-43.4%	-60.1%
GW-Teal	253.6	-12.5%	1.2%	55.4%
Scaup	342.1	42.2%	4.4%	-22.7%
Ringneck	331.7	-19.9%	-8.5%	27.2%

METHODS: The procedures followed in conducting this survey are contained in the Standard Operating Procedures for Aerial Breeding Population and Habitat Surveys in North America, Section III, revised 1987. Waterfowl data were collected using an aerial onboard computerized recording system designed to attribute each waterfowl observation with a respective latitude/longitude location. Observations were then logged along with sample details, i.e., strata transects, segments, time, and climatic conditions. This survey system began testing in Alaska during 1996 and has been gradually implemented in each survey crew area since. During this transition, the Migratory Bird Management Office elected to redesign the sampling of stratum 25, historically included in this report. This effort, effective during the 1998 and 1999 surveys, was intended to more appropriately sample the number and distribution of breeding waterfowl across the stratified habitat type. Historically, nine segments were concentrated in the Saskatchewan River delta and were not all oriented on latitude. In the new design, all thirty segments have been oriented on latitude with only five segments in the river delta area. There are now a total of five transects evenly distributed throughout the stratum, however, the sampling area is still identical to the historic survey. Direct comparisons of the 1998-2008 and historic data should be made only after evaluating this design change. Beginning with the May 2000 survey, the Migratory Bird Office elected to report Stratum 25 data in the Southern Manitoba Waterfowl Breeding Population Survey report since the southern Manitoba crew typically flies Stratum 25 and collects the data. Historic tables and graphs in this report have been adjusted to accommodate this change. An amphibian Cessna 206 was used to complete the survey. No crew member changes occurred in 2008. This was the second BPOP survey in this crew area for Paul Yakupzack, Mandalay National Wildlife Refuge, Houma, LA. The 2007 effort was the 14th consecutive in this survey area for the pilot/observer.

WEATHER AND HABITAT CONDITIONS: Spring break-up was later than in several years. Large, deep lakes were very slow to give up their thicker than normal ice. However while the large lakes were thawing, smaller habitats were being well used by waterfowl. Flocked mallard drakes were prevalent by mid-May, and we observed our first Canada goose brood on May 23. Apparently a short window of mild spring weather gave several species enough open water to get underway. Wetland conditions were variable throughout northern Saskatchewan and Manitoba. Water levels were generally low in streams and major rivers. However, some drainages would uncharacteristically exhibit high water or minor flooding. Snowfall was evidently quite variable across the region, and run-off was variable as well. Conditions in the countless small wetlands and beaver ponds across the landscape were not as stable as usual. Many were dry and others recessionary. The Nelson River system in Manitoba was lower than typical; loafing sites along with miles of quality shoreline nesting habitat abounded.

BREEDING POPULATION ESTIMATES: Table 1 presents breeding waterfowl population data along with comparisons to 2007, the 1998 to 2007 average, and the 1955-2007 average. Appendix 1 presents earlier waterfowl breeding estimates.

CONCLUSIONS: Breeding waterfowl numbers were mixed in 2007. Mallard and pintail numbers were up (10.9%) and (38.2%) respectively from 2007, however wigeon (-32.9%) and green-winged teal (-12.5%) estimates were down. Scaup were up (42.2%) from 2007, up (4.4%) from the ten year mean, however continued to be down (-22.7%) from the long term mean. The late spring and recessionary nature of many small wetlands are negative factors. However the absence of flooding along major rivers, and the overall abundance of habitat at these northern latitudes should bode well for waterfowl production.

Table 1: Status of waterfowl population estimates (thousands, adjusted for visibility bias), by species and stratum with comparison for the previous year, the previous 10-year mean, and the long-term mean for Northern Saskatchewan, and Northern Manitoba.

Species/Ponds	Stratum 2008										% Change From		
	2008					2007 Total	10-Year		Long-Term Mean	2007	10-Year		Long-term Mean
	21	22	23	24	Total		Mean	Mean			Mean	Mean	
Ducks													
Dabblers													
Mallard	99.6	98.1	141.7	192.8	532.2	480.0	638.2	789.6	10.9	-16.6	-32.6		
American Black Duck	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.5	--	-100.0	-100.0		
Gadwall	0.0	1.5	1.5	3.2	6.2	6.8	11.2	15.9	-9.5	-44.7	-61.0		
American wigeon	11.5	9.9	11.3	45.9	78.5	117.1	138.9	197.0	-32.9	-43.4	-60.1		
American Green-winged teal	39.0	40.7	76.9	97.1	253.6	289.7	250.6	163.2	-12.5	1.2	55.4		
Blue-winged teal	1.5	35.4	3.3	20.9	61.1	45.9	97.7	167.3	33.0	-37.5	-63.5		
Northern shoveler	0.8	9.5	1.7	3.7	15.6	20.1	15.5	22.4	-22.2	1.2	-30.2		
Northern pintail	1.2	2.0	0.0	0.9	4.1	3.0	7.5	23.2	38.2	-45.7	-82.4		
Subtotal	153.5	196.9	236.4	364.5	951.3	962.6	1159.9	1380.2	-1.2	-18.0	-31.1		
Divers													
Redhead	0.0	1.9	0.0	0.5	2.5	4.9	6.4	11.3	-49.3	-61.3	-78.2		
Canvasback	0.0	1.3	0.0	2.7	4.0	16.9	14.8	25.0	-76.4	-73.1	-84.1		
Scaups	44.9	57.9	152.8	86.4	342.1	240.7	327.8	442.9	42.2	4.4	-22.7		
Ring-necked duck	45.6	69.4	91.5	125.3	331.7	414.0	362.7	260.9	-19.9	-8.5	27.2		
Goldeneye's	43.9	45.3	66.3	121.7	277.1	339.0	303.1	170.2	-18.3	-8.6	62.8		
Bufflehead	49.4	31.6	84.2	40.9	206.2	259.4	232.0	143.7	-20.5	-11.1	43.5		
Ruddy Duck	0.0	2.2	0.0	0.0	2.2	5.4	5.6	5.9	-58.9	-60.7	-63.0		
Subtotal	183.8	209.7	394.7	377.6	1165.8	1280.1	1252.4	1059.9	-8.9	-6.9	10.0		
Miscellaneous													
Mergansers	16.4	7.5	53.5	79.7	157.2	136.0	217.4	180.3	15.6	-27.7	-12.8		
Long-tailed duck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--	-100.0		
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	--	-100.0	-100.0		
Scoters	3.6	0.0	2.2	30.9	36.6	50.1	62.0	57.8	-26.9	-40.9	-36.6		
Subtotal	20.0	7.5	55.7	110.6	193.8	186.1	279.5	238.2	4.1	-30.7	-18.6		
Total Ducks	357.3	414.1	686.8	852.6	2310.9	2428.8	2691.7	2678.2	-4.9	-14.1	-13.7		
Canada Goose	37.2	21.9	65.1	122.4	246.5	153.9	189.3	103.2	60.2	30.2	138.9		
American coot	0.0	24.4	4.7	2.5	31.5	19.8	42.9	56.4	59.6	-26.4	-44.0		

