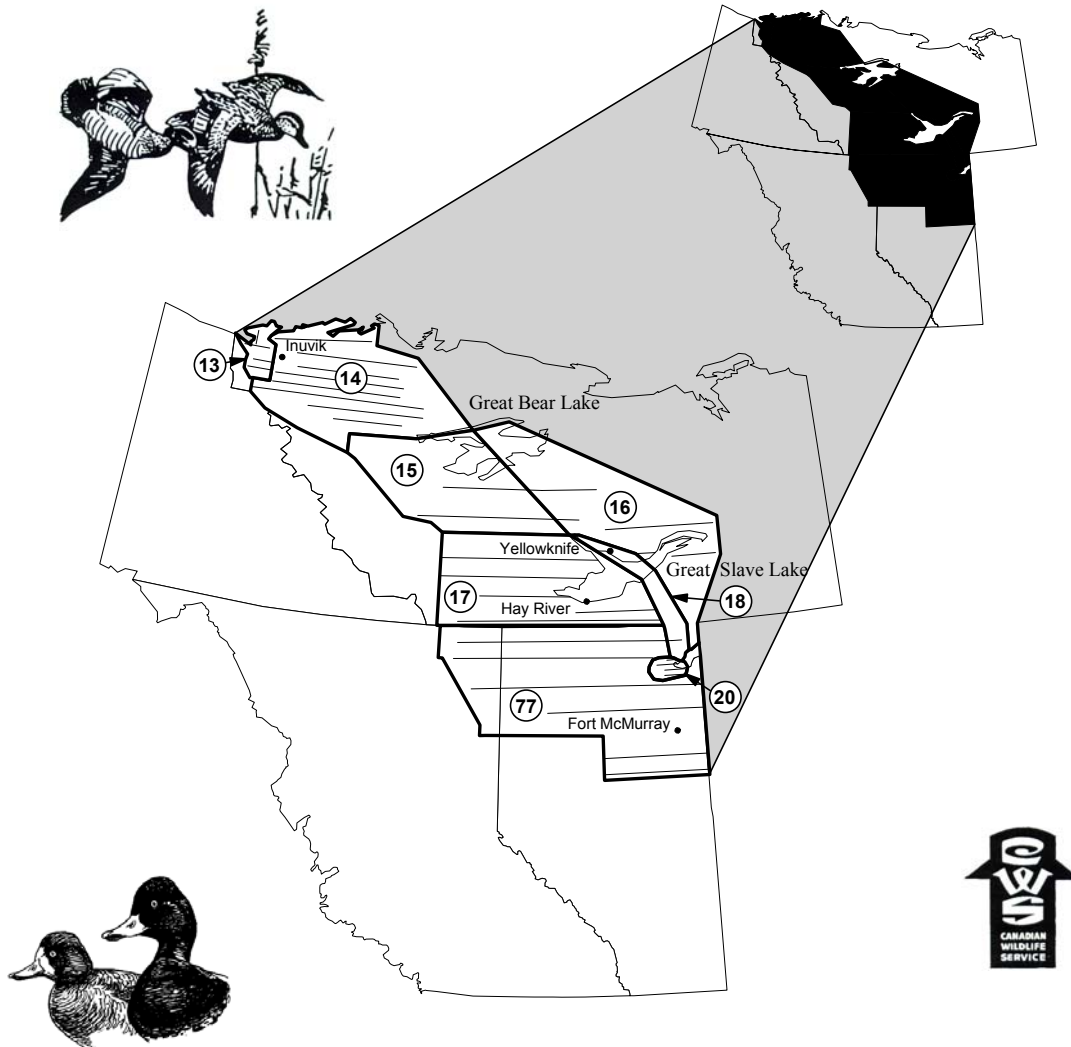


# 2004

## NORTHERN ALBERTA, NORTHEASTERN BRITISH COLUMBIA AND THE NORTHWEST TERRITORIES



The data presented in this report are preliminary. Final estimates are available from the U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Patuxent Wildlife Research Center, Laurel, Maryland 20708-4016.

## **TITLE:**

Waterfowl Breeding Population and Habitat Survey for Northern Alberta, Northeastern British Columbia, and the Northwest Territories (Mackenzie District)

## **ABSTRACT:**

Total waterfowl numbers were down from 2003, -18.7%. Dabblers were down, -24.4%; divers were down, -15.0%; and miscellaneous species were down also, -11.2%. Spring arrived very late in the eastern and elevated areas of the survey unit. Early waterfowl nesters were delayed from moving into those areas. There was also evidence of an waterfowl overflight from the more drier prairie areas. Data is presented in Table 1, Graphs 1-24, and Appendix 1.

## **METHODS:**

This survey was conducted using procedures found in the Standard Operating Procedures for Aerial Breeding Ground and Habitat Survey, Section IV (A), revised 1977. Two Toshiba 440 CDX Satellite Pro laptop computers, using a program developed by the Migratory Bird Office, Juneau, AK, and the Division of Migratory Bird Management, Laurel, MD, were used to record and process field data. The pilot/observer had previously flown the survey area nineteen out of the last twenty years as either pilot/observer or observer. The right seat observer was new; and as such, we spent part of three days in Alberta and Saskatchewan in training.

Transect flights within Strata 77 through 13 were flown using N783, a Cessna - 206 amphibian. The survey was initiated out of Edmonton, Alberta on May 20 and completed on June 12 at Norman Wells, NWT. It involved approximately 145.0 hours of aircraft flight time covering approximately 10,500 total miles, of which were 5,616 miles on 36 transects, comprising 312 segments. Survey dates for individual stratum are as follows: Stratum **77**, May 20-28; Stratum **20**, May 24; Stratum **17**, May 29-June 3; Stratum **18**, May 25-June 4; Stratum **16**, June 4-5; Stratum **15**, June 3-5; Stratum **14**, June 7-12; and Stratum **13**, June 8. One segment Stratum 14, Transect 05, Segment 01 was not flown due to high surface winds on June 12. A laptop recording malfunction on the left seat side on May 20 resulted in the lack of data for the pilot. During the last four days of the survey, an electrical wiring problem in the aircraft prevented both observers from using the Toshiba laptops to record data. Sony BM -12 tape recorders were used to circumvent this problem and record the data. Inclement weather, mandatory crew rest days, and scheduled aircraft maintenance delayed the survey six days.

## **SPRING HABITAT CONDITIONS**

### **Northern Alberta and Northeastern British Columbia**

Most of this area received 60 - 85 percent of normal precipitation during the winter of 2003-2004. This was evident as many of the shallow wetlands were reduced in size and depth and drainage basins from adjacent higher terrain were reduced in acreage. Spring arrived very late in the eastern one-third of Alberta and in the higher elevation. Larger lakes in the Buffalo Head Hills, and almost all lakes in the Caribou and Birch Mountains and the Cameron Hills were froze "tight". This "late Spring" area was generally east of the Caribou and Birch Mountains extending from Fort McMurray, AB to Fort Smith, NWT. It was the latest spring in this area that I have seen. This area was rated from fair to good depending on water levels and availability of open water margins.

### **Athabasca Delta**

Normally Spring, in the Athabasca Delta, is two to three weeks ahead of the rest of Alberta. This year it was ahead, but still much later than normal. Lake Claire was approximately 70 percent ice covered when the survey was flown on May 24. This was as late of a spring as I have seen in the Delta. However, there was plenty of open water for the early nesters. The shallow wetlands, water margins in sedge meadows and sloughs were open. Water levels overall were low, with indications of a "below normal" spring flooding. Potential nesting habitat for all waterfowl species was rated as good.

