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ALASKA - YUKON
WATERFOWL BREEDING PAIR SURVEY

May 20 to June 10, 1970

by

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Title Waterfowl Breeding Pair Survey; Alaska & Yukon Territory

Strata Covered : 37, 38

Dates : May 20 to June 10, 1970

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

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Wildlife, Moses Lake, Washington, Observer-Pilot

Abstract:

For the third year in a row the Alaska survey was completed under remarkably similar and ideal conditions. Methods, equipment, personnel, phenology, timing and weather were very similar. Spring was generally early again this year, the light snow cover evaporated before breakup and there was no flooding at all. Water levels in the lakes are down slightly in stratum 37 and down considerably in stratum 38 with perhaps 20% of last year's ponds completely dry. Population indexes are up 15 percent from last year. Everything appears optimum for good production.

I. Methods:

The Alaska survey was completed according to standard procedures. The survey was very comparable to the 1969 survey with the same plane used, the same observers, similar weather and habitat conditions.

II. Weather and Habitat Conditions:

All parts of Alaska enjoyed an extremely mild winter with very little snowfall. Estuarine wintering areas south of Anchorage had almost no subfreezing weather. In the principle nesting areas farther north dry weather continued into winter and what moderate snowfall there was evaporated in late winter thus water levels are a good deal lower than last spring. Flooding, of course, was absent.

Unlimited dry nesting sites were available even before the thaw. Thawing began early enough so migrant birds could find plenty of open water and proceed with nesting undelayed.

Although a good many water areas have dried up in the Interior (stratum 38), I believe we are still within the range of normal fluctuations and are not having a drought of unusual proportions. The Yukon Flats habitat appears to be very comparable to what it was in 1960 and 1961 when we enjoyed high population indexes.

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We conclude that weather and habitat conditions are optimum for good production.

III. Breeding Population Indexes:

The 1970 population index for dabblers shows a considerable increase over last year and is the highest recorded except for 1968 when displaced prairie ducks seem to have come to Alaska in big numbers. Part of this increase may be due to favorable visibility occasioned by low water levels. There was no flooded cover of any sort and the margins of many lakes were unvegetated mud. Visibility would be very comparable to the 1960 and 1961 seasons.

Divers seem to have increased slightly except for lesser scaup in stratum 38 which showed a significant decline. This decline is masked somewhat by the fact that greater scaup in stratum 37, which are lumped with lessers, showed a moderate increase.

Mallard - Up 153% possibly due to extremely mild weather in coastal Alaska where many of them winter.

Widgeon - Up 53%, a significant increase.

Green-winged Teal - Up 54%. We would expect such an increase but because teal show up so poorly from the air we doubt that this shows the true picture.

Shoveler - Up 57%, a significant increase.

Pintail - Up 39%, a significant increase.

Canvasback - Up 5%. Sample too small to be significant.

Scaup (Greater) - Up 9%, a significant increase.

Scaup (Lesser) - Down 32%, a significant decrease. We know of no condition on the breeding range that could explain this decrease.

Goldeneye - Many are recorded as scaup unless lighting is perfect or they fly, thus fluctuations may only indicate the quality of sunlight from year to year.

Bufflehead - Up 69%, a significant increase.

Scoter - Down slightly but migration is never complete at the time of survey so this is not a true picture of the breeding population.

Eider - There are only 7 or 8 segments that include eider nesting habitat so index is not adequate.

Old Squaw - In stratum 37 the population remained the same. Old Squaw do not nest regularly in stratum 38 but some are always recorded on the survey thus fluctuations here measure migration patterns, not breeding populations.

Whistling Swan - Seem to be holding population levels very well and may be increasing somewhat. We are in process of a thorough review of the swan data. Indications are that we do not see 100% of them on survey as previously believed. The speculation that some Alaskan swans winter on the Atlantic coast was confirmed this year when a Yukon Delta banded bird was recovered in Georgia.

In conclusion we can only say that the Alaskan waterfowl population seems to be in peak condition. It seems likely there will be an increase in the size of the fall flight in all species except lesser scaup. On the other hand it is not possible for populations to increase at 15 or so percent per year indefinitely even though conditions appear favorable. At some point a leveling off must occur. It will be interesting to see what production counts disclose.