Table 2. Northern Saskatchewan, Northern Manitoba stratum data sheet, May 2008.

	Strata				
	21	22	23	24	Total
Square miles in stratum	44,922	20,278	68,320	82,966	216,486
Square miles in sample	418.5	166.5	301.5	513.0	1,399.5
Linear miles in sample	1,674	666	1,206	2,052	5,598
Number of transects in sample	11	6	9	8	34
Number of segments in sample	93	37	67	114	311
Expansion factor	107.341	121.790	226.600	161.727	

Current Year Design:	Strata				
	21	22	23	24	Total
Square mile in stratum	44,922	20,278	68,320	82,966	216,486
Square miles in sample	418.5	166.5	301.5	513.0	1,399.5
Linear miles in sample	1,674	666	1,206	2,052	5,598
Number of transects in sample	11	6	9	8	34
Number of segments in sample	93	37	67	114	311
Expansion factor	107.34	121.79	226.60	161.73	

Appendix 1: Long-term trend in adjusted waterfowl breeding population estimates (thousands).

Species/Ponds	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Ducks										
Dabblers										
Mallard	572.4	724.4	504.1	904.6	757.9	388.1	430.4	422.2	396.3	511.6
American Black Duck	0.0	0.0	0.0	0.0	2.7	3.6	2.4	10.1	1.6	13.4
Gadwall	1.0	1.0	5.6	0.0	25.7	1.0	34.3	9.9	9.4	8.5
American wigeon	105.4	22.9	45.8	23.6	86.6	123.2	104.0	112.4	103.8	147.2
American Green-winged teal	53.0	35.6	12.3	0.0	76.2	10.7	7.8	27.2	26.5	75.2
Blue-winged teal	13.8	35.9	33.5	143.4	92.6	40.8	13.8	170.8	169.9	305.4
Northern shoveler	4.2	1.9	0.0	2.6	19.7	0.0	0.0	9.0	5.8	55.4
Northern pintail	21.0	48.0	17.8	9.4	44.6	11.4	111.7	12.8	32.3	33.3
Subtotal	770.7	869.8	619.2	1083.6	1105.9	578.8	704.2	774.4	745.6	1150.0
Divers										
Redhead	30.4	0.0	1.0	0.0	0.0	21.1	6.2	11.4	12.8	30.2
Canvasback	22.3	22.5	0.0	2.3	45.9	13.3	43.4	5.9	42.7	154.4
Scaups	449.2	228.2	779.6	359.9	449.5	131.5	215.2	239.2	277.3	312.5
Ring-necked duck	113.2	46.3	0.0	0.0	2.5	23.1	36.7	90.4	193.1	140.6
Goldeneye's	57.3	1.2	6.4	191.1	489.5	219.8	136.9	126.6	62.3	39.3
Bufflehead	45.9	15.7	18.8	27.4	26.9	124.8	28.0	54.6	39.8	30.0
Ruddy Duck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.8	9.9	0.1
Subtotal	718.3	313.8	805.9	580.7	1014.3	533.6	466.5	551.9	638.0	707.0
Miscellaneous										
Mergansers	160.2	51.5	35.7	89.3	77.2	75.0	40.6	99.7	125.7	73.7
Long-tailed duck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scoters	12.1	6.8	71.8	26.7	100.5	5.5	44.4	33.9	13.9	39.5
Subtotal	172.3	58.3	107.6	116.1	177.7	80.5	85.0	133.7	139.5	113.2
Total Ducks	1661.4	1241.9	1532.6	1780.4	2297.9	1192.9	1255.7	1459.9	1523.2	1970.3
Canada Goose	71.3	65.5	48.7	53.1	147.2	26.5	94.8	17.4	15.7	42.6
American coot	0.0	0.0	0.0	0.0	22.5	7.9	0.0	5.5	17.3	6.3