### **Northwest Territories (Mackenzie District)**

The late spring in the eastern third of Alberta extended north into the Northwest Territories. It was "the latest Spring in recent record" in the eastern one-third of the Northwest Territories. As late as June 3, there was no open water margin on the north shore of the Great Slave Lake. Waterfowl, gulls, and shorebirds were bunch up in the Yellowknife area when we arrived on June 3. Eastern portions of Strata 14, 15, 16, 17, and 18 were frozen fairly tight when we flew them during the first two weeks of June. The western portion, especially the Mackenzie River drainage, experienced a somewhat more normal arrival of spring. Waterfowl funneled down the Mackenzie River and staged in the Mackenzie Delta the first two weeks of June, waiting for the lakes and wetlands to the east to open. There was more ice in the northern half of the Mackenzie Delta than I had seen previously, but there was plenty of open water available for waterfowl.

## **SUMMARY:**

Habitat conditions range from fair to good. Fair conditions were found in the eastern third of the survey unit and resulted from dry spring conditions in the Alberta portion, to a record late spring with little open water for early nesters in both Alberta and the Northwest Territories. Higher elevation habitat, i.e. the Horn Plateau, Caribou and Birch Mountains and areas above 1,000 feet above sea level also had little open water during the survey period.

## **BREEDING POPULATION ESTIMATES:**

The long-term trend in adjusted waterfowl breeding population estimates is presented in Table 1. The 2004 waterfowl breeding population data listed by stratum for survey area 10 is also in Table 1, along with the comparison for 2003, and the ten-year and long-term means. Total ducks indicated a -18.7% decrease from 2003, a -6.8% from the ten-year mean, and a -31.1% decrease from the long-term mean.

The dabbling duck population estimate decreased -24.4% from 2003, decreased -12.7% from the ten-year mean, and decreased 28.7% below the long-term mean. Dabblers species whose population estimates indicated an increase were northern pintail (+12%), gadwall (+12%), and green-winged teal (+1.7%). Dabblers estimates that indicated a decrease included northern shoveler (-45.5%), mallard (-30.9%), American widgeon (-36.4%), and blue-winged teal (-54.8%)

The breeding population estimate for diving ducks also decreased in 2004 (-15.0%). Estimates remained below the ten-year mean -(6.8%) and the long-term mean (-31.1%). Divers species whose estimates increased in 2004 included redhead (+62.9%) and canvasback (+18.4%). Divers species whose estimates decreased this year included scaup (-11.0%), ring-necked duck (-35.4%), goldeneye (-49.3%), bufflehead (-18.2%), and ruddy duck (-49.5%)

Concerning miscellaneous species, long-tailed duck increase (+39.7%) from 2003, while scoters (-8.6%) and mergansers (-63.9%) estimates indicated a decrease from 2003.

## **CONCLUSIONS:**

1. During the survey period, habitat conditions in Stratum 77 and Stratum 20 were observed to fair to good, with a record late spring in the eastern third and higher elevations thus delaying the efforts of early nesting waterfowl species.
2. The effects of the record late spring was observed also in Strata 13, 14, 15 ,16, 17, and 18, with the easternmost portions of the segments “iced in”, adversely affecting early nesting species. The Mackenzie River drainage “opened up” much early, with waterfowl concentrating in the Mackenzie Delta by Inuvik, NWT, waiting for open water margins on wetlands and lakes to the east in Stratum 14. These strata were rated fair to good.
3. Waterfowl production should be down from last year in Crew Area 10 for dabblers because of a reduction of available habitat for nesting because of the record late spring in the eastern portions of the unit. Production for divers and the miscellaneous species should be similar to 2003.

Submitted by:

Carl Ferguson, Flyway Biologist

July 17, 2004

Table 1. Status of waterfowl breeding population estimates (thousands, adjusted for visibility bias) by species and stratum with comparisons against the previous year, the previous 10-year mean, and the long-term mean for Northern Alberta, Northeastern British Columbia, and the Northwest Territories.

Species/Ponds	Stratum								% Change From						
	13	14	15	16	17	18	20	77	2004 Total	2003 Total	10- Year Mean	Long- Term Mean	2003	10-Year Mean	Long- Term Mean
Ducks															
Dabblers															
Mallard	16.5	31.4	28.2	16.8	107.0	21.4	25.3	151.8	398.4	576.8	652.8	796.0	-30.9%	-39.0%	-50.0%
Am. black duck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	--	--	-100.0%
Gadwall	5.8	0.0	0.0	0.0	2.8	0.0	3.8	14.6	27.0	19.0	33.8	19.7	42.1%	-20.0%	37.0%
Am. wigeon	46.0	75.2	69.6	7.6	124.1	32.4	14.7	147.2	516.8	812.4	687.8	811.0	-36.4%	-24.9%	-36.3%
Am. green-winged teal	2.1	17.3	44.0	28.8	164.0	40.9	12.1	430.2	739.4	727.0	642.7	645.2	1.7%	15.0%	14.6%
Blue-winged teal	2.8	0.0	0.0	0.0	14.4	0.0	8.5	82.4	108.1	239.4	92.9	147.8	-54.8%	16.4%	-26.9%
N. shoveler	5.7	4.6	6.5	0.0	61.7	0.0	19.4	35.3	133.3	244.5	145.7	165.6	-45.5%	-8.5%	-19.5%
N. pintail	14.6	33.9	22.4	0.0	30.9	0.0	29.9	39.7	171.4	151.5	143.2	352.1	13.1%	19.7%	-51.3%
Subtotal	93.6	162.3	170.7	53.1	504.9	94.7	113.8	901.3	2094.4	2770.7	2398.8	2937.5	-24.4%	-12.7%	-28.7%
Divers															
Redhead	2.6	0.0	0.0	0.0	2.2	0.0	6.4	5.0	16.1	9.9	11.6	17.4	62.9%	39.2%	-7.3%
Canvasback	31.2	25.6	0.0	0.0	9.6	0.0	17.9	0.0	84.4	71.3	68.2	52.9	18.4%	23.8%	59.5%
Scaups	15.4	363.8	172.3	276.0	351.3	116.4	4.3	123.2	1422.7	1597.8	1549.8	2438.9	-11.0%	-8.2%	-41.7%
Ring-necked duck	5.0	3.5	13.1	7.4	25.2	19.2	5.2	106.0	184.7	285.7	242.6	146.3	-35.4%	-23.9%	26.3%
Goldeneyes	1.0	1.6	0.0	0.0	11.7	0.0	1.9	1.9	18.1	35.7	41.7	89.7	-49.3%	-56.6%	-79.8%
Bufflehead	0.6	1.0	14.5	5.4	96.1	30.7	3.6	164.8	316.7	387.1	318.4	268.9	-18.2%	-0.5%	17.8%
Ruddy Duck	0.0	0.0	0.0	0.0	8.3	0.0	5.2	4.7	18.2	36.1	24.8	23.0	-49.5%	-26.5%	-20.8%
Subtotal	55.7	395.6	199.9	288.8	504.4	166.4	44.5	405.7	2061.0	2423.6	2257.1	3037.1	-15.0%	-8.7%	-32.1%
Miscellaneous															
Long-tailed duck	2.7	49.5	9.3	24.4	25.9	3.5	0.0	1.1	116.3	83.2	78.3	240.3	39.7%	48.6%	-51.6%
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	--	--	-100.0%
Scoters	15.5	259.3	52.8	117.2	97.1	36.0	1.8	55.6	635.3	695.2	490.6	886.8	-8.6%	29.5%	-28.4%
Mergansers	1.2	2.2	2.4	12.4	6.8	3.3	1.4	11.5	41.3	114.3	83.2	74.9	-63.9%	-50.3%	-44.8%
Subtotal	19.4	311.0	64.5	154.0	129.7	42.8	3.2	68.2	792.9	892.7	652.0	1202.6	-11.2%	21.6%	-34.1%
Total Ducks	168.8	868.9	435.0	496.0	1139.1	303.9	161.5	1375.2	4948.3	6087.1	5307.8	7177.2	-18.7%	-6.8%	-31.1%
Canada Goose	0.8	36.6	18.1	10.2	27.0	4.8	8.7	14.0	120.2	129.8	133.3	148.4	-7.4%	-9.8%	-19.0%
Am. coot	0.0	0.0	0.0	0.0	9.9	0.0	21.6	35.1	66.6	44.7	48.7	54.9	49.1%	36.6%	21.3%



Appendix 1. Long-term trend in adjusted waterfowl breeding population estimates (thousands) for Northern Alberta, Northeastern British Columbia, and the Northwest Territories.

