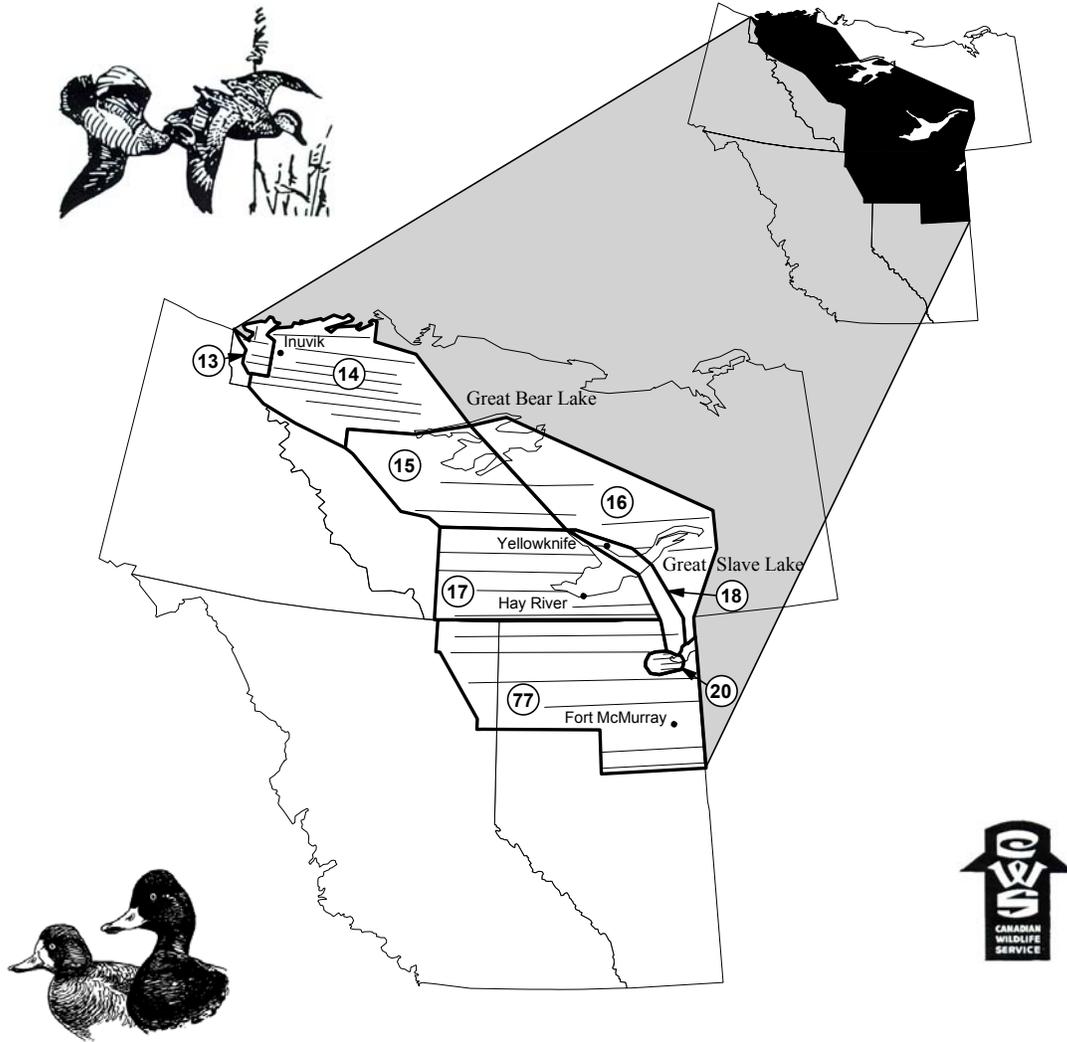


# 2002

## 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, Office of Migratory Bird Management, Patuxent Wildlife Research Center, Laurel, Maryland 20708-4016.

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

STRATA SURVEYED: 13, 14, 15, 16, 17, 18, 20, 77

DATE: May 25 to June 23, 2002

DATA SUPPLIED: United States Fish and Wildlife Service  
Carl Ferguson, Division of Migratory Bird Management,  
Laurel, MD  
Arthur Straughn, Bombay Hook National Wildlife Refuge,  
Smyrna, DE

ABSTRACT:

Spring breeding habitat conditions for waterfowl were again this year very good in this survey unit, tempered somewhat, by the adverse effects of a very late spring with sub-freezing temperatures remaining into the third week of June. This will have an adverse effect on production of early waterfowl nesters. One extremely dry portion of the survey unit was the area north of Cold Lake, than west to Slave Lake and than northeast to Lake Athabasca. There was virtually no wetland habitat available here for waterfowl except on permanent lakes and large beaver flowages.

Overall, duck population estimates were up from 2001, with dabblers increasing 17.2 percent and divers increasing 20 percent. Miscellaneous ducks also increased 0.5 percent. The only species that indicated a decrease from 2001 were American wigeon (-5.9%), ring-necked duck (-31.2%), goldeneye (-8.3%), bufflehead (-8.0%), scoter (-5.2%), and mergansers (-17.6%). This population increase, for the most part, probably reflects spring overflight from the extremely dry prairie areas in western Canada.

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. An upgraded data recording system was again used for the fifth year. This involves both the pilot/observer and the observer recording data into two Toshiba Satellite Pro 440 CDX laptop computers mounted in the aircraft. Global Positioning System (GPS) location hits were fixed to all waterfowl observed and identified. Even though this was the first year for the observer, who is from the Bombay Hook National Wildlife Refuge, he has many years of observing and identifying waterfowl from the air. Transect flight in stratum 13 through 17 were flown in N783, a Cessna 206 amphibian. The survey was initiated out of Edmonton, Alberta, beginning just north of the Lesser Slave Lake on May 25, and was completed on June 23 at Norman Wells, Northwest Territories. The survey involved approximately 120 flight hours. Survey dates for the individual stratum are as follows: stratum 77, May 25 - June 2; stratum 20, June 1; stratum 17, June 8 -

June 12; stratum 16, June 11 - June 13; stratum 15, June 12 - June 13; stratum 18, June 1 - June 12; stratum 14, June 14 - June 23, and stratum 13, June 19. Twelve segments in stratum 77 were not flown due to the effects of a large forest fire.