Species/Ponds	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Ducks										
Dabblers										
Mallard	719.7	453.0	1363.3	1221.0	1368.0	1834.2	869.6	724.6	849.6	540.0
American Black Duck	2.6	1.5	7.8	5.8	0.0	1.1	0.0	0.0	0.0	0.0
Gadwall	26.4	22.6	51.3	48.6	46.8	28.9	7.7	18.3	22.5	9.7
American wigeon	185.9	178.3	143.4	321.0	345.3	532.7	379.9	240.0	252.1	168.4
American Green-winged teal	67.1	58.3	80.6	68.1	138.1	102.6	134.2	111.7	99.7	119.8
Blue-winged teal	88.6	65.3	170.9	613.5	392.2	421.7	49.9	78.4	83.6	39.6
Northern shoveler	38.1	26.8	10.3	27.0	40.2	50.4	19.6	14.9	10.0	7.3
Northern pintail	18.1	22.7	27.9	48.5	58.3	72.7	42.7	14.9	23.7	14.1
Subtotal	1146.6	828.5	1855.6	2353.4	2389.0	3044.3	1503.7	1202.8	1341.2	898.9
Divers										
Redhead	29.6	11.6	27.4	49.4	12.7	49.6	11.3	5.2	7.5	0.8
Canvasback	33.1	25.0	42.1	55.2	18.3	99.4	5.0	11.7	40.0	3.1
Scaups	388.7	232.9	395.7	481.9	537.6	693.3	357.6	652.4	521.4	628.0
Ring-necked duck	172.1	239.5	184.2	277.0	242.1	393.0	338.7	221.6	139.1	110.7
Goldeneye's	62.5	66.6	13.8	39.3	141.5	213.4	107.5	89.4	155.6	103.8
Bufflehead	30.7	42.3	57.5	150.0	107.0	122.6	172.7	148.7	111.9	128.1
Ruddy Duck	7.9	5.0	12.4	37.1	1.3	10.0	0.0	3.9	1.0	0.0
Subtotal	724.8	622.8	733.1	1089.8	1060.5	1581.4	992.8	1133.0	976.5	974.4
Miscellaneous										
Mergansers	138.9	68.1	159.3	118.6	153.5	144.4	100.6	118.9	125.8	128.8
Long-tailed duck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scoters	17.2	39.6	33.2	81.0	126.7	35.5	46.3	92.3	60.0	37.2
Subtotal	156.0	107.7	192.5	199.6	280.2	179.9	146.9	211.2	185.7	166.0
Total Ducks	2027.4	1559.0	2781.2	3642.8	3729.6	4805.6	2643.5	2547.0	2503.4	2039.3
Canada Goose	96.3	44.6	77.8	69.7	119.7	48.2	57.9	48.7	29.6	29.0
American coot	15.5	8.2	29.3	193.7	20.5	47.9	17.3	13.6	41.7	7.8

Appendix 1: Continued.

Species/Ponds	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Ducks										
Dabblers										
Mallard	628.2	1074.0	891.0	1406.0	1282.0	968.7	1074.3	821.5	700.9	539.7
American Black Duck	0.0	0.6	6.3	2.6	0.7	1.1	1.0	0.0	0.5	0.0
Gadwall	4.5	8.9	27.0	9.4	4.4	17.8	50.9	13.0	15.0	8.1
American wigeon	172.1	247.8	246.7	337.0	272.3	308.4	313.2	232.9	278.9	242.8
American Green-winged teal	104.4	172.5	165.8	383.7	296.3	393.3	166.7	137.5	174.7	127.0
Blue-winged teal	119.3	311.4	293.4	291.3	111.2	253.6	376.3	160.1	65.5	148.5
Northern shoveler	25.3	10.3	56.5	17.9	14.5	27.9	40.2	16.6	18.1	17.8
Northern pintail	40.5	35.2	38.9	58.3	25.7	21.6	41.6	16.3	15.2	14.7
Subtotal	1094.3	1860.7	1725.6	2506.2	2007.1	1992.4	2064.0	1398.0	1268.9	1098.7
Divers										
Redhead	3.1	17.0	8.8	7.0	7.6	10.0	27.0	8.0	22.9	7.7
Canvasback	16.1	22.9	28.8	12.4	8.6	24.3	44.9	19.8	13.5	16.5
Scaups	584.6	435.6	470.4	548.8	889.9	435.8	404.1	459.3	738.4	430.5
Ring-necked duck	207.2	279.6	187.2	266.6	167.1	332.8	445.2	283.3	284.1	352.2
Goldeneye's	81.0	242.5	182.5	85.6	66.1	48.8	331.8	110.0	163.6	105.5
Bufflehead	109.2	203.8	147.5	190.2	189.4	148.0	177.5	121.9	221.3	108.6
Ruddy Duck	0.0	4.3	0.7	4.9	4.0	3.4	27.1	1.5	17.1	0.0
Subtotal	1001.1	1205.7	1026.0	1115.6	1332.7	1003.1	1457.6	1003.8	1460.9	1021.0
Miscellaneous										
Mergansers	262.1	114.3	181.3	296.3	152.3	282.0	263.8	147.5	302.6	273.0
Long-tailed duck	0.0	0.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scoters	52.6	78.6	89.2	88.3	78.9	108.9	86.4	119.2	198.0	64.0
Subtotal	314.7	193.6	271.6	384.6	231.2	390.9	350.2	266.7	500.6	337.0
Total Ducks	2410.1	3260.1	3023.2	4006.3	3571.0	3386.4	3871.8	2668.5	3230.4	2456.6
Canada Goose	31.1	66.3	50.5	168.1	116.4	80.3	96.8	52.6	93.6	64.9
American coot	21.0	50.2	228.5	55.9	12.6	324.3	526.1	33.3	24.5	94.8