--Alaska - comparative status of waterfowl breeding population
indexes by species and stratum, 1969-1970

/index numbers in thousands/

Species	Stratum		Total		Average 1961-70	Percent change from	
	37	38	1969	1970		1969	Average
Ducks:							
Shovellers:							
Mallard	33	101	53	134	67	+153	+100
American widgeon	33	141	114	174	70	+ 53	+149
Green-winged teal	33	30	41	63	22	+ 54	+186
Shoveler	7	26	21	33	14	+ 57	+136
Pintail	198	211	294	409	374	+ 39	+ 9
Subtotal	304	509	523	813	547	+ 55	+ 49
Geese:							
Canvasback	1	21	21	22	18	+ 5	+ 22
Scaup	221	220	488	441	498	- 10	- 11
Goldeneye	11	14	39	25	24	- 36	+ 4
Bufflehead	6	38	26	44	31	+ 69	+ 42
Subtotal	239	293	574	532	571	- 7	- 7
Miscellaneous:							
Cooter	176	44	246	220	231	- 11	- 5
Bider	9		6	9	15	+ 50	- 40
Old Squaw	88	2	93	90	87	- 3	+ 3
Subtotal	273	46	345	319	334	- 7	- 4
Total ducks	816	848	1,442	1,664	1,452	+ 15	- 15

--Alaska - 10 year trend in breeding population indexes by species, 1960-1969

/index numbers in thousands/

Species	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	Average
Ducks:											
Dabblers:											
Mallard	108	60	83	67	27	32	42	76	53	134	67
American widgeon	42	42	27	36	40	32	59	133	144	174	70
Green-winged teal	4	2	2	10	14	17	24	45	41	63	22
Shoveler	17	7	5	7	4	5	6	32	21	33	14
Pintail	440	476	378	379	240	250	247	622	294	409	374
Subtotal	611	587	495	499	325	336	378	908	523	813	547
Divers:											
Canvasback	6	7	17	11	21	17	15	43	21	22	18
Scaup	657	657	585	562	355	425	314	498	488	441	498
Goldeneye	26	33	10	9	9	13	38	35	39	25	24
Bufflehead	31	39	37	32	29	22	30	21	26	44	31
Subtotal	720	736	649	614	414	477	397	597	574	532	571
Miscellaneous:											
Scoter	316	225	165	148	190	252	250	301	246	220	231
Eider	30	11	11	20	27	14	16	7	6	9	15
Old Squaw	87	69	94	92	49	79	87	133	93	90	87
Subtotal	433	305	270	260	266	345	353	441	345	319	334
Total ducks	1,764	1,628	1,414	1,373	1,005	1,158	1,128	1,946	1,442	1,664	1,452

--Alaska - whistling swan breeding population indexes, 1961-1970

/index numbers in thousands/

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	10-year average
Square miles sampled	648	492	468	414	208	212	210	212	212	212	
Number counted	759	470	567	481	298	256	208	213	367	227	
Population index	79	56	64	50	62	52	43	50	75	69	60

--Alaska - stratum data sheet

Survey Design	Strata	
	37	38
miles in the stratum	43,450	33,200
miles in the sample	212	214
miles in the sample	1,696	1,712
of transects in the sample	30	63
of segments in the sample	106	107
ion factor	205	155

	<u>Data</u>			
	Strata			
	37		38	
of	Sample	Stratum	Sample	Stratum
ales	633	129,765	673	104,315
pairs	1,015	208,075	984	152,520
ed ducks	176	36,080	61	9,455
ntified ducks	346	70,930	1,584	245,520

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)					
Mallard	44	13	114	11			114	47		161	33,005
Black duck											
Gadwall											
American widgeon											
Green-winged teal	34	22	112	11			112	47		159	32,595
Blue-winged teal											
Shoveler	9	4	26	2			26	9		35	7,175
Pintail	258	83	682	65	3	100	685	278	3	966	198,030
Redhead											
Canvasback											
Scaup											
Baldpate	30	28	116	11			116	47		163	33,415
Goldeneye											
Bufflehead											
Scoter											
Merganser											
Sub-total	375	150	1,050	100	3	100	1,053	428	3	1,484	304,220
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	375	55	153	306
Ducks in pairs (b)	300	44	122	122
Sub-total (c)				428
Ducks in groups (d)	3	1	3	3
Coot (e)				
Grand Total (f)	678	100	278	431

