UNITED STATES
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife

ALASKA - YUKON
WATERFOWL BREEDING PAIR SURVEY

May 20 to June 14, 1968.

by

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Title : Waterfowl Breeding Pair Survey; Alaska & Yukon Territory

Strata Covered : 37, 38, 05

Dates : May 20 to June 14, 1968

Data supplied by: James G. King, Bureau of Sport Fisheries and Wildlife, Juneau, Alaska, Pilot

Wesley Moholt, Bureau of Sport Fisheries and Wildlife, Moses Lake, Washington, Observer

Abstract:

The progress of spring did not impede the distribution or initiation of nesting of waterfowl this spring in Alaska with the exception of the northwestern areas which again had a late season. Spring run-off was light and flooding minimal leaving water levels in most lakes low so that optimum cover and food production are expected. Population indexes were up for all species of ducks except goldeneye, bufflehead and eider, species for which the sample is inadequate. The total index was up 73% from last year and up 35% from the ten year average and is the highest index in thirteen years of comparable surveys. Good production in 1967 would account for part of the increase but the indications are that there has been an influx of ducks from other areas as well.

I. Methods:

The Alaska survey consisted of 213 of the 214 established 16-mile segments. The Yukon survey consists of 8,18 mile segments. Wesley Moholt, U. S. Game Management Agent from Moses Lake, Washington made the entire trip as observer from the right side. Moholt is a pilot and assisted with off transect flying, planning and servicing the airplane. This assistance considerably reduced the burden and fatigue level of the pilot and resulted in a better survey.

Standard procedures were used except that due to ground fog the afternoon is often the only feasible time of day to survey.

A DeHaviland Beaver was used for the entire survey.

II. Weather and Habitat Conditions:

Weather conditions this year were quite similar to 1967 with much of the snow evaporating early. There was moderate flooding in the Koyukuk and Minto areas but these account for only a small portion of the habitat.

Water levels are low in most areas, a condition that should result in optimum production.

Very little ice was encountered this year except in the Seward Peninsula and Kotzebue areas where spring seems to be extremely late. On seven of the segments in this area the birds were not properly dispersed as of June 9. The optimum conditions elsewhere should easily compensate for poor conditions in northwestern Alaska.

III. Breeding Population Indexes:

The Alaska breeding population index of 1.946 million ducks is up 73% from 1966 and 35% above the 10-year average. This is the highest index in thirteen years of comparable surveys. All species showed a sharp increase except goldeneye, bufflehead and eider. The dabbling ducks and canvasback showed the strongest increase but scaup and scoter also are up. Only scaup, bufflehead and eider are below the ten year average.

In the Old Crow area, stratum 05, a general increase of 9% was noted; however only pintail showed the dramatic increase found in Alaska and five species decreased.

IV. Discussion:

In 1967 everything indicated good production in Alaska and increases in all species were expected. In the Interior, stratum 38, production appeared to be up about 30%. The increases noted in this survey are, however, in access of what even optimum conditions could provide. It therefore is apparent that Alaska has received an influx of birds from other areas. In the Interior the increase was not the expected 30%, it was 93%. In the tundra areas of stratum 37 the advance was only slightly less.

By using the visibility rates worked out for the Yukon Flats several years ago and conceding that good production in 1967 produced a 30% increase in the population we find that there has been an increase of 880 thousand ducks in stratum 38 that must have come from some other area. We do not have production data from stratum 37 or for the low density habitat outside the survey areas but there is substantial increase in these areas as well. We can guess then that Alaska is hosting 1.5 to 2 million ducks displaced from other areas, perhaps the drought stricken Canadian Prairies.

Early reports from Cal Lensink on his work on the Yukon Delta indicate production of geese and swan will be similar to the good production of 1967.

Disregarding the influx of displaced birds, which may not reproduce as successfully as the local stock, the picture for Alaskan waterfowl is quite bright. There is every reason to believe that the fall flight of all species from Alaska will be considerably larger than in any of the past thirteen years.

TABLE No. 1.--Ten-year trend in Alaska waterfowl breeding population indexes by species

1959-1968

(index numbers in thousands)

Species	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	Ave.
Dabblers:											
Mallard	98	78	108	60	83	67	27	32	42	76	67
American widgeon	32	26	42	42	27	36	40	32	59	133	47
Green-winged teal	2	1	4	2	2	10	14	17	24	45	12
Shoveler	8	7	17	7	5	7	4	5	6	32	10
Pintail	474	356	440	476	378	379	240	250	247	622	386
Subtotal	614	468	611	587	495	499	325	336	378	908	522
Divers:											
Canvasback	12	19	6	7	17	11	21	17	15	43	17
Scaup	533	597	657	657	585	562	355	425	314	498	518
Goldeneye	8	27	26	33	10	9	9	13	38	35	21
Bufflehead	18	24	31	39	37	32	29	22	30	21	28
Subtotal	571	667	720	736	649	614	414	477	397	597	584
Miscellaneous:											
Scoter	183	324	316	225	165	148	190	252	250	301	235
Eider	17	17	30	11	11	20	27	14	16	7	17
Old Squaw	59	90	87	69	94	92	49	79	87	133	84
Subtotal	259	431	433	305	270	260	266	345	353	441	336
Total ducks	1,444	1,566	1,764	1,628	1,414	1,373	1,005	1,158	1,128	1,946	1,442