Species/Ponds	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Ducks										
Dabblers										
Mallard	509.6	413.9	673.5	913.1	839.1	853.9	947.9	1016.1	928.7	1005.7
American Black Duck	0.4	0.5	0.5	0.0	0.5	0.0	0.9	2.9	2.0	1.1
Gadwall	3.3	9.7	9.2	22.6	8.6	8.6	34.9	7.7	18.4	24.1
American wigeon	180.8	142.2	183.8	264.1	287.2	254.5	247.8	202.4	209.7	344.3
American Green-winged teal	84.9	137.9	199.1	198.6	119.9	170.6	192.3	325.9	320.9	214.1
Blue-winged teal	236.1	65.9	127.0	485.6	281.1	170.4	357.0	374.4	338.0	132.2
Northern shoveler	10.9	5.4	20.7	65.2	16.3	33.2	25.1	95.4	25.2	36.0
Northern pintail	4.6	13.7	14.9	12.9	7.8	10.7	25.5	9.1	3.8	8.6
Subtotal	1030.5	789.3	1228.6	1962.1	1560.4	1502.0	1831.5	2033.8	1846.8	1766.1
Divers										
Redhead	8.1	12.0	10.0	14.1	2.1	5.7	1.4	7.7	1.1	19.6
Canvasback	14.1	4.6	7.5	31.2	14.6	23.3	16.1	94.7	16.1	9.5
Scaups	696.1	386.2	404.8	419.0	327.1	509.8	981.1	713.3	438.1	318.3
Ring-necked duck	341.5	288.5	445.0	291.2	181.0	278.3	332.6	834.5	373.0	323.1
Goldeneye's	66.4	236.8	145.7	39.6	40.9	57.1	104.4	328.7	178.4	112.6
Bufflehead	102.3	116.8	103.9	86.9	131.4	174.4	171.7	365.8	286.4	163.1
Ruddy Duck	0.7	5.2	5.1	2.8	5.7	28.8	10.7	7.2	0.0	0.0
Subtotal	1229.2	1049.9	1122.0	884.8	702.9	1077.4	1618.0	2351.9	1293.1	946.1
Miscellaneous										
Mergansers	240.4	246.2	287.3	224.1	176.2	173.1	317.2	180.3	186.4	323.8
Long-tailed duck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scoters	47.8	21.6	52.3	25.1	19.8	23.2	44.0	17.6	34.1	46.6
Subtotal	288.2	267.8	339.5	249.2	196.0	196.3	361.2	197.9	220.5	370.3
Total Ducks	2548.0	2107.1	2690.2	3096.2	2459.3	2775.7	3810.8	4583.7	3360.3	3082.6
Canada Goose	90.7	90.8	112.0	126.3	115.1	127.6	102.1	110.5	133.9	127.1
American coot	20.1	16.9	169.1	158.8	129.9	33.2	95.6	17.1	25.7	23.5

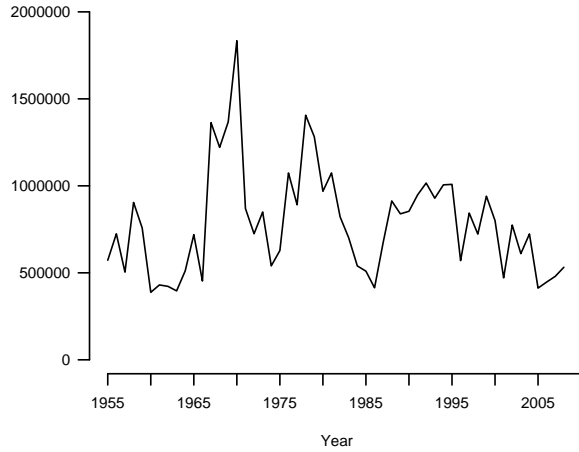
Appendix 1: Continued.

Species/Ponds	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Ducks										
Dabblers										
Mallard	1008.6	570.3	843.6	722.8	940.6	800.3	471.1	774.5	610.4	723.4
American Black Duck	0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0
Gadwall	24.6	4.3	15.1	4.7	7.4	6.0	6.9	14.1	19.0	16.4
American wigeon	156.0	144.1	163.3	157.7	173.7	114.0	84.8	175.1	188.0	140.9
American Green-winged teal	275.7	193.6	284.4	228.6	255.8	158.7	165.2	257.7	267.1	328.7
Blue-winged teal	77.7	53.9	39.6	103.9	114.3	80.0	111.7	201.2	148.4	38.7
Northern shoveler	53.5	25.0	32.7	19.6	18.1	18.1	11.9	19.1	3.7	18.2
Northern pintail	25.9	2.8	22.0	7.8	7.5	14.8	6.3	9.0	5.2	9.6
Subtotal	1621.9	994.1	1400.7	1245.1	1521.1	1191.8	857.9	1450.7	1241.7	1275.9
Divers										
Redhead	8.5	3.8	2.5	18.5	0.0	2.8	0.8	6.7	15.1	6.9
Canvasback	13.1	17.2	23.2	15.9	17.9	5.5	13.5	14.5	5.0	30.9
Scaups	391.3	390.6	488.9	204.9	494.9	269.7	239.0	354.5	324.6	553.5
Ring-necked duck	276.5	191.0	274.7	280.6	383.2	224.8	285.1	527.8	319.3	374.3
Goldeneye's	335.9	264.7	338.2	271.4	251.5	234.1	446.3	368.7	265.2	250.7
Bufflehead	156.9	135.5	200.0	211.7	234.6	224.7	191.1	236.0	246.5	279.5
Ruddy Duck	5.0	2.8	9.7	0.0	3.8	0.0	5.1	7.1	15.7	0.0
Subtotal	1187.1	1005.6	1337.3	1003.0	1386.0	961.4	1180.9	1515.3	1191.4	1495.8
Miscellaneous										
Mergansers	257.3	169.6	241.0	179.1	192.9	200.0	172.3	308.5	203.5	441.8
Long-tailed duck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0
Scoters	63.4	40.6	118.4	55.5	68.4	55.3	29.0	55.7	57.4	124.9
Subtotal	320.7	210.2	359.4	234.6	261.3	255.3	202.2	364.2	260.8	566.7
Total Ducks	3129.7	2209.9	3097.4	2482.7	3168.4	2408.6	2241.0	3330.2	2694.0	3338.4
Canada Goose	136.1	169.8	109.6	143.3	286.6	168.6	165.9	213.6	170.2	215.7
American coot	17.6	11.8	13.6	29.6	38.0	83.9	43.0	101.5	6.1	74.4