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 /26 /70 Thru 6 /6 /70

SPECIES	IDENTIFIED							UNIDENTIFIED		GRAND TOTAL (10)	POPULATION INDEX (15)
	Observed		Birds in Pairs		Grouped Birds		Pairs & Grouped (7)	As Drake & Pairs (8)	As a Group (9)		
	Drakes (1)	Pairs (2)	Total (3)	% (4)	Total (5)	% (6)					
Mallard											
Black duck											
Gadwall											
American widgeon											
Green-winged teal											
Blue-winged teal											
Shoveler											
Pintail											
Redhead											
Canvasback	1	1	4				4			4	820
Scaup	107	396	1,006	45	37	21	1,043	32	1	1,076	220,580
Old Squaw	86	121	414	18	2	1	416	13		429	87,945
Goldeneye	4	6	20	1	35	20	55		1	56	11,480
Bufflehead	5	8	26	1			26	1		27	5,535
Scoter	45	322	734	33	98	57	832	23	4	859	176,095
Eider	10	10	40	2	1	1	41	1		42	8,610
Merganser		1	2				2			2	410
Sub-total	258	865	2,246	100	173	100	2,419	70	6	2,495	511,475
Coot											
GRAND TOTAL											
Canada geese	7	10	34		86		120			120	18,600

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	258	12	8	16
Ducks in pairs (b)	1,730	80	54	54
Sub-total (c)				70
Ducks in groups (d)	173	8	6	6
Coot (e)				
Grand Total (f)	2,161	100	68	76

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 /70 Thru 6 /10 /70

SPECIES	IDENTIFIED							UNIDENTIFIED		GRAND TOTAL (10)	POPULATION INDEX (15)
	Observed		Birds in Pairs		Grouped Birds		Pairs & Grouped (7)	As Drake & Pairs (8)	As a Group (9)		
	Drakes (1)	Pairs (2)	Total (3)	% (4)	Total (5)	% (6)					
Mallard	93	60	306	20	4	24	310	337	3	650	100,750
Black duck											
Gadwall											
American widgeon	93	126	438	28			438	472		910	141,050
Green-winged teal	21	24	90	6			90	101		191	29,605
Blue-winged teal											
Shoveler	21	22	86	5			86	84		170	26,350
Pintail	214	109	646	41	13	76	659	691	9	1,359	210,645
Redhead											
Canvasback											
Scaup											
Goldeneye											
Bufflehead											
Scoter											
Merganser											
Sub-total	442	341	1,566	100	17	100	1,583	1,685	12	3,280	508,400
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	442	39	476	952
Ducks in pairs (b)	682	60	733	733
Sub-total (c)				1,685
Ducks in groups (d)	17	1	12	12
Coot (e)				
Grand Total (f)	1,141	100	1,221	1,697

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 /70 Thru 6 /10 /70

SPECIES	IDENTIFIED						UNIDENTIFIED		GRAND TOTAL (10)	POPULATION INDEX (15)	
	Observed		Birds in Pairs		Grouped Birds		Pairs & Grouped (7)	As Drake & Pairs (8)			As a Group (9)
	Drakes (1)	Pairs (2)	Total (3)	% (4)	Total (5)	% (6)					
Mallard											
Black duck											
Gadwall											
American widgeon											
Green-winged teal											
Blue-winged teal											
Shoveler											
Pintail											
Redhead											
Canvasback	20	35	110	6	1	2	111	24	1	136	21,080
Scaup	118	446	1,128	65	24	55	1,152	264	6	1,422	220,410
Goldeneye	19	17	72	4	1	2	73	16		89	13,795
Bufflehead	47	53	200	11			200	45		245	37,975
Scoter	22	85	214	12	17	39	231	49	4	284	44,020
Oldsquaw	1	5	12	1			12	4		16	2,480
Merganser	4	2	12	1	1	2	13	4		17	2,635
Sub-total	231	643	1,748	100	44	100	1,792	406	11	2,209	342,395
Coot											
GRAND TOTAL											
Canada geese	34	42	152		55		207			207	32,085

Incorporation of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	231	15	54	108
Ducks in pairs (b)	1,286	82	298	298
Sub-total (c)				406
Ducks in groups (d)	44	3	11	11
Coot (e)				
Grand Total (f)	1,561	100	363	417

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

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