Species/Ponds	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Ducks										
Dabblers										
Mallard	1299.6	1148.0	816.6	1019.1	2016.3	687.2	1862.4	1102.5	1027.7	1171.1
Am. black duck	0.6	0.6	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0
Gadwall	0.6	0.0	1.6	0.6	0.3	0.0	1.3	9.1	0.0	2.5
Am. wigeon	1331.7	1102.1	1105.7	724.4	1828.5	1540.0	1586.6	819.6	788.4	1185.4
Am. green-winged teal	878.0	675.0	529.0	643.6	1726.9	851.5	1067.8	387.3	874.8	1062.1
Blue-winged teal	204.0	159.2	25.5	107.5	360.3	355.7	385.9	162.9	34.1	365.2
N. shoveler	256.4	162.1	94.0	170.1	537.7	193.3	389.7	187.2	76.9	473.7
N. pintail	1078.4	608.1	543.8	920.6	2426.1	685.8	1226.7	441.3	298.0	445.1
Subtotal	5049.2	3855.1	3116.2	3585.9	8899.9	4313.4	6520.2	3109.9	3099.9	4705.1
Divers										
Redhead	31.9	27.5	19.6	11.5	46.8	23.8	35.2	56.0	12.9	44.6
Canvasback	45.4	18.4	15.1	63.2	70.7	56.8	37.0	27.8	91.7	69.2
Scaups	2423.2	2297.7	2300.5	2020.8	3629.0	2347.7	2724.1	2620.7	2919.7	2572.7
Ring-necked duck	189.9	200.6	114.1	91.3	393.4	164.5	69.3	122.9	112.5	137.1
Goldeneyes	202.8	93.6	88.5	142.2	492.6	122.8	264.6	230.1	32.2	127.1
Bufflehead	156.1	173.7	152.4	132.2	238.8	209.7	160.7	209.2	151.9	233.9
Ruddy Duck	19.6	15.1	6.9	8.7	44.7	23.5	17.5	1.2	22.2	2.1
Subtotal	3068.9	2826.6	2697.1	2470.1	4916.1	2948.9	3308.3	3267.9	3343.3	3186.8
Miscellaneous										
Oldsquaw	450.0	347.8	380.1	451.6	607.7	367.3	432.4	278.7	163.4	522.2
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scoters	1416.2	1219.3	1322.7	1043.0	1602.3	1606.7	1252.5	721.9	759.8	1290.2
Mergansers	101.0	52.5	74.8	127.2	95.3	137.4	131.6	53.2	94.5	82.5
Subtotal	1967.3	1619.5	1777.6	1621.8	2305.3	2111.4	1816.5	1053.8	1017.7	1894.9
Total Ducks	10085.4	8301.2	7590.9	7677.8	16121.3	9373.7	11645.0	7431.7	7460.8	9786.9
Canada Goose	361.6	414.0	148.6	285.5	502.8	264.6	131.3	90.7	232.5	17.7
Am. coot	28.2	3.0	0.0	0.0	156.8	3.9	38.8	19.2	8.7	7.5
Species/Ponds	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Ducks										
Dabblers										
Mallard	589.9	675.9	604.6	730.0	530.8	753.1	807.6	1132.1	696.4	575.4
Am. black duck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gadwall	6.1	1.9	6.7	0.3	0.3	14.3	1.3	10.7	8.6	0.9
Am. wigeon	909.0	888.2	456.1	384.6	578.6	850.7	766.1	851.9	912.5	492.0
Am. green-winged teal	649.9	800.5	457.8	492.7	204.7	358.4	429.8	569.3	535.4	242.2
Blue-winged teal	173.3	52.1	9.6	5.3	14.7	21.0	33.0	81.8	10.0	31.7
N. shoveler	165.5	180.8	113.0	101.6	42.4	57.7	108.5	157.3	142.2	72.5
N. pintail	392.4	190.1	105.4	197.1	74.8	100.0	85.4	426.3	351.0	227.3
Subtotal	2886.1	2789.5	1753.2	1911.6	1446.3	2155.2	2231.7	3229.5	2656.1	1642.1
Divers										
Redhead	6.8	5.0	18.6	9.5	5.3	8.3	6.1	10.3	5.6	2.9
Canvasback	44.6	120.5	21.0	93.0	61.6	30.4	40.5	16.8	21.0	10.4
Scaups	2607.5	2490.3	2741.4	1970.3	2523.7	2719.4	2934.8	5090.7	3328.3	2795.1
Ring-necked duck	225.5	159.6	133.7	94.3	54.9	108.4	105.9	59.7	106.9	42.2
Goldeneyes	119.3	34.7	60.3	24.3	35.0	17.6	30.7	33.3	39.3	36.2
Bufflehead	191.9	241.5	182.2	212.9	277.7	230.1	354.0	291.2	236.8	277.7
Ruddy Duck	2.1	17.5	11.1	0.6	0.9	1.8	2.5	15.2	15.0	6.7
Subtotal	3197.8	3069.1	3168.2	2404.8	2959.2	3115.9	3474.5	5517.2	3752.9	3171.2
Miscellaneous										
Oldsquaw	320.8	460.2	402.3	165.1	460.3	283.3	224.6	105.7	181.4	218.8
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scoters	965.9	611.8	712.7	606.7	855.5	1172.6	640.6	1093.5	905.4	1098.0
Mergansers	96.9	52.5	48.4	14.3	30.2	44.9	16.1	29.2	32.1	21.1
Subtotal	1383.6	1124.5	1163.4	786.1	1346.0	1500.9	881.3	1228.4	1118.8	1338.0
Total Ducks	7467.5	6983.1	6084.8	5102.6	5751.5	6772.1	6587.5	9975.1	7527.9	6151.2
Canada Goose	68.7	152.7	134.4	70.4	85.3	131.5	122.4	111.8	64.4	38.3
Am. coot	3.4	35.5	1.0	43.7	9.8	4.0	3.2	6.8	27.0	29.7



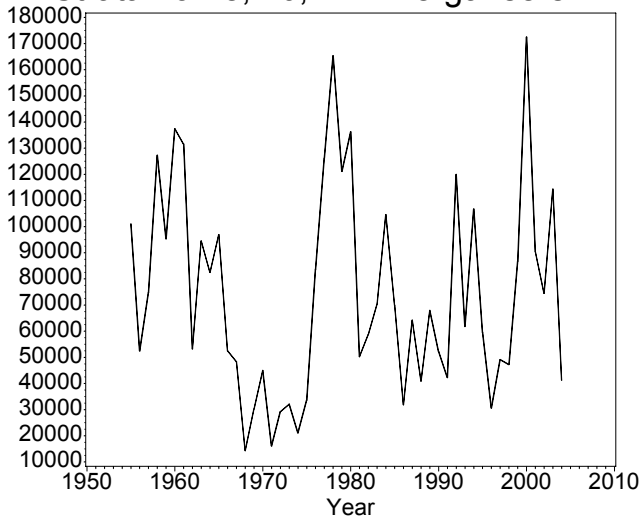
Appendix 1 (continued). Long-term trend in adjusted waterfowl breeding population estimates (thousands) for Northern Alberta, Northeastern British Columbia, and the Northwest Territories.