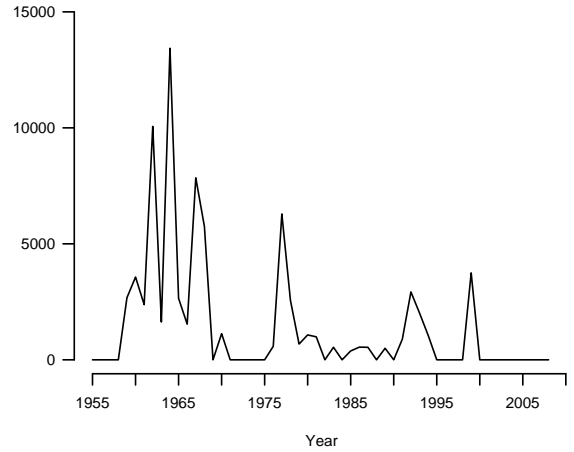
Species/Ponds	2005	2006	2007	2008
Ducks				
Dabblers				
Mallard	412.3	447.0	480.0	532.2
American Black Duck	0.0	0.0	0.0	0.0
Gadwall	15.4	15.2	6.8	6.2
American wigeon	141.3	96.0	117.1	78.5
American Green-winged teal	287.1	267.1	289.7	253.6
Blue-winged teal	68.3	64.1	45.9	61.1
Northern shoveler	19.3	6.6	20.1	15.6
Northern pintail	7.7	4.5	3.0	4.1
Subtotal	951.3	900.5	962.6	951.3
Divers				
Redhead	7.5	0.4	4.9	2.5
Canvasback	26.5	1.8	16.9	4.0
Scaups	310.2	285.8	240.7	342.1
Ring-necked duck	441.5	376.7	414.0	331.7
Goldeneye's	239.9	363.8	339.0	277.1
Bufflehead	218.1	218.8	259.4	206.2
Ruddy Duck	12.1	6.9	5.4	2.2
Subtotal	1255.6	1254.1	1280.1	1165.8
Miscellaneous				
Mergansers	181.4	158.1	136.0	157.2
Long-tailed duck	0.0	0.0	0.0	0.0
Eiders	0.0	0.0	0.0	0.0
Scoters	68.6	55.1	50.1	36.6
Subtotal	250.0	213.2	186.1	193.8
Total Ducks	2456.9	2367.8	2428.8	2310.9
Canada Goose	234.6	141.0	153.9	246.5
American coot	16.3	16.0	19.8	31.5

Appendix 2: Long-term trends in adjusted waterfowl breeding population estimates for Northern Saskatchewan and Northern Manitoba.