## HABITAT CONDITIONS:

### Northern Alberta and Northeastern British Columbia

A lack of winter and spring precipitation resulted in a very dry area in the southeast portion of this survey area from north of Cold Lake to Lake Athabasca, southwest to Slave Lake. In this area, only the more permanent lakes and larger beaver flowages were available for waterfowl habitat. Areas to the west and north of this extremely dry portion improved rapidly as they had received more normal winter precipitation amounts. Most of the waterfowl habitat northwest toward Ft. Nelson, British Columbia and High Level, Alberta and north toward Ft. Smith, Northwest Territories was better in 2002 than in 2001. Most of the shallow drainage basins, smaller beaver flowages, and semi-permanent wetlands in this portion of the survey unit contained water and had more acreage of habitat available to breeding waterfowl than last year.

### Athabasca Delta

There was no spring flooding in the Delta again this year. Water levels were slightly lower than 2001. Again this year many of the shallow lakes and sloughs were totally dry and covered with grasses and sedges, thus reducing the nesting habitat available for waterfowl. Lake Baril was the lowest that I have seen in seventeen years. Willows thickets continue to encroach on the margins and into wetlands in the Delta.

### Northwest Territories (Mackenzie District)

Spring came very late, 2 - 4 weeks, in the Territories, with the latest in the Yellowknife and in the Inuvik areas. Ice-out in the Mackenzie Delta at Inuvik was on May 29. Above average amounts of winter precipitation provided good water levels in the permanent lakes and wetlands, and most of the smaller wetland basins and beaver flowages were full. Nesting efforts by all species were delayed, and especially by more northern species, i.e. tundra swans, long-tailed duck, scoters and scaup.

## SUMMARY:

Habitat conditions for waterfowl were mixed in northern Alberta and northeastern British Columbia with extremely dry conditions persisting in the dry triangle southeastern portion from Cold Lake to Slave Lake and from there northeast to Lake Athabasca. Conditions improved rapidly to the west and north. Habitat conditions were very good throughout the Northwest Territories. However, this was offset with very late spring weather (2-4 weeks late), with sub-freezing temperatures and snow that persisted into the third week of June in many areas of the

Northwest Territories, making weather conditions difficult for the early nesting waterfowl species.

#### BREEDING POPULATION ESTIMATES:

The status of waterfowl breeding population estimates by species with comparisons to the previous year, ten-year mean, and long-term mean are presented in Table 1. The long-term trend in adjusted waterfowl breeding population estimates is presented in Appendix 1. Population indices graphs for individual waterfowl species on an annual basis are present in Figure 1. Total ducks for 2002 indicated a 15.9 percent increase from 2001, a 5.0 percent increase from the ten-year mean, and a -24.3 percent decrease from the long-term mean.

Dabbler population estimates increase 17.2 percent from 2001, increased 8.0 percent from the ten-year mean, and decreased -14.5 percent from the long-term mean. Only American wigeon decreased from 2001, (-5.9 percent), and gadwall and American wigeon decreased from the ten-year mean (-22.1 and -6.0 percent respectively).

Total diver population estimates increased 20.0 percent from 2001 with only ring-necked duck (-31.2%), goldeneye (-8.3%), and bufflehead (-8.0%) indicating a decrease from 2001. Again, only ring-necked duck (-32.0 percent), goldeneye (-38.8 percent), and bufflehead (-1.2 percent) decreased from the ten-year mean.

For miscellaneous species, long-tailed duck (formerly old squaw) increased 81.9 percent from 2001, and both scoters and mergansers decreased -5.2 and -17.6 percent, respectively, from last year

#### CONCLUSIONS:

1. Overall this survey unit had similar breeding habitat conditions to last year, 2001, with one exception. The southeast portion of stratum 77, northern Alberta and northeastern British Columbia, was extremely dry with only permanent lakes and very large beaver flowages containing water. Conditions improved rapidly west and north from this area. Also most portions of the Northwest Territories experienced a very late spring of 2 - 4 weeks, with ice-out in the Mackenzie Delta on May 29. Northern Alberta and northeastern British Columbia also experienced a late spring of 1 - 3 weeks, but warmed up rapidly in late May and early June. Below normal temperatures and freezing precipitation persisted until the end of May in large portions of the survey area, creating adverse conditions for early nesting waterfowl species.
2. Waterfowl breeding pairs increased from 2001 in the survey unit for all species except American wigeon, ring-necked duck, goldeneye, and bufflehead. Most of this increase probably was from overflight from the extremely dry conditions in the prairies further south.
3. Production in 2002 will probably be slightly higher than in 2001 as more breeding pairs were present on the survey area. The uncertainty this year is not knowing how many of the prairie

overflight ducks will attempt to nest this year in the boreal forest, and also what effects the extremely late spring, i.e. the sub-freezing temperatures and precipitation that went into early June, will have on the nesting efforts of early nesting waterfowl species.