Species/Ponds	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
<b>Ducks</b>										
<b>Dabblers</b>										
Mallard	731.9	314.7	770.4	739.4	794.9	896.2	719.2	534.1	928.4	482.6
Am. black duck	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gadwall	0.0	5.2	17.6	10.2	32.3	43.8	52.5	51.0	2.5	23.1
Am. wigeon	650.3	538.8	846.7	993.4	729.6	992.2	916.0	589.3	556.3	1187.1
Am. green-winged teal	468.3	225.6	370.6	678.7	582.6	585.6	626.2	692.4	842.9	468.5
Blue-winged teal	55.9	111.7	474.5	213.6	187.2	367.8	283.9	159.3	107.5	92.9
N. shoveler	116.3	81.9	256.2	64.4	79.7	207.4	204.5	77.9	74.5	140.9
N. pintail	381.6	246.5	532.6	244.2	196.2	289.6	314.5	103.7	392.0	399.6
Subtotal	2404.3	1524.6	3268.6	2944.0	2602.5	3382.7	3116.8	2207.6	2904.1	2794.7
<b>Divers</b>										
Redhead	2.4	3.1	23.4	20.2	12.4	28.7	18.4	7.2	9.9	33.8
Canvasback	32.0	37.6	48.1	29.9	28.3	59.6	113.3	48.7	55.3	51.6
Scaups	3215.2	2529.6	2900.0	2676.5	3166.2	3063.0	3028.7	2516.7	3230.8	3667.5
Ring-necked duck	73.3	61.9	179.8	153.5	90.3	101.7	94.6	61.2	101.1	89.1
Goldeneyes	33.6	47.5	74.5	112.2	169.7	184.0	108.2	74.1	69.5	298.8
Bufflehead	294.8	267.0	258.7	278.8	328.0	293.9	244.1	185.1	406.3	442.9
Ruddy Duck	4.0	1.6	26.8	8.3	7.8	19.0	28.8	23.0	118.2	51.7
Subtotal	3655.3	2948.2	3511.3	3279.4	3802.8	3750.0	3636.0	2916.1	3991.2	4635.3
<b>Miscellaneous</b>										
Oldsquaw	196.2	176.1	193.7	180.1	626.4	322.0	171.8	193.7	113.0	601.3
Eiders	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.0	0.0	0.0
Scoters	769.7	725.0	922.2	1202.6	1400.9	1101.8	1024.9	846.6	1077.6	1295.4
Mergansers	33.6	83.6	126.1	165.3	121.1	136.2	50.3	58.7	70.3	104.6
Subtotal	999.4	984.6	1242.0	1548.0	2151.7	1560.0	1247.0	1102.0	1260.8	2001.2
<b>Total Ducks</b>	<b>7059.0</b>	<b>5457.5</b>	<b>8021.8</b>	<b>7771.3</b>	<b>8557.0</b>	<b>8692.7</b>	<b>7999.8</b>	<b>6225.7</b>	<b>8156.2</b>	<b>9431.2</b>
Canada Goose	89.4	57.8	45.2	61.8	69.7	58.7	131.4	77.1	172.5	67.8
Am. coot	11.8	0.0	295.1	59.8	5.1	337.0	128.9	54.8	133.9	47.1
<b>Species/Ponds</b>										
<b>Ducks</b>										
<b>Dabblers</b>										
Mallard	632.2	1194.9	705.4	1006.8	581.6	565.9	536.0	501.4	595.1	350.5
Am. black duck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gadwall	13.7	48.9	13.0	18.3	28.1	44.1	49.9	58.0	48.8	42.6
Am. wigeon	692.2	469.7	832.3	818.5	598.6	426.7	687.4	580.9	652.1	382.2
Am. green-winged teal	615.6	765.6	991.9	882.9	905.7	677.1	396.1	485.0	488.4	575.5
Blue-winged teal	118.4	382.2	250.6	370.5	76.3	29.2	79.9	156.6	205.0	99.1
N. shoveler	108.9	204.8	210.2	239.5	184.6	160.6	160.9	184.1	216.5	101.7
N. pintail	276.3	175.7	218.9	188.2	178.2	146.6	218.3	266.7	226.0	92.3
Subtotal	2457.3	3241.8	3222.4	3524.7	2553.0	2050.1	2128.4	2232.7	2431.9	1643.9
<b>Divers</b>										
Redhead	9.8	30.6	4.9	15.7	20.1	16.0	40.0	10.6	40.8	7.9
Canvasback	14.1	47.1	27.8	61.5	81.1	30.0	74.5	46.8	68.9	27.0
Scaups	2375.4	2315.4	2518.1	2267.3	2339.3	1843.2	1936.5	1658.2	1701.9	1845.7
Ring-necked duck	80.5	64.8	90.9	164.2	127.5	114.8	113.7	106.9	184.2	136.8
Goldeneyes	93.9	149.2	42.2	53.3	76.6	30.8	39.8	44.1	51.0	96.9
Bufflehead	249.1	318.2	386.2	370.5	358.6	272.7	264.3	208.5	247.6	310.7
Ruddy Duck	16.2	92.9	8.6	17.8	44.5	34.7	38.4	43.5	59.6	7.7
Subtotal	2839.0	3018.2	3078.8	2950.2	3047.7	2342.3	2507.1	2118.6	2353.8	2432.7
<b>Miscellaneous</b>										
Oldsquaw	267.7	113.7	270.2	231.1	279.3	43.6	76.3	47.0	64.6	79.1
Eiders	16.2	2.9	0.0	2.0	4.5	0.0	0.0	0.0	0.0	0.0
Scoters	1045.4	909.0	1188.9	748.6	1129.0	432.7	647.4	549.1	633.8	372.6
Mergansers	69.9	31.9	64.2	40.9	67.9	52.2	42.3	119.9	61.8	106.7
Subtotal	1399.3	1057.5	1523.3	1022.6	1480.8	528.5	765.9	716.0	760.2	558.4
<b>Total Ducks</b>	<b>6695.5</b>	<b>7317.5</b>	<b>7824.4</b>	<b>7497.6</b>	<b>7081.4</b>	<b>4920.9</b>	<b>5401.5</b>	<b>5067.3</b>	<b>5545.9</b>	<b>4634.9</b>
Canada Goose	172.8	163.9	326.5	261.6	154.0	120.2	161.4	144.5	174.9	93.0
Am. coot	47.8	32.0	70.1	227.8	131.7	38.4	70.9	51.0	29.9	10.7

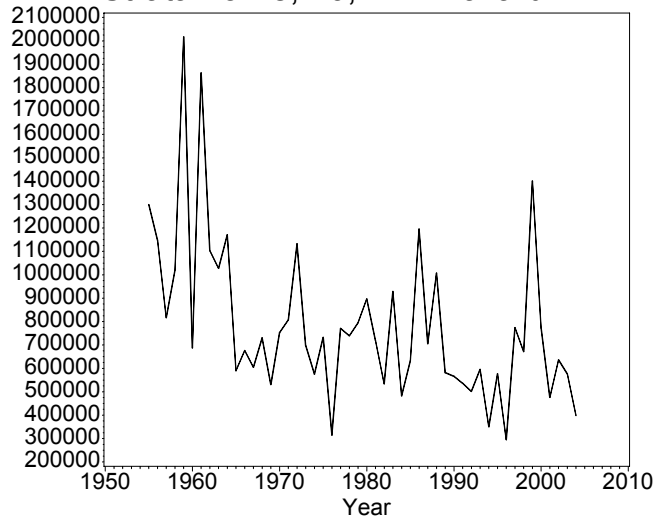
Appendix 1 (continued). Long-term trend in adjusted waterfowl breeding population estimates (thousands) for Northern Alberta, Northeastern British Columbia, and the Northwest Territories.