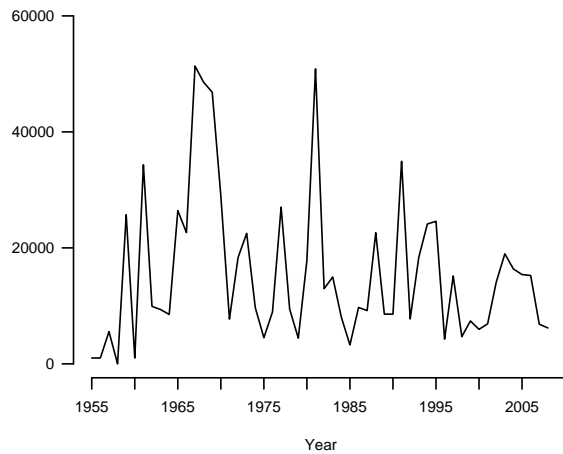
Strata 21,22,23,24 Mallard



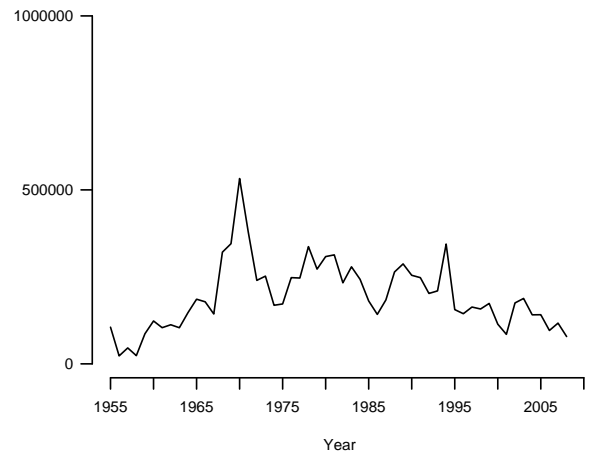
Strata 21,22,23,24 American Black Duck



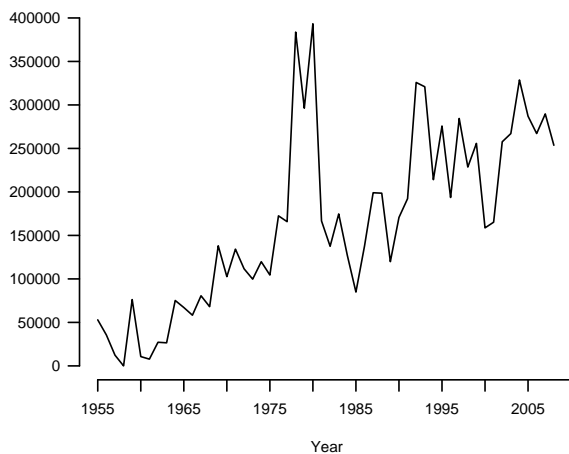
Strata 21,22,23,24 Gadwall



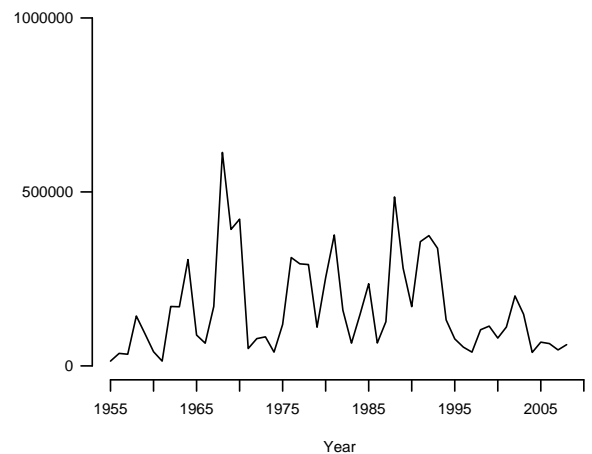
Strata 21,22,23,24 American wigeon



Strata 21,22,23,24 American Green-winged teal

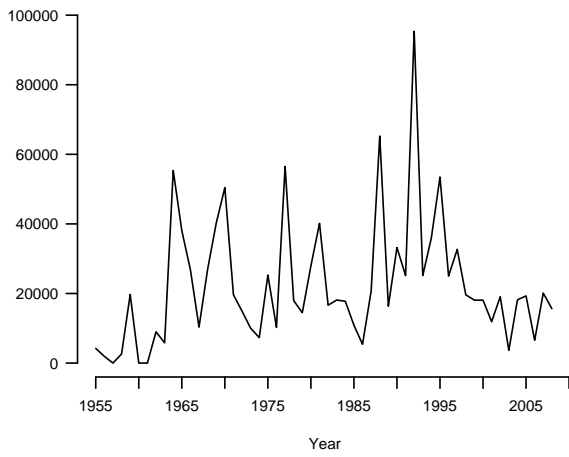


Strata 21,22,23,24 Blue-winged teal

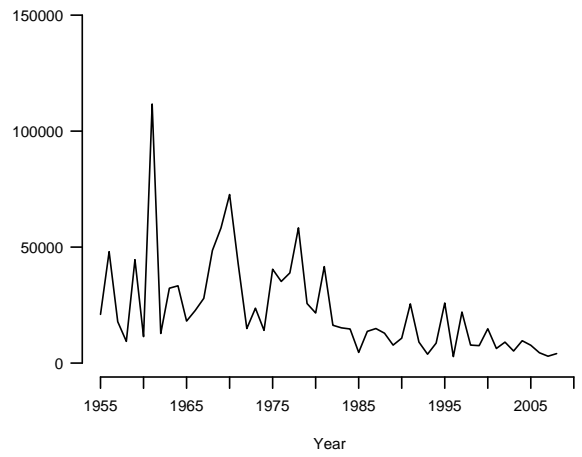


Appendix 2: Continued.