Submitted by: Carl Ferguson, Flyway Biologist      July 15, 2002

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	2002 Total	2001 Total	10-Year Mean	Long- Term Mean	2001	10-Year Mean	Long- Term Mean
Ducks															
Dabblers															
Mallard	22.9	61.9	66.6	30.2	140.1	23.8	65.9	224.5	635.9	475.7	641.1	804.1	33.7%	-0.8%	-20.9%
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	9.2	4.0	0.0	0.0	0.0	2.6	13.2	1.8	30.7	24.5	39.5	19.5	25.3%	-22.1%	57.7%
Am. wigeon	99.6	144.4	34.8	15.2	75.1	5.4	25.0	227.9	627.4	666.4	667.2	814.9	-5.9%	-6.0%	-23.0%
Am. green-winged teal	6.4	27.3	58.6	28.8	147.6	0.0	10.5	465.0	744.2	671.0	592.9	641.3	10.9%	25.5%	16.0%
Blue-winged teal	5.7	0.0	0.0	0.0	19.2	0.0	4.3	69.6	98.7	43.2	95.2	146.9	128.5%	3.6%	-32.8%
N. shoveler	23.4	15.2	6.5	0.0	65.7	3.0	26.1	73.8	213.8	102.7	139.9	162.9	108.2%	52.8%	31.3%
N. pintail	43.4	10.4	42.3	22.8	16.1	0.0	24.3	12.5	171.7	169.1	160.1	360.2	1.6%	7.2%	-52.3%
Subtotal	210.6	263.1	208.8	96.9	463.7	34.9	169.2	1075.1	2522.4	2152.5	2335.9	2949.8	17.2%	8.0%	-14.5%
Divers															
Redhead	2.1	0.0	0.0	0.0	2.2	0.0	3.5	8.2	16.1	6.2	14.1	17.6	159.1%	13.6%	-8.7%
Canvasback	33.7	5.6	0.0	0.0	25.3	0.0	22.7	7.6	95.0	37.9	63.1	51.6	150.8%	50.4%	83.9%
Scaups	94.5	537.5	226.8	190.6	206.0	110.5	8.0	266.3	1640.1	1266.9	1562.0	2473.8	29.5%	5.0%	-33.7%
Ring-necked duck	2.8	2.6	7.5	2.5	15.9	7.0	0.8	115.7	154.7	224.9	227.6	143.1	-31.2%	-32.0%	8.1%
Goldeneyes	4.0	0.0	0.0	0.0	3.4	3.1	8.6	8.5	27.5	30.0	44.9	92.2	-8.3%	-38.8%	-70.2%
Bufflehead	1.2	3.8	24.8	35.2	71.9	21.1	3.4	131.1	292.5	317.9	296.0	265.8	-8.0%	-1.2%	10.0%
Ruddy Duck	0.0	0.0	0.0	0.0	2.8	5.2	5.2	31.4	44.5	8.8	27.1	22.3	404.2%	64.6%	99.7%
Subtotal	138.3	549.6	259.1	228.2	327.4	146.9	52.3	568.7	2270.5	1892.5	2234.9	3066.4	20.0%	1.6%	-26.0%
Miscellaneous															
Long-tailed duck	3.0	71.4	1.9	24.4	3.7	0.0	0.0	0.0	104.3	57.3	70.7	246.5	81.9%	47.5%	-57.7%
Eiders	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	--	--	-100.0%
Scoters	7.4	293.1	36.1	112.9	16.3	11.2	0.7	26.0	503.6	531.1	489.0	899.0	-5.2%	3.0%	-44.0%
Mergansers	1.2	6.1	4.7	22.5	26.0	0.0	0.5	13.4	74.5	90.4	82.5	74.0	-17.6%	-9.6%	0.6%
Subtotal	11.7	370.5	42.7	159.8	46.0	11.2	1.2	39.5	682.4	678.9	642.1	1220.3	0.5%	6.3%	-44.1%
Total Ducks	360.6	1183.2	510.6	484.9	837.1	192.9	222.7	1683.3	5475.3	4723.9	5212.9	7236.6	15.9%	5.0%	-24.3%
Canada Goose	0.8	26.5	64.7	0.0	46.4	0.0	10.9	40.7	189.8	165.0	133.3	148.0	15.1%	42.5%	28.3%
Am. coot	0.0	0.0	0.0	0.0	13.1	0.0	122.7	62.2	198.1	38.3	32.6	52.1	416.5%	508.3%	280.3%

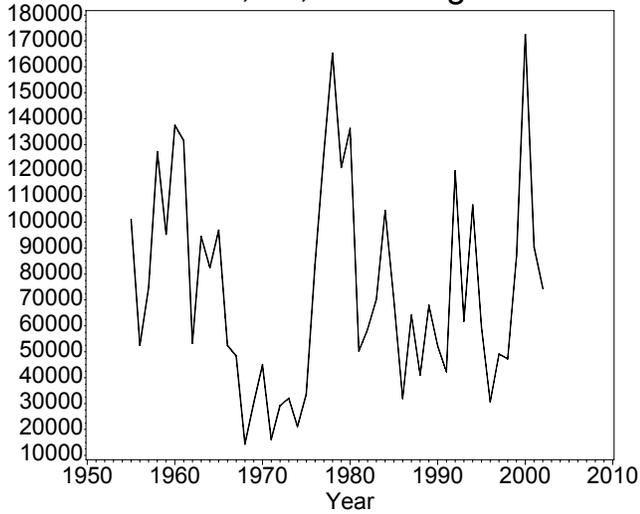
Appendix 1. Long-term trend in adjusted waterfowl breeding population estimates (thousands) for Northern Alberta, Northeastern British Columbia, and the Northwest Territories.

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

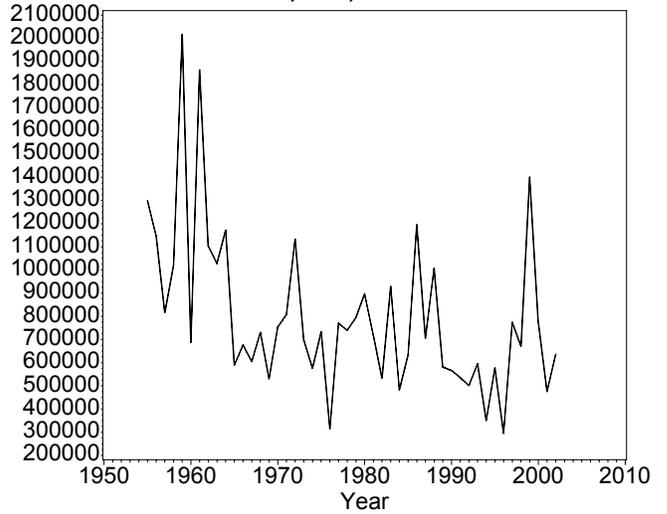
Appendix 1 (continued). Long-term trend in adjusted waterfowl breeding population estimates (thousands) for Northern Alberta, Northeastern British Columbia, and the Northwest Territories.