TABLE No. 2.--Comparative status of Alaska waterfowl breeding population indexes by species and stratum

1968

(index numbers in thousands)

Species	Stratum 37	Stratum 38	Total 1967	Total 1968	Average 1959 to 1968	Percent change from 1967	Percent change from Average
Dabblers:							
Mallard	16	60	42	76	67	+ 81	+ 13
American widgeon	40	93	59	133	47	+ 125	+ 183
Green-winged teal	16	29	24	45	12	+ 88	+ 275
Shoveler	4	28	6	32	10	+ 433	+ 220
Pintail	362	260	247	622	386	+ 152	+ 61
Subtotal	438	470	378	908	522	+ 140	+ 74
Divers:							
Canvasback	1	42	15	43	17	+ 187	+ 153
Scaup	186	312	314	498	518	+ 59	- 4
Goldeneye	19	16	38	35	21	- 8	+ 67
Bufflehead	1	20	30	21	28	- 30	- 25
Subtotal	207	390	397	597	584	+ 50	+ 2
Miscellaneous:							
Scoter	166	135	250	301	235	+ 20	+ 28
Eider	7		16	7	17	- 56	- 59
Old Squaw	97	36	87	133	84	+ 53	+ 58
Subtotal	270	171	353	441	336	+ 25	+ 31
Total ducks	915	1,031	1,128	1,946	1,442	+ 73	+ 35

TABLE No. 3.--Ten-year trend in Old Crow, Yukon, waterfowl breeding population index by species - 1958-68 (59 missing)

(index numbers in thousands)

Species	1958	1960	1961	1962	1963	1964	1965	1966	1967	1968	Average
Dabblers:											
Mallard	1	2	4	4	2		1	1	3	2	2
American widgeon	4	9	9	6	7	4	5	9	15	13	8
Green-winged teal	1	1	2	1		1			Tr	1	1
Shoveler	1	1								1	
Pintail	16	37	16	6	10	6	4	2	9	24	13
Subtotal	23	50	31	17	19	11	10	12	27	41	24
Divers:											
Canvasback	6	6	1		1		2	16	8	1	4
Scaup	24	38	49	35	24	24	21	49	38	33	34
Goldeneye	2	2	2	2	3		1		4	7	2
Bufflehead								1	Tr	Tr	
Subtotal	32	46	52	37	28	24	24	66	51	41	40
Miscellaneous:											
Scoter	31	68	74	52	32	20	17	43	39	47	42
Eider											
Old Squaw	6	6	7	11	4	7	3	8	10	10	7
Subtotal	37	74	81	63	36	27	20	51	49	57	49
Total ducks	92	170	164	117	83	62	54	129	128	139	113

TABLE No. 4.--Comparative status of Old Crow, Yukon, waterfowl breeding population indexes by species

1968

(index numbers in thousands)

Species	Stratum 05	Total 1967	Total 1968	Average *1958 1968	Percent change from 1967	Percent change from Average
Dabblers:						
Mallard	2	3	2	2	- 33	0
American widgeon	13	15	13	8	- 13	+ 63
Green-winged teal	1	Tr	1	1	+ 100	0
Shoveler	1		1			
Pintail	24	9	24	13	+ 167	+ 85
Subtotal	41	27	41	24	+ 52	+ 71
Divers:						
Canvasback	1	8	1	4	- 87	- 75
Scaup	33	38	33	34	- 13	- 3
Goldeneye	7	4	7	2	+ 75	+ 250
Bufflehead	Tr	Tr	Tr			
Subtotal	41	51	41	40	- 20	+ 3
Miscellaneous:						
Scoter	47	39	47	42	+ 21	+ 12
Eider						
Old Squaw	10	10	10	7	0	+ 43
Subtotal	57	49	57	49	+ 16	+ 16
Total ducks:	139	128	139	113	+ 9	+ 23

*1959 data missing

TABLE No. 5.--Whistling swan breeding population indexes - Alaska 1959-1968

(index numbers in thousands)

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	10-yr. Average
Sq. mi. sampled	644	604	648	492	468	414	208	212	210	212	
Number counted	546	710	759	470	567	481	298	256	208	213	
Population index	59	79	79	56	64	50	62	52	43	50	59