Species/Ponds	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Ducks</b>										
<b>Dabblers</b>										
Mallard	576.5	295.1	773.7	671.8	1400.3	771.2	475.7	635.9	576.8	398.4
Am. black duck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gadwall	34.3	9.6	24.4	39.9	69.9	42.7	24.5	30.7	19.0	27.0
Am. wigeon	694.8	394.0	983.7	687.2	952.8	677.5	666.4	627.4	812.4	516.8
Am. green-winged teal	605.5	281.7	440.2	616.4	810.4	954.8	671.0	744.2	727.0	739.4
Blue-winged teal	90.0	30.9	86.8	156.6	56.2	28.1	43.2	98.7	239.4	108.1
N. shoveler	65.0	41.7	90.9	306.9	140.6	148.9	102.7	213.8	244.5	133.3
N. pintail	88.4	38.3	175.1	173.1	162.9	209.5	169.1	171.7	151.5	171.4
Subtotal	2154.5	1091.3	2574.8	2651.9	3593.0	2832.6	2152.5	2522.4	2770.7	2094.4
<b>Divers</b>										
Redhead	6.6	5.5	26.7	17.4	11.9	7.8	6.2	16.1	9.9	16.1
Canvasback	109.6	45.6	66.7	39.1	116.9	72.9	37.9	95.0	71.3	84.4
Scaups	1657.9	1294.4	1473.4	1355.4	1926.6	1440.0	1266.9	1640.1	1597.8	1422.7
Ring-necked duck	125.1	99.3	359.5	285.4	303.9	450.3	224.9	154.7	285.7	184.7
Goldeneyes	31.0	22.9	17.5	55.7	44.2	56.1	30.0	27.5	35.7	18.1
Bufflehead	323.1	235.1	387.9	269.9	410.9	248.8	317.9	292.5	387.1	316.7
Ruddy Duck	15.2	10.4	24.0	16.1	70.5	14.7	8.8	44.5	36.1	18.2
Subtotal	2268.5	1713.2	2355.6	2038.8	2885.0	2290.5	1892.5	2270.5	2423.6	2061.0
<b>Miscellaneous</b>										
Oldsquaw	93.7	47.1	107.7	50.5	111.6	48.2	57.3	104.3	83.2	116.3
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scoters	407.2	359.9	679.0	282.9	525.2	549.0	531.1	503.6	695.2	635.3
Mergansers	59.5	30.6	49.1	47.3	86.7	172.5	90.4	74.5	114.3	41.3
Subtotal	560.4	437.6	835.8	380.6	723.6	769.6	678.9	682.4	892.7	792.9
<b>Total Ducks</b>	<b>4983.4</b>	<b>3242.0</b>	<b>5766.1</b>	<b>5071.4</b>	<b>7201.6</b>	<b>5892.7</b>	<b>4723.9</b>	<b>5475.3</b>	<b>6087.1</b>	<b>4948.3</b>
Canada Goose	162.4	151.8	79.1	82.2	163.8	115.9	165.0	189.8	129.8	120.2
Am. coot	5.6	3.6	10.6	91.7	17.1	67.0	38.3	198.1	44.7	66.6

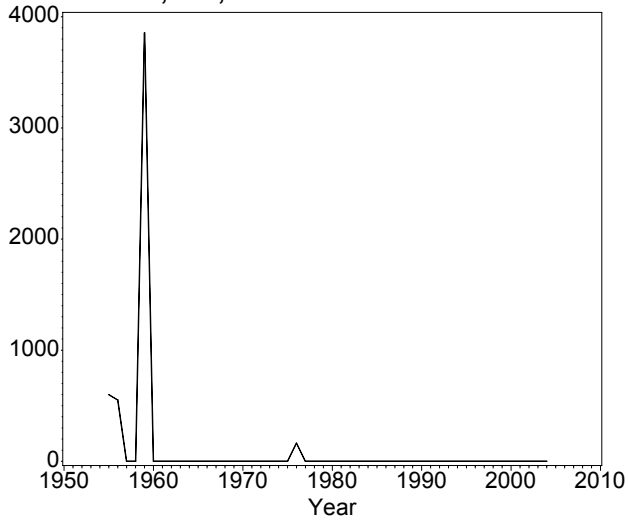
Strata 13-18, 20, 77 Mergansers



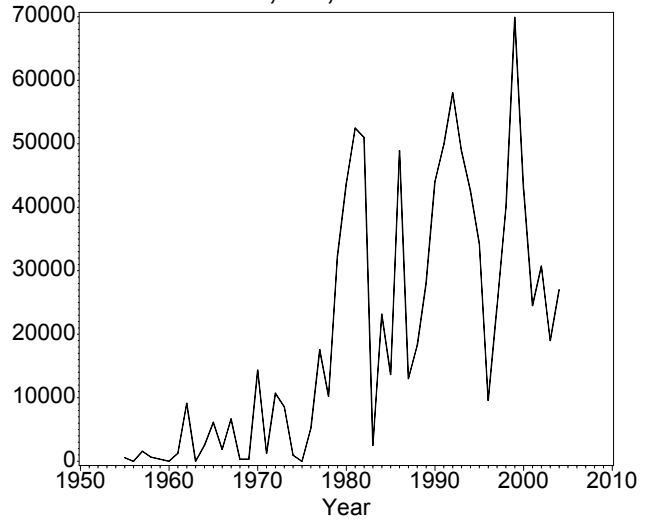
Strata 13-18, 20, 77 Mallard



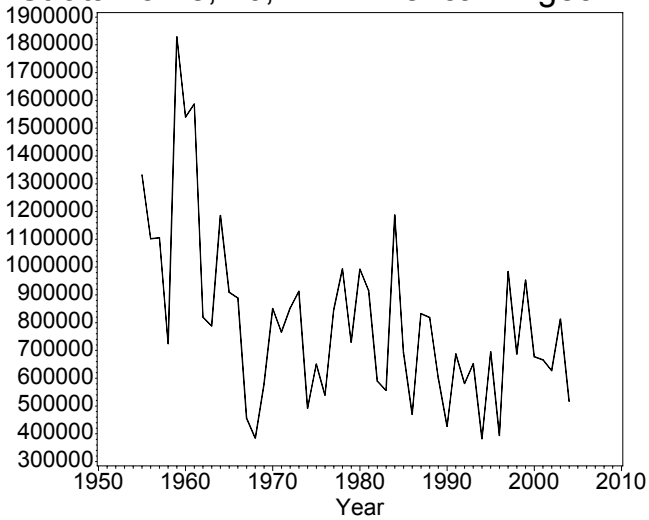
Strata 13-18, 20, 77 American black duck