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

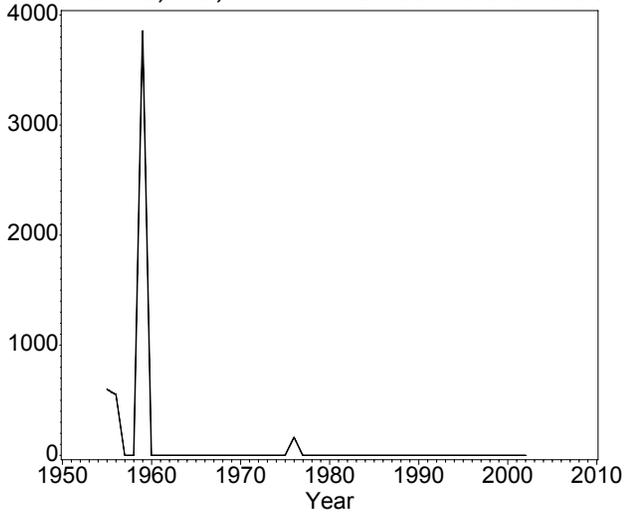
Strata 13-18, 20, 77 Mergansers



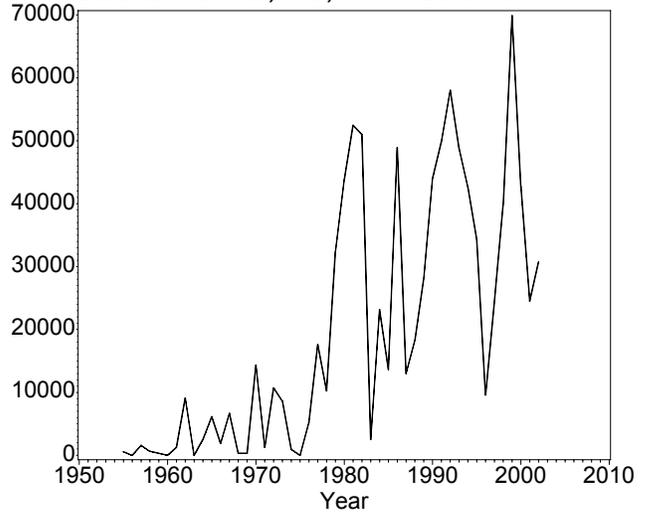
Strata 13-18, 20, 77 Mallard



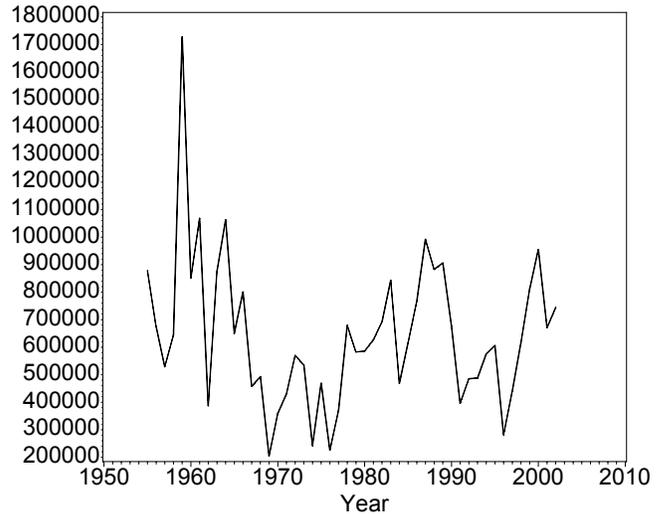
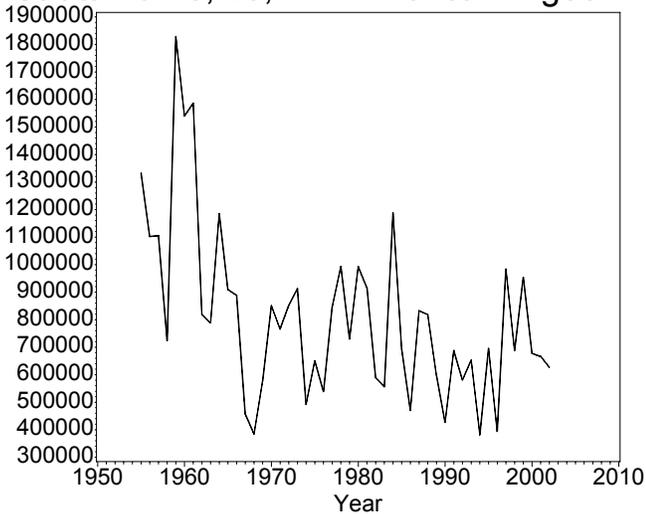
Strata 13-18, 20, 77 American black duck