WATERFOWL BREEDING POPULATION SURVEY

Stratum 37 Dates: 5 /28 /68 Thru 6 /11 /68

SPECIES	IDENTIFIED							UNIDENTIFIED		GRAND TOTAL	POPULATION INDEX
	Observed		Birds in Pairs		Grouped Birds		Pairs & Grouped	As Drake & Pairs	As a Group		
	Drakes (1)	Pairs (2)	Total (3)	% (4)	Total (5)	% (6)	(7)	(8)	(9)	(10)	(15)
Mallard	27	7	68	4			68	9		77	15,785
Black duck											
Gadwall											
American widgeon	43	39	164	9	10	6	174	20		194	39,770
Green-winged teal	30	4	68	4			68	9		77	15,785
Blue-winged teal											
Shoveler	5	4	18	1			18	1		19	3,895
Pintail	441	266	1414	82	150	94	1564	181	21	1766	362,030
Redhead											
Canvasback											
Scaup											
Ring-necked duck											
Goldeneye											
Bufflehead											
Scoter											
Ruddy duck											
Merganser											
Sub-total	546	320	1732	100	160		1892	220	21	2133	437,265
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	546	41	70	140
Ducks in pairs (b)	640	47	80	80
Sub-total (c)				220
Ducks in groups (d)	160	12	21	21
Coot (e)				
Grand Total (f)	1346	100	171	241

Number of observed ponds (x2)	
Pond index	
Square miles in the stratum	43,450
Square miles in the sample	212
Number of segments	106
Expansion factor	205
Segment length	16 miles

WATERFOWL BREEDING POPULATION SURVEY

Stratum 37 Dates: 5/28/68 Thru 6/11/68

SPECIES	IDENTIFIED							UNIDENTIFIED		GRAND TOTAL	POPULATION INDEX
	Observed		Birds in Pairs		Grouped Birds		Pairs & Grouped	As Drake & Pairs	As a Group		
	Drakes (1)	Pairs (2)	Total (3)	% (4)	Total (5)	% (6)	(7)	(8)	(9)	(10)	(15)
Mallard											
Black duck											
Gadwall											
American widgeon											
Green-winged teal											
Blue-winged teal											
Shoveler											
Pintail											
Redhead											
Canvasback		3	6				6			6	1,230
Scaup	170	272	884	42	13	7	897	10	1	908	186,140
Ring-necked duck											
Goldeneye	34	11	90	4			90	1		91	18,655
Bufflehead	1	1	4				4			4	820
Scoter	51	322	746	36	54	28	800	9	1	810	166,050
~~Ruddy duck~~ Old Squaw	73	98	342	16	127	65	469	4		473	96,965
~~Merganser~~ Eider	9	8	34	2			34			34	6,970
Sub-total	338	715	2106	100	194		2300	24	2	2326	476,864
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	338	17	4	8
Ducks in pairs (b)	1430	73	16	16
Sub-total (c)				24
Ducks in groups (d)	194	10	2	2
Coot (e)				
Grand Total (f)	1962	100	22	26

Number of observed ponds (x2)	
Pond index	
Square miles in the stratum	43,450
Square miles in the sample	212
Number of segments	106
Expansion factor	205
Segment length	16 miles

WATERFOWL BREEDING POPULATION SURVEY

Stratum 38 **Dates:** 5 / 20 / 68 **Thru** 6 / 14 / 68

SPECIES	IDENTIFIED							UNIDENTIFIED		GRAND TOTAL	POPULATION INDEX
	Observed		Birds in Pairs		Grouped Birds		Pairs & Grouped	As Drake & Pairs	As a Group		
	Drakes (1)	Pairs (2)	Total (3)	% (4)	Total (5)	% (6)	(7)	(8)	(9)	(10)	(15)
Mallard	100	42	284	13			284	101		385	59,675
Black duck											
Gadwall											
American widgeon	121	100	442	20			442	155		597	92,535
Green-winged teal	35	33	136	6	4	22	140	47	1	188	29,140
Blue-winged teal											
Shoveler	37	29	132	6			132	47		179	27,745
Pintail	411	206	1234	55	14	78	1248	428	4	1680	260,400
Redhead											
Canvasback											
Scaup											
Ring-necked duck											
Goldeneye											
Bufflehead											
Scoter											
Ruddy duck											
Merganser											
Sub-total	704	410	2228	100	18	100	2246	778	5	3029	469,495
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	704	46	247	494
Ducks in pairs (b)	820	53	284	284
Sub-total (c)				778
Ducks in groups (d)	18	1	5	5
Coot (e)				
Grand Total (f)	1542	100	536	783

Number of observed ponds (x2)	
Pond index	
Square miles in the stratum	33,200
Square miles in the sample	214
Number of segments	107
Expansion factor	155
Segment length	16 miles