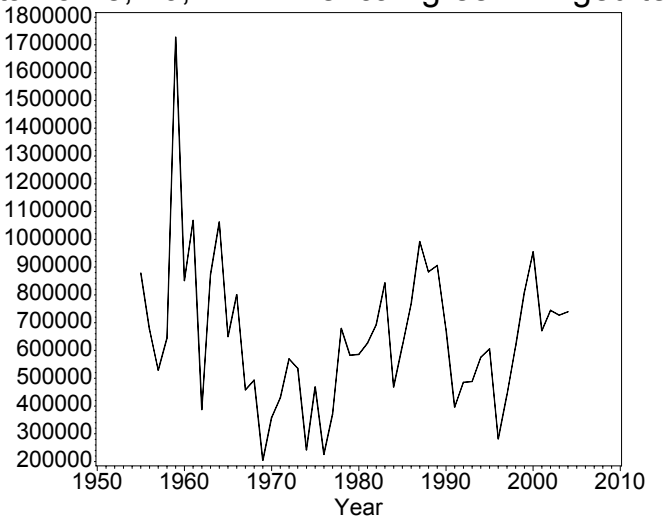
Strata 13-18, 20, 77 Gadwall



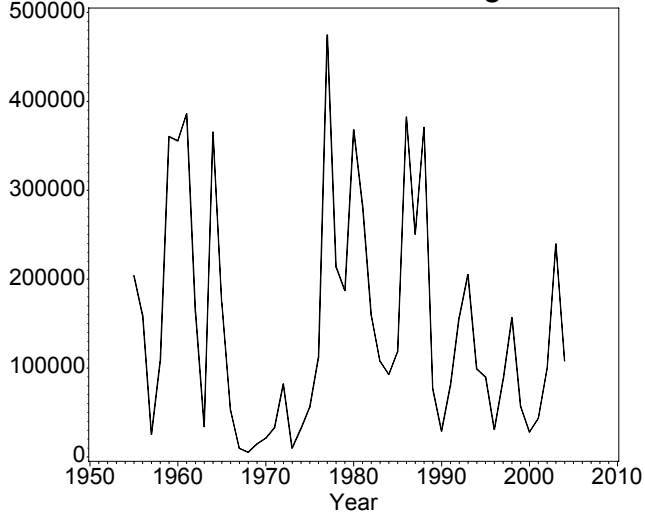
Strata 13-18, 20, 77 American wigeon



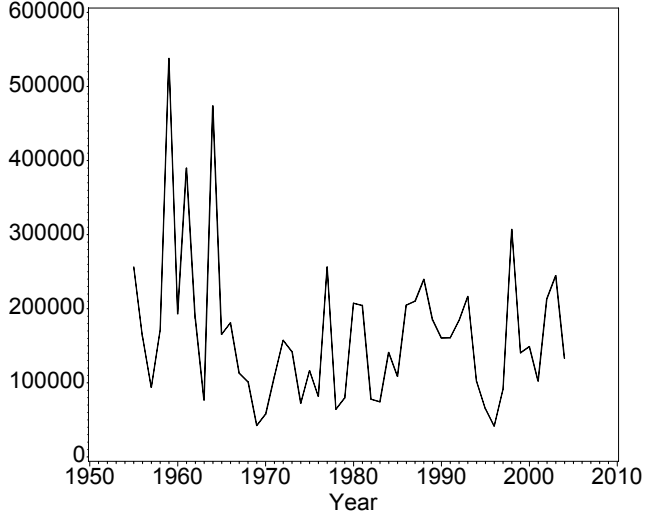
Strata 13-18, 20, 77 American green-winged teal