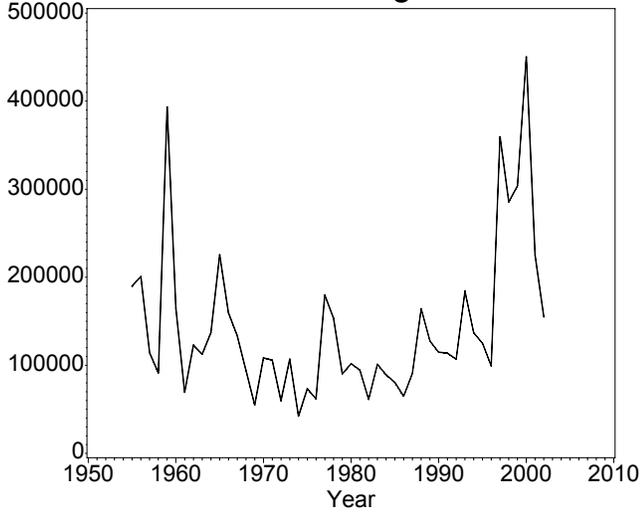
Strata 13-18, 20, 77 Gadwall



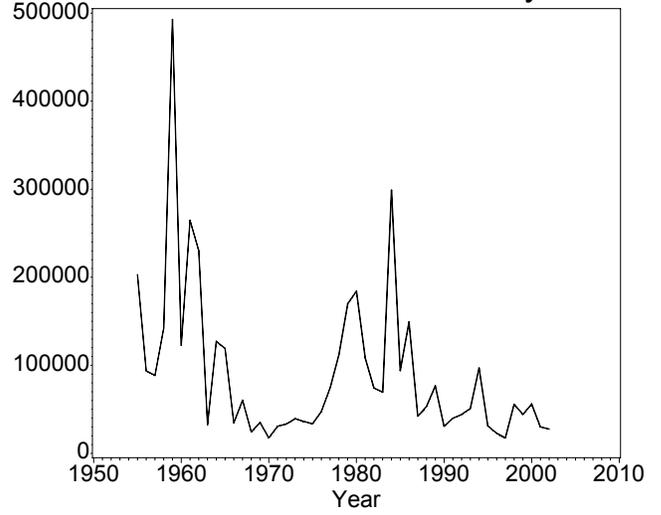
Strata 13-18, 20, 77 American wigeon



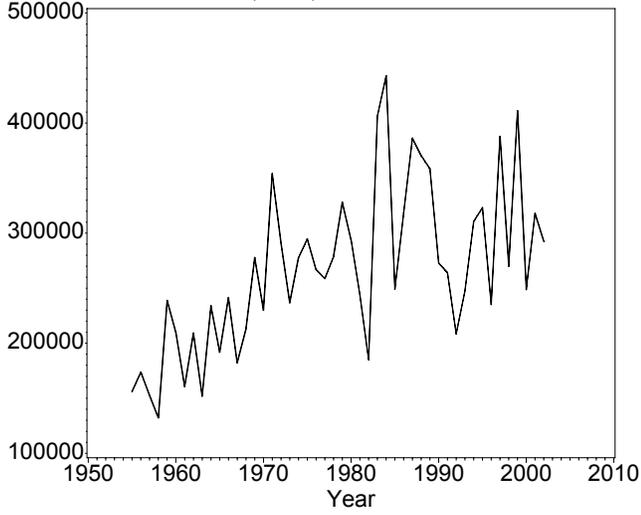
Strata 13-18, 20, 77 Ring-necked duck



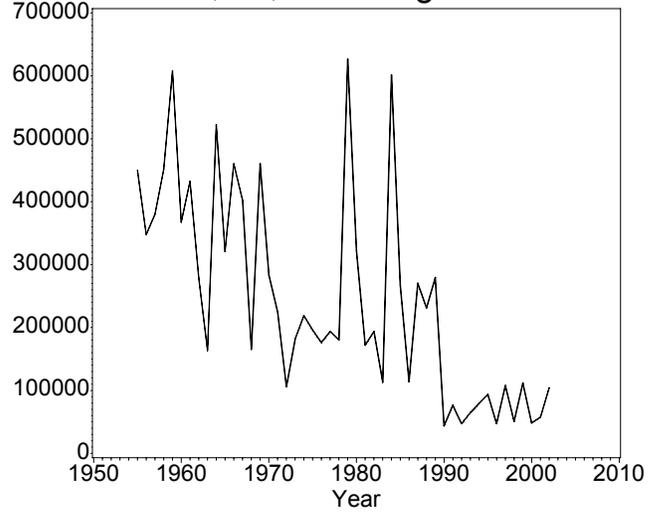
Strata 13-18, 20, 77 Goldeneyes



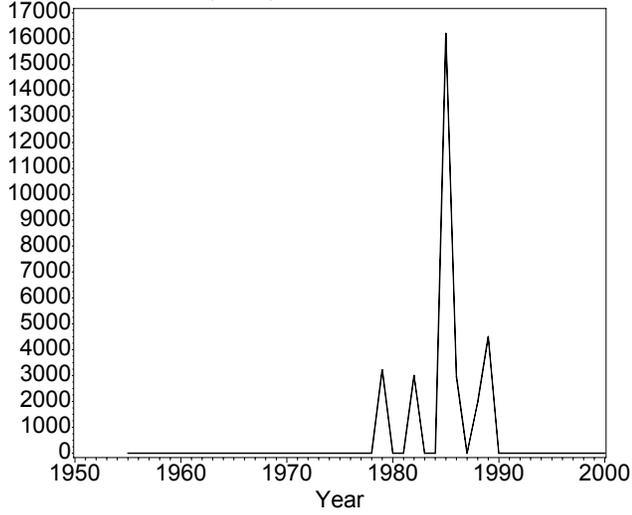
Strata 13-18, 20, 77 Bufflehead



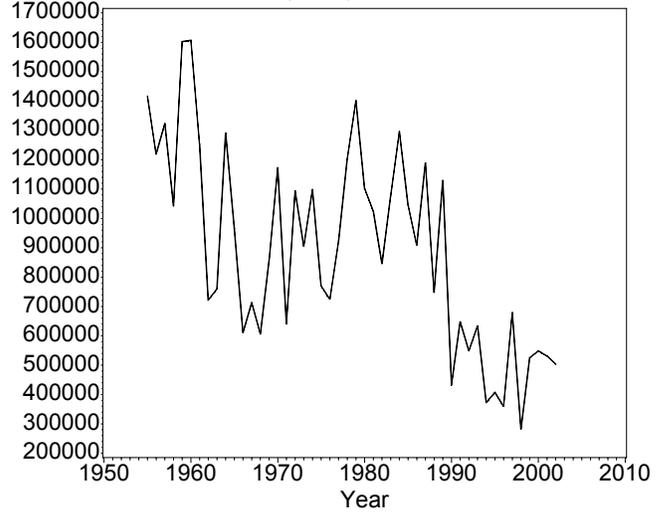
Strata 13-18, 20, 77 Long-tailed duck



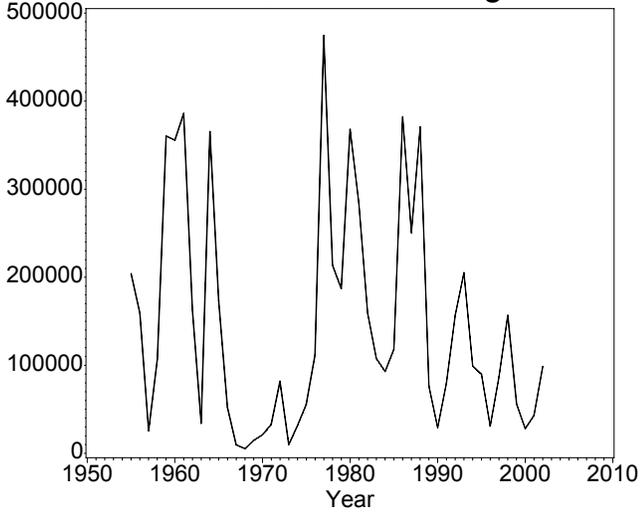
Strata 13-18, 20, 77 Common Eider



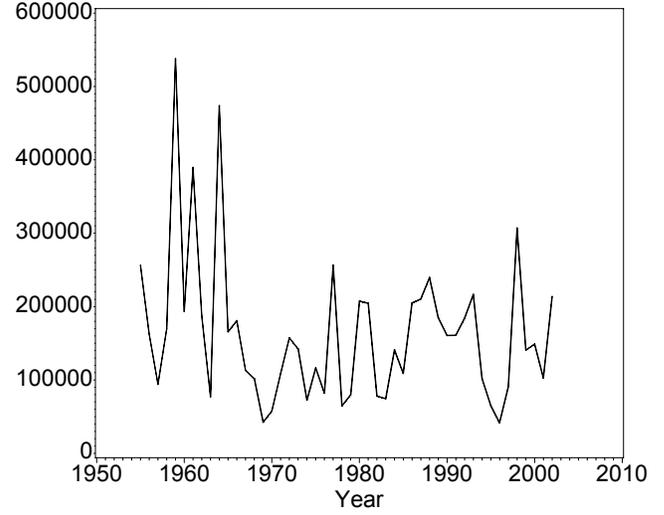
Strata 13-18, 20, 77 Scoters



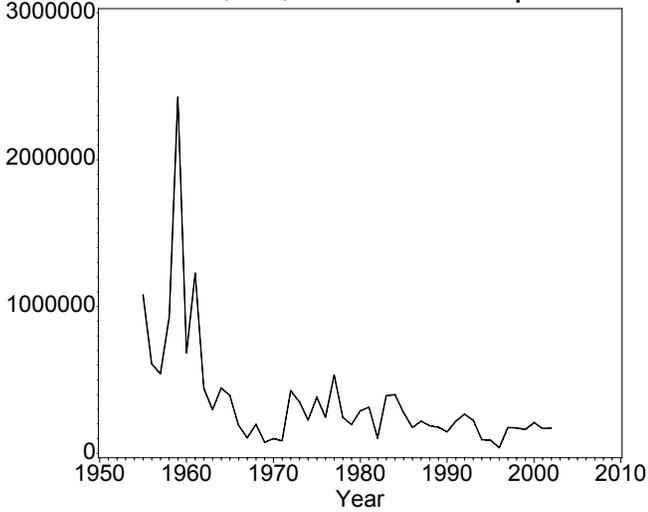
Strata 13-18, 20, 77 Blue-winged teal



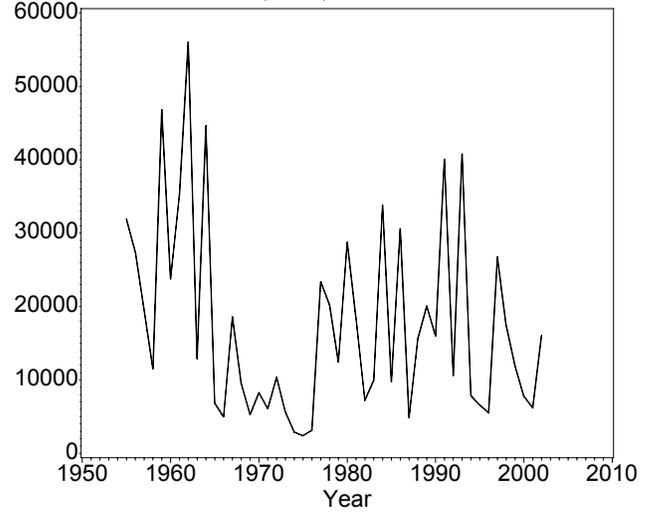