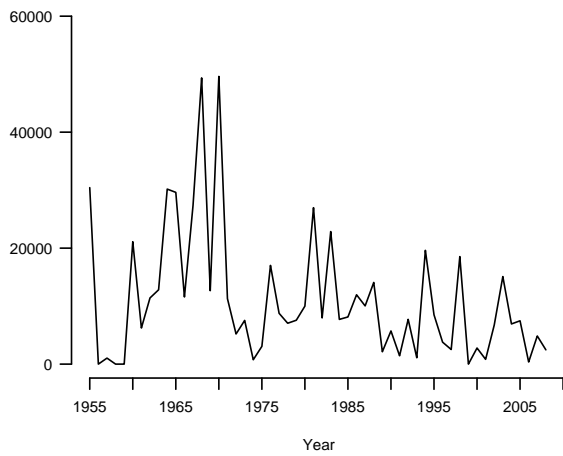
Strata 21,22,23,24 Northern shoveler



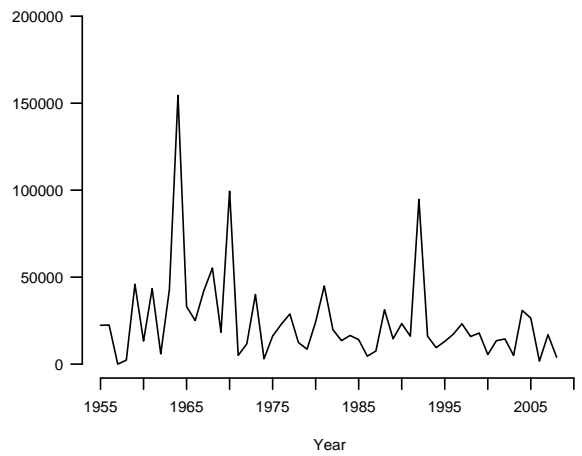
Strata 21,22,23,24 Northern pintail



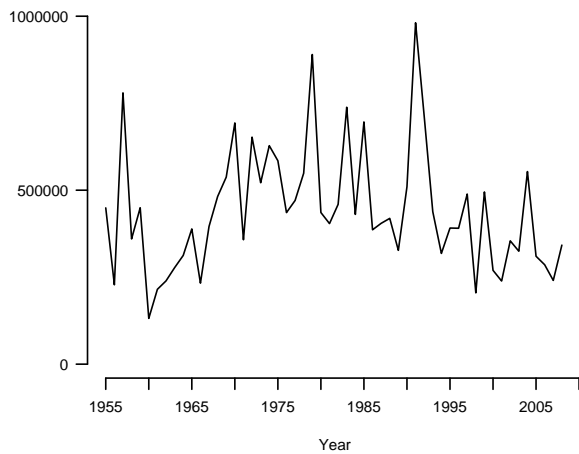
Strata 21,22,23,24 Redhead



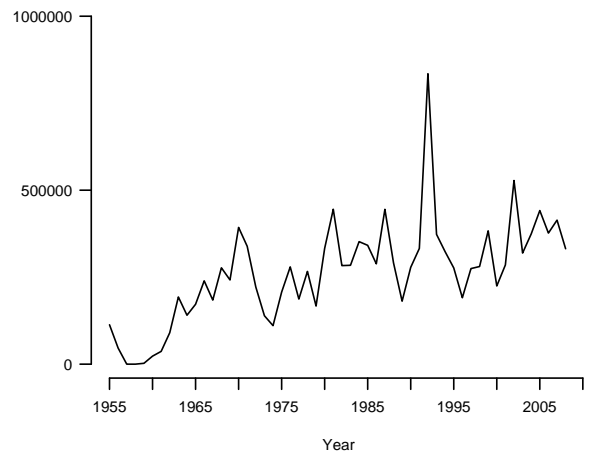
Strata 21,22,23,24 Canvasback



Strata 21,22,23,24 Scaups

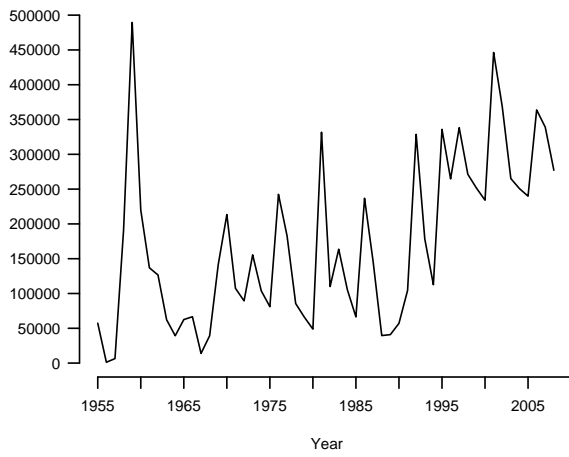


Strata 21,22,23,24 Ring-necked duck

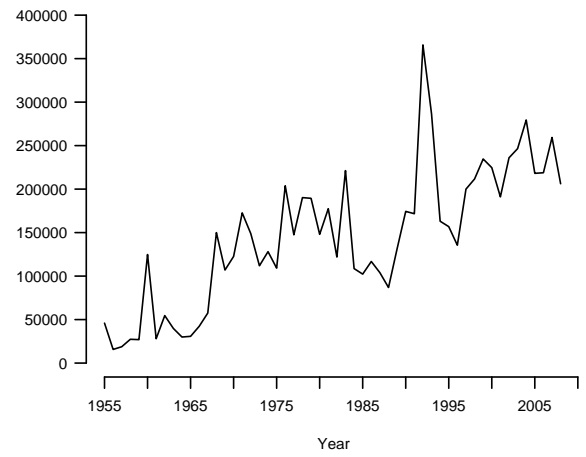


Appendix 2: Continued.