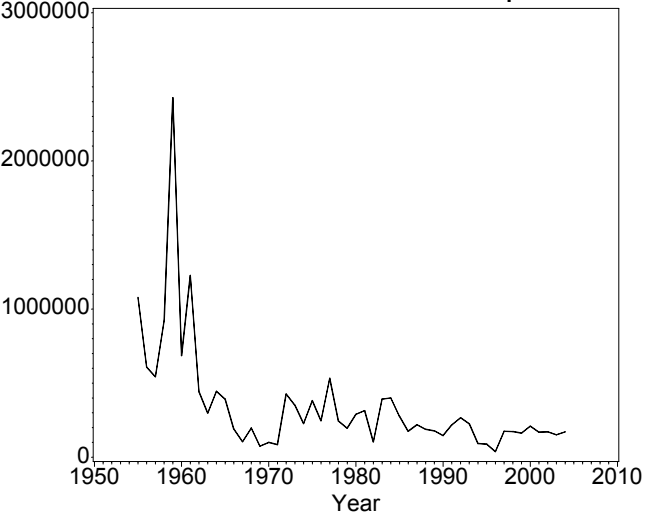
Strata 13-18, 20, 77 Blue-winged teal



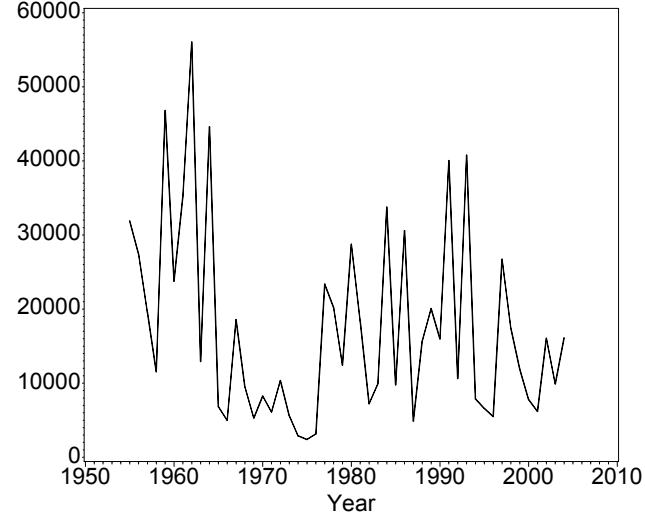
Strata 13-18, 20, 77 Northern shoveler



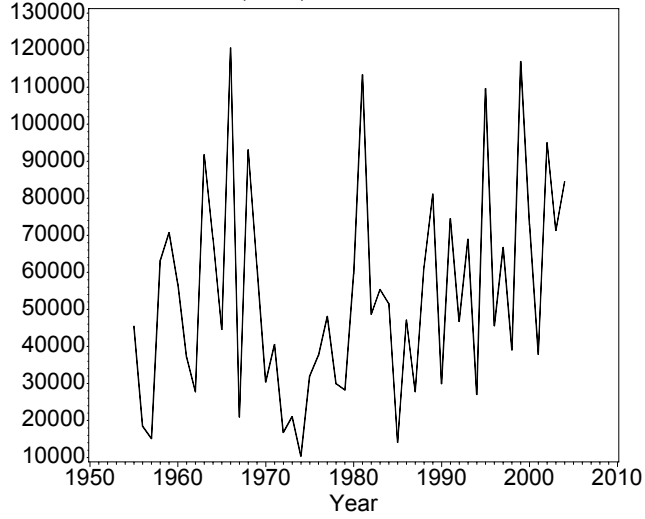
Strata 13-18, 20, 77 Northern pintail



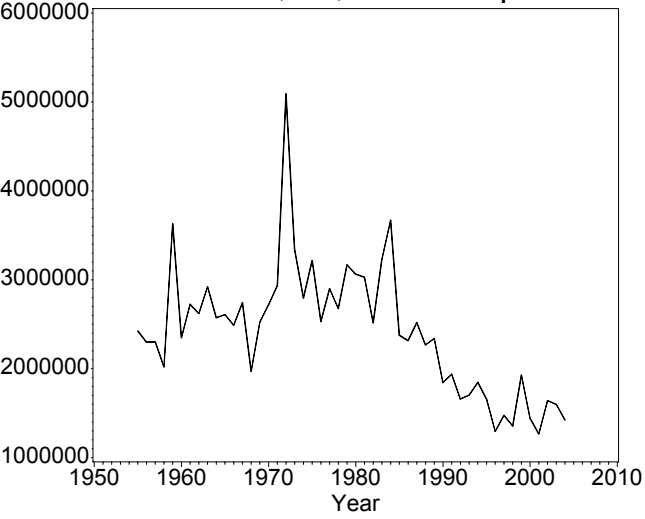
Strata 13-18, 20, 77 Redhead



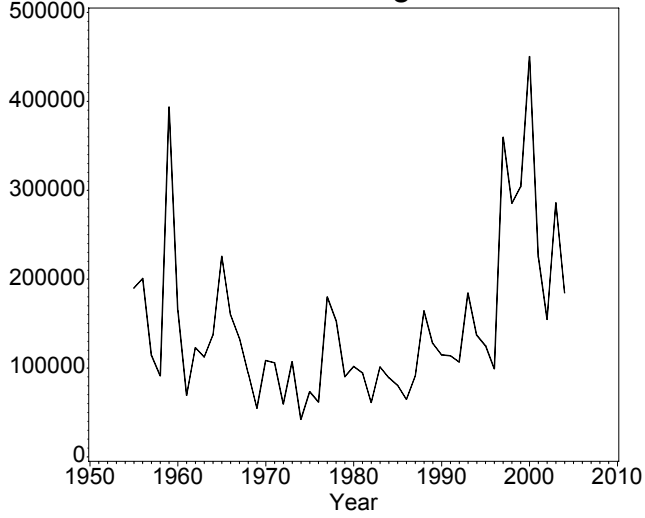
Strata 13-18, 20, 77 Canvasback



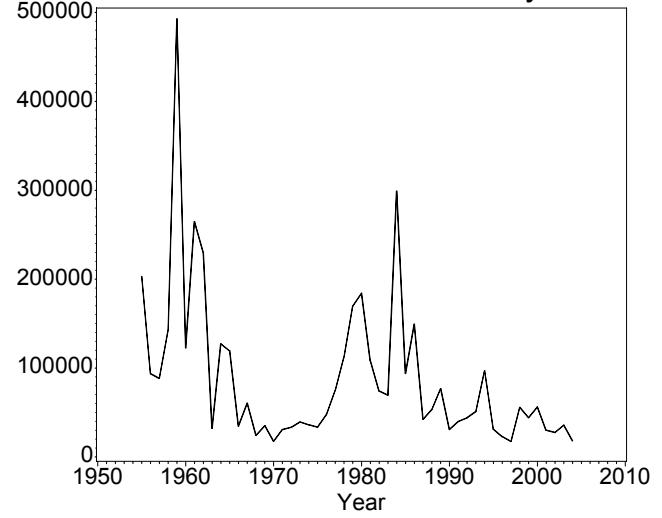
Strata 13-18, 20, 77 Scaups



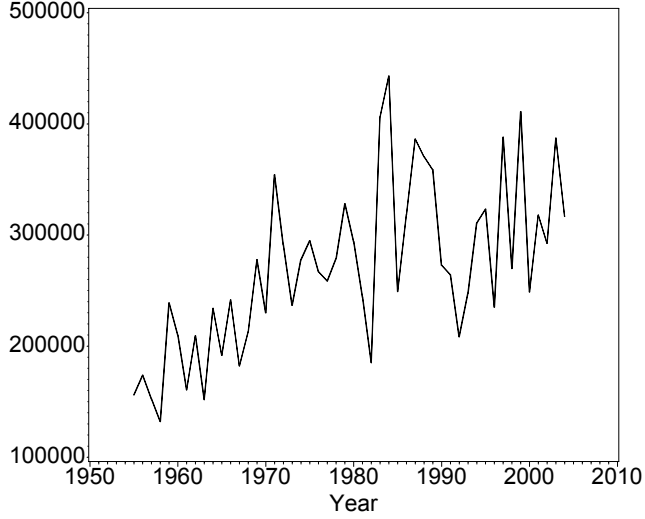
Strata 13-18, 20, 77 Ring-necked duck



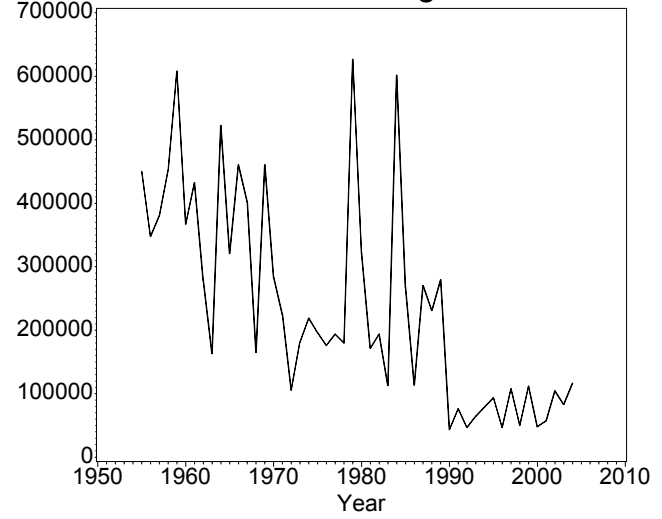
Strata 13-18, 20, 77 Goldeneyes



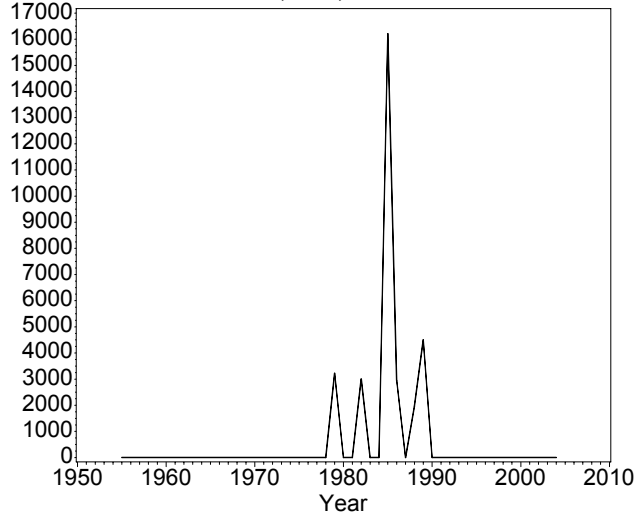