Strata 13-18, 20, 77 Northern shoveler



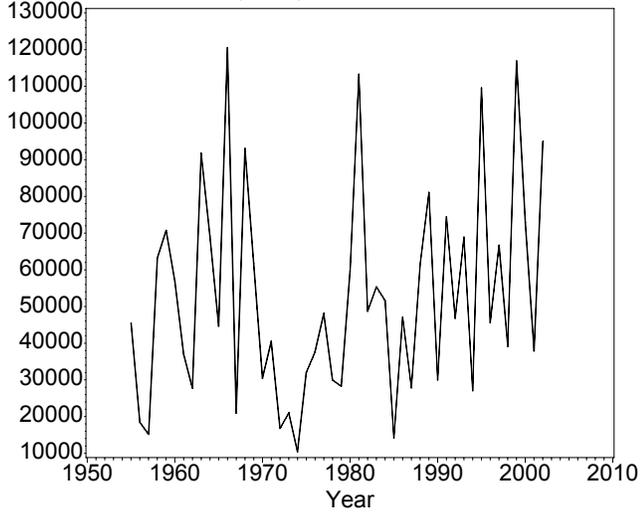
Strata 13-18, 20, 77 Northern pintail



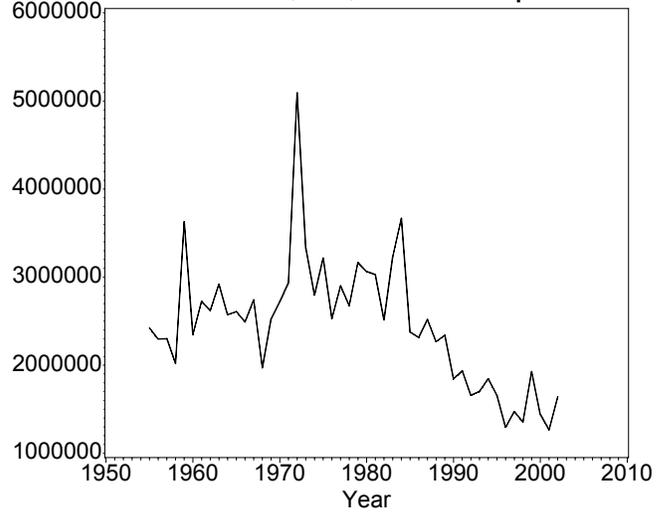
Strata 13-18, 20, 77 Redhead



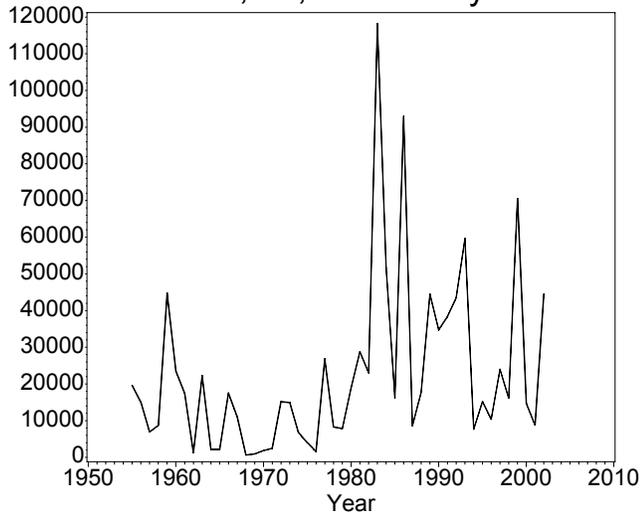
Strata 13-18, 20, 77 Canvasback



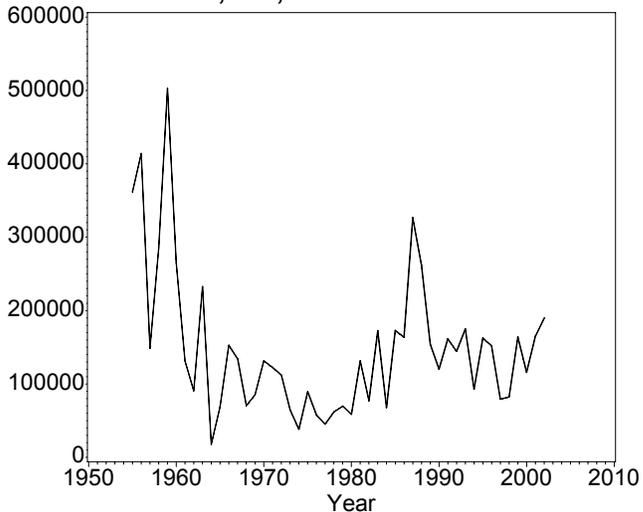
Strata 13-18, 20, 77 Scaups



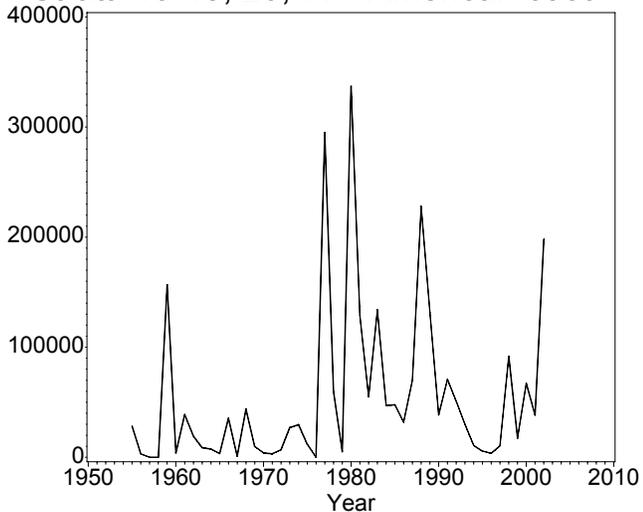
Strata 13-18, 20, 77 Ruddy Duck



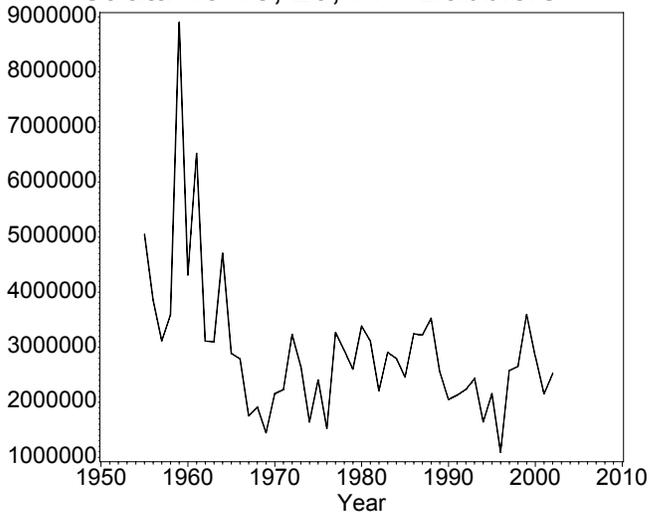
Strata 13-18, 20, 77 Canada Goose



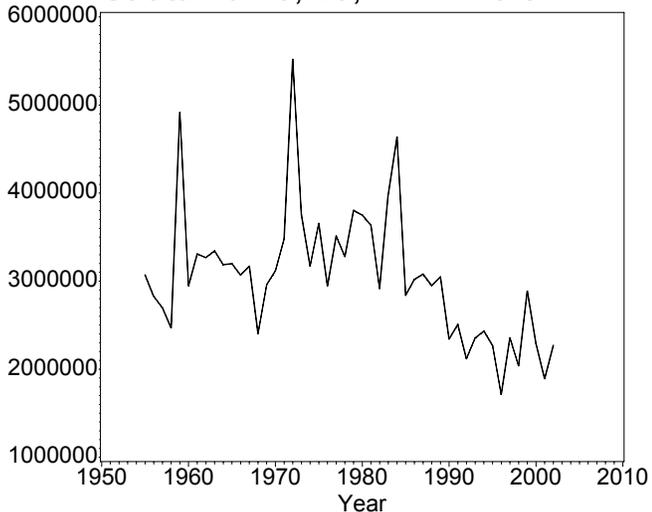
Strata 13-18, 20, 77 American coot



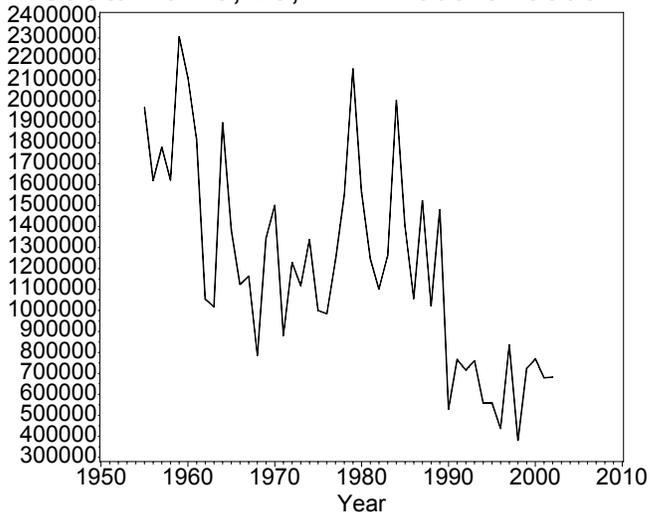
Strata 13-18, 20, 77 Dabblers



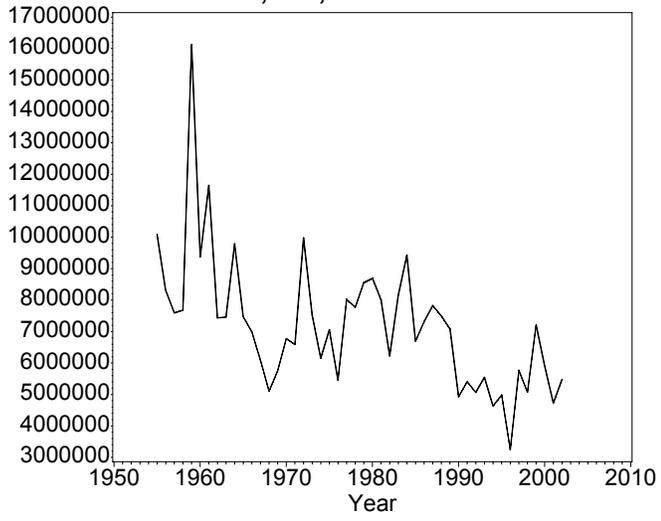
Strata 13-18, 20, 77 Divers



Strata 13-18, 20, 77 Miscellaneous