WATERFOWL BREEDING POPULATION SURVEY

Stratum 38 **Dates:** 5 /20 /68 **Thru** 6 /14 /68

SPECIES	IDENTIFIED							UNIDENTIFIED		GRAND TOTAL	POPULATION INDEX
	Observed		Birds in Pairs		Grouped Birds		Pairs & Grouped	As Drake & Pairs	As a Group		
	Drakes (1)	Pairs (2)	Total (3)	% (4)	Total (5)	% (6)	(7)	(8)	(9)	(10)	(15)
Mallard											
Black duck											
Gadwall											
American widgeon											
Green-winged teal											
Blue-winged teal											
Shoveler											
Pintail											
Redhead											
Canvasback	62	52	228	7	30	10	258	12	2	272	42,160
Scaup	191	758	1898	61	15	5	1913	101	1	2015	312,325
Ring-necked duck											
Goldeneye	33	16	98	3	1		99	5		104	16,120
Bufflehead	36	24	120	4	2		122	7		129	19,995
Scoter	73	310	766	24	63	21	829	40	3	872	135,160
~~Ruddy duck~~ Old Squaw	4	9	26	1	195	64	221	1	10	232	35,960
Merganser											
Sub-total	399	1169	3136	100	306	100	3442	166	16	3624	561,720
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	399	13	21	42
Ducks in pairs (b)	2338	77	124	124
Sub-total (c)				166
Ducks in groups (d)	306	10	16	16
Coot (e)				
Grand Total (f)	3043	100	161	182

Number of observed ponds (x2)	
Pond index	
Square miles in the stratum	33,200
Square miles in the sample	214
Number of segments	107
Expansion factor	155
Segment length	16 miles

WATERFOWL BREEDING POPULATION SURVEY

Stratum 05 Dates: 6 / 14 / 68 Thru / /

SPECIES	IDENTIFIED							UNIDENTIFIED		GRAND TOTAL	POPULATION INDEX
	Observed		Birds in Pairs		Grouped Birds		Pairs & Grouped	As Drake & Pairs	As a Group		
	Drakes (1)	Pairs (2)	Total (3)	% (4)	Total (5)	% (6)	(7)	(8)	(9)	(10)	(15)
Mallard	4	2	12	5			12	5		17	1,853
Black duck											
Gadwall											
American widgeon	36	6	84	32			84	34		118	12,862
Green-winged teal	2		4	1			4	1		5	545
Blue-winged teal											
Shoveler	1	2	6	3			6	3		9	981
Pintail	73	5	156	59			156	63		219	23,871
Redhead											
Canvasback											
Scaup											
Ring-necked duck											
Goldeneye											
Bufflehead											
Scoter											
Ruddy duck											
Merganser											
Sub-total	116	15	262	100			262	106		368	40,112
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	116	80	47	94
Ducks in pairs (b)	30	20	12	12
Sub-total (c)				106
Ducks in groups (d)				
Coot (e)				
Grand Total (f)	146	100	59	

Number of observed ponds (x2)	
Pond index	
Square miles in the stratum	1,970
Square miles in the sample	18
Number of segments	8
Expansion factor	109
Segment length	18 miles

WATERFOWL BREEDING POPULATION SURVEY

Stratum 05 Dates: 6 / 14 / 68 Thru / /

SPECIES	IDENTIFIED							UNIDENTIFIED		GRAND TOTAL	POPULATION INDEX
	Observed		Birds in Pairs		Grouped Birds		Pairs & Grouped	As Drake & Pairs	As a Group		
	Drakes (1)	Pairs (2)	Total (3)	% (4)	Total (5)	% (6)	(7)	(8)	(9)	(10)	(15)
Mallard											
Black duck											
Gadwall											
American widgeon											
Green-winged teal											
Blue-winged teal											
Shoveler											
Pintail											
Redhead											
Canvasback	1	5	12	1			12			12	1,308
Scaup	55	90	290	33	5	56	295	6		301	32,809
Ring-necked duck											
Goldeneye	32	1	66	8			66	1		67	7,303
Bufflehead	2		4				4			4	436
Scoter	116	94	420	48	2	22	422	9		431	46,979
~~Ruddy duck~~ Old Squaw	33	11	88	10	2	22	90	2		92	10,028
Merganser											
Sub-total	239	201	880	100	9	100	889	18		907	98,863
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	239	37	5	10
Ducks in pairs (b)	402	62	8	8
Sub-total (c)				18
Ducks in groups (d)	9	1		
Coot (e)				
Grand Total (f)	650	100	13	18

Number of observed ponds (x2)	
Pond index	
Square miles in the stratum	1,970
Square miles in the sample	18
Number of segments	8
Expansion factor	109
Segment length	18 miles