Strata 13-18, 20, 77 Bufflehead



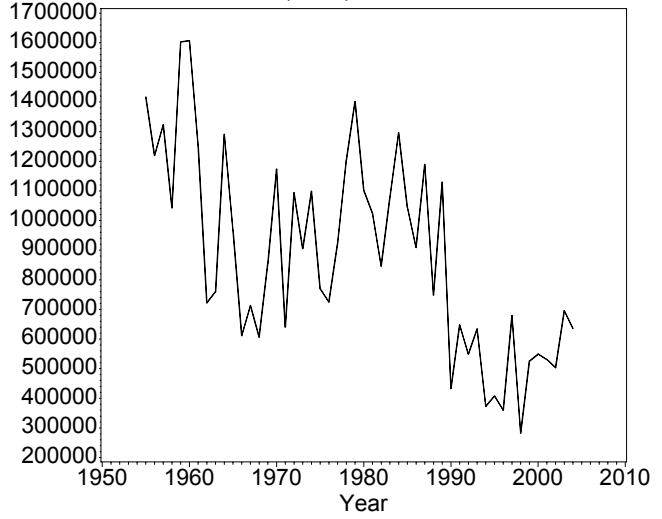
Strata 13-18, 20, 77 Long-tailed duck



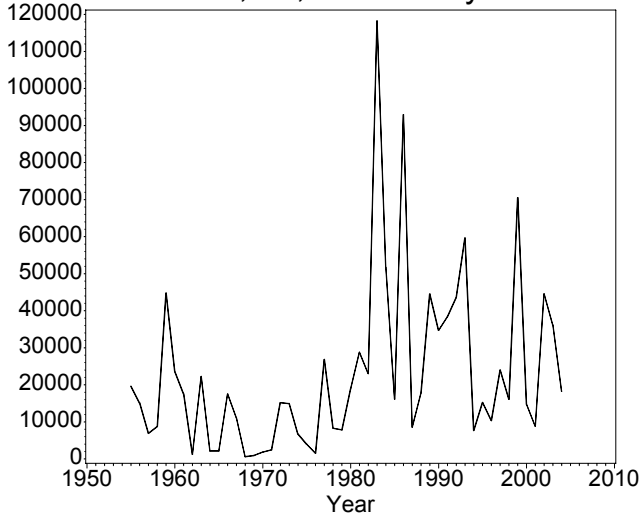
Strata 13-18, 20, 77 Eiders



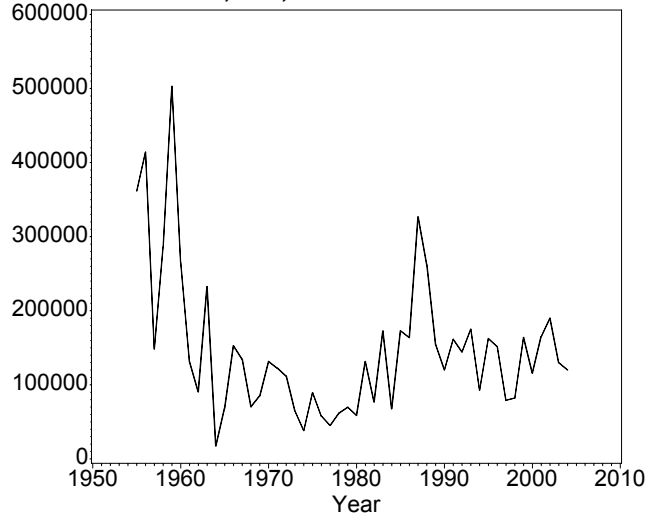
Strata 13-18, 20, 77 Scoters



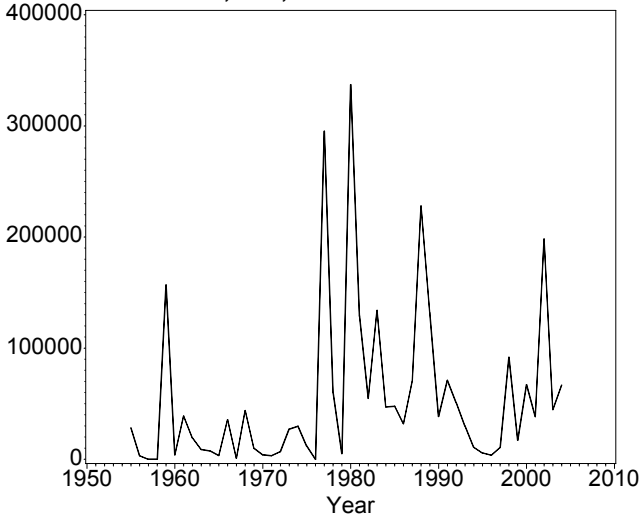
Strata 13-18, 20, 77 Ruddy Duck



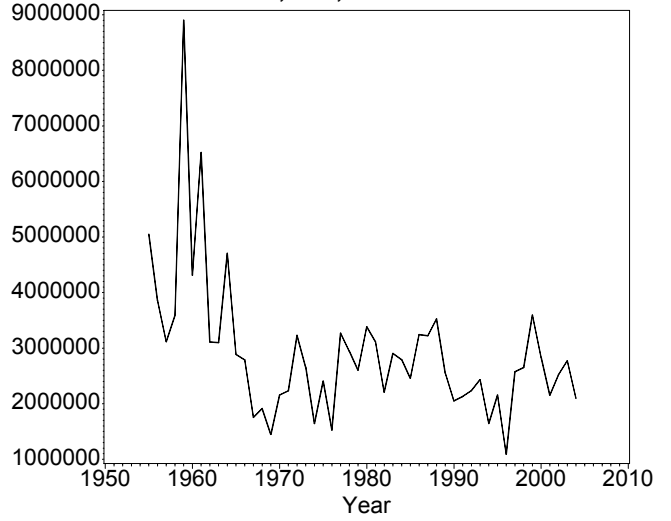
Strata 13-18, 20, 77 Canada Goose



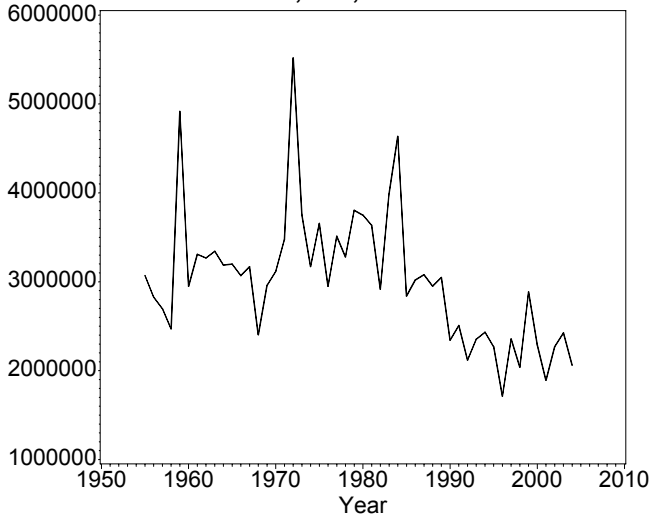
Strata 13-18, 20, 77 American coot



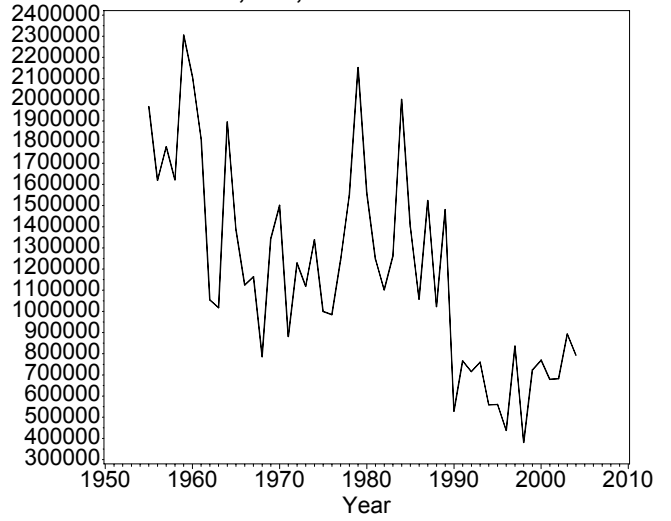
Strata 13-18, 20, 77 Dabblers



Strata 13-18, 20, 77 Divers



Strata 13-18, 20, 77 Miscellaneous



Strata 13-18, 20, 77 Total Ducks