Strata 13-18, 20, 77 Total Ducks



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
<b>Ducks</b>								
<b>Dabblers</b>								
Mallard	576.5	295.1	773.7	671.8	1400.3	771.2	475.7	635.9
Am. black duck	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
Am. wigeon	694.8	394.0	983.7	687.2	952.8	677.5	666.4	627.4
Am. green-winged teal	605.5	281.7	440.2	616.4	810.4	954.8	671.0	744.2
Blue-winged teal	90.0	30.9	86.8	156.6	56.2	28.1	43.2	98.7
N. shoveler	65.0	41.7	90.9	306.9	140.6	148.9	102.7	213.8
N. pintail	88.4	38.3	175.1	173.1	162.9	209.5	169.1	171.7
Subtotal	2154.5	1091.3	2574.8	2651.9	3593.0	2832.6	2152.5	2522.4
<b>Divers</b>								
Redhead	6.6	5.5	26.7	17.4	11.9	7.8	6.2	16.1
Canvasback	109.6	45.6	66.7	39.1	116.9	72.9	37.9	95.0
Scaups	1657.9	1294.4	1473.4	1355.4	1926.6	1440.0	1266.9	1640.1
Ring-necked duck	125.1	99.3	359.5	285.4	303.9	450.3	224.9	154.7
Goldeneyes	31.0	22.9	17.5	55.7	44.2	56.1	30.0	27.5
Bufflehead	323.1	235.1	387.9	269.9	410.9	248.8	317.9	292.5
Ruddy Duck	15.2	10.4	24.0	16.1	70.5	14.7	8.8	44.5
Subtotal	2268.5	1713.2	2355.6	2038.8	2885.0	2290.5	1892.5	2270.5
<b>Miscellaneous</b>								
Oldsquaw	93.7	47.1	107.7	50.5	111.6	48.2	57.3	104.3
Eiders	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
Mergansers	59.5	30.6	49.1	47.3	86.7	172.5	90.4	74.5
Subtotal	560.4	437.6	835.8	380.6	723.6	769.6	678.9	682.4
Total Ducks	4983.4	3242.0	5766.1	5071.4	7201.6	5892.7	4723.9	5475.3
Canada Goose	162.4	151.8	79.1	82.2	163.8	115.9	165.0	189.8
Am. coot	5.6	3.6	10.6	91.7	17.1	67.0	38.3	198.1