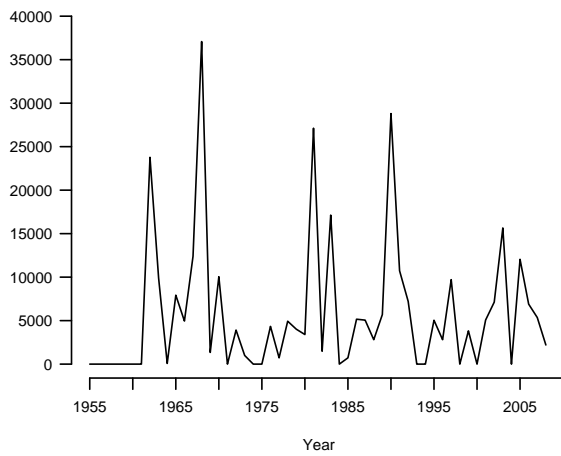
Strata 21,22,23,24 Goldeneye's



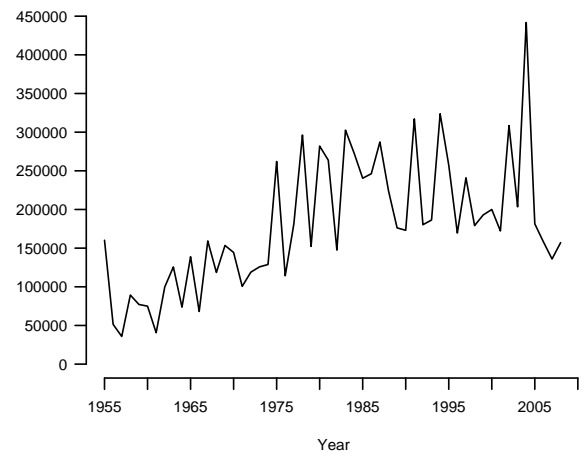
Strata 21,22,23,24 Bufflehead



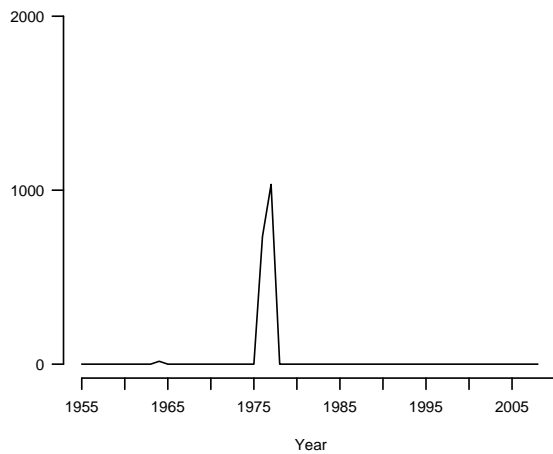
Strata 21,22,23,24 Ruddy Duck



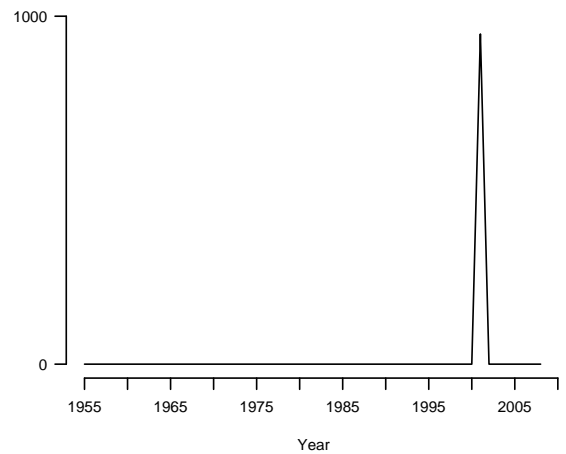
Strata 21,22,23,24 Mergansers



Strata 21,22,23,24 Long-tailed duck

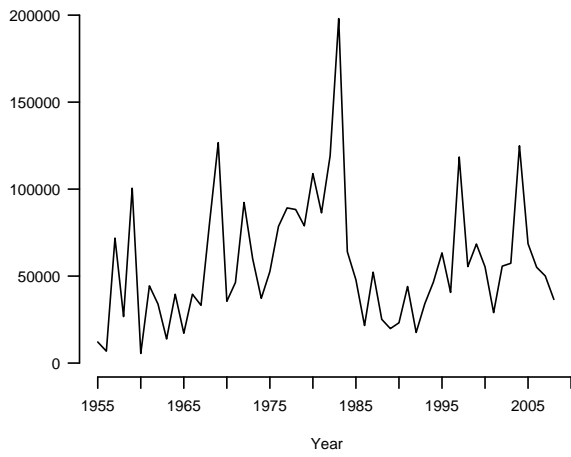


Strata 21,22,23,24 Eiders

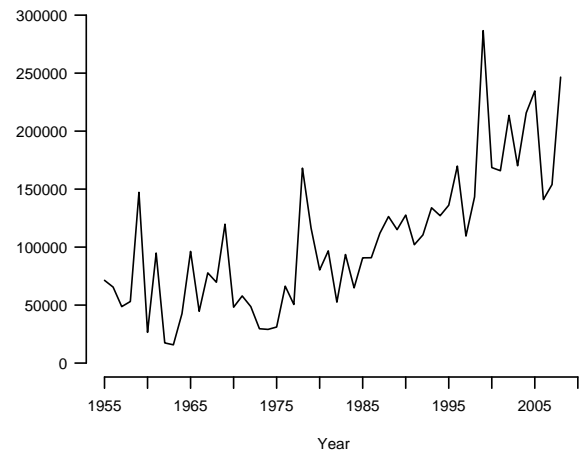


Appendix 2: Continued.

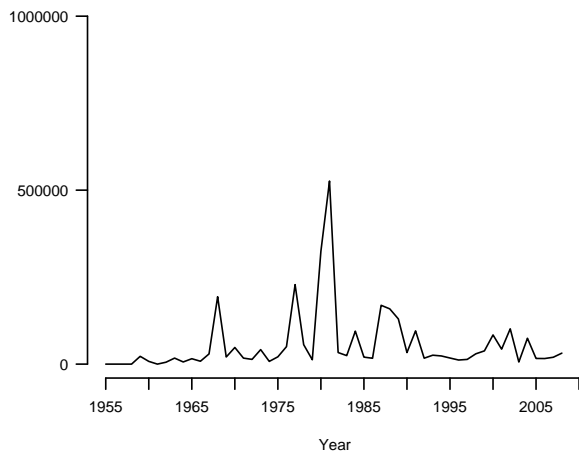
Strata 21,22,23,24 Scoters



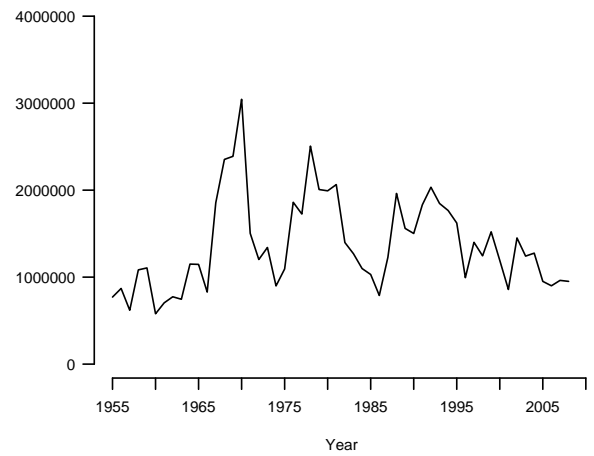
Strata 21,22,23,24 Canada Goose



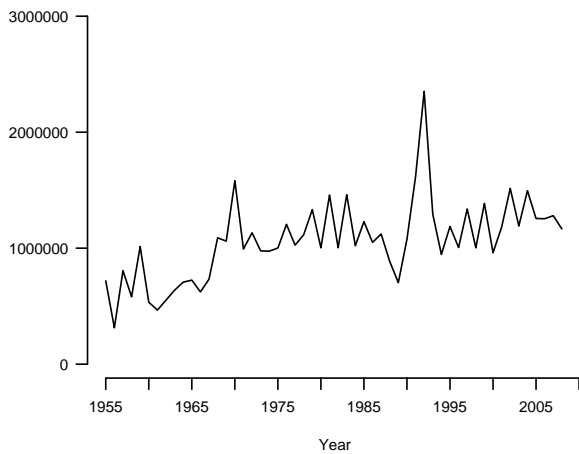
Strata 21,22,23,24 American coot



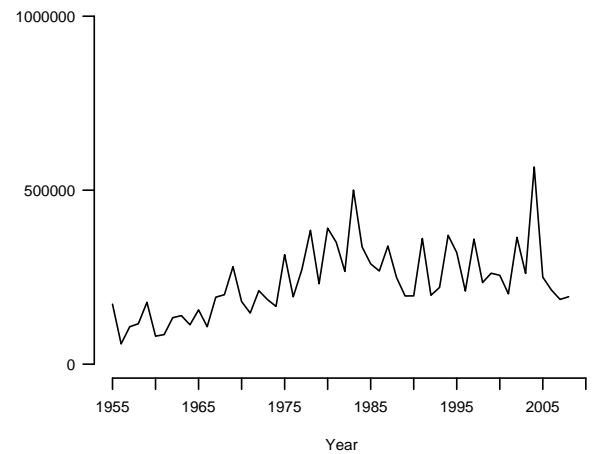
Strata 21,22,23,24 Dabblers



Strata 21,22,23,24 Divers



Strata 21,22,23,24 Miscellaneous



Appendix 2: Continued.

