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ALASKA
WATERFOWL BREEDING PAIR SURVEY

May 22 to June 17, 1971

by

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Anchorage, Alaska

Title Waterfowl Breeding Pair Survey; Alaska

Strata Covered : 37, 38

Dates : May 22 to June 17, 1971

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

Larry Haddock, Bureau of Sport Fisheries & Wildlife Anchorage, Alaska, Pilot-Observer

Abstract

The Alaska Survey was delayed this year by the extremely late breaking of ice in the lakes in all areas. Flood conditions were wide spread. Population figures were down from last year. Nesting appeared to be delayed and disrupted. A sharp decline in the fall flight of all species is anticipated.

I. Methods

The Alaska survey was completed according to standard procedures using an amphibious Beaver aircraft as in the past. The survey commenced on May 22, four days later than ever before and was completed June 17, one day later than ever before and seven days later than last year. Dates of survey are dictated by the rate of ice breakup in the lakes and the delay resulted in the survey of water conditions comparable to other years.

II. Weather and Habitat Conditions

Alaska had a severe winter this year with extremely heavy snow in some areas and unusually heavy ice in others. Thawing began at the normal time in late April and early May and the birds returned on schedule. Unusually cool weather prevailed through mid June. This resulted in birds having to stay flocked in open areas while nesting sites became available at a much delayed and slower rate than normal. There were no exceptions to this pattern in Alaska this year.

Early in May Vancouver Canada geese were dumping eggs on the tidelats near Juneau as nesting habitat was not available. At Anchorage the first float plane, a Cub, got off Lake Hood from a crack in the ice on May 22 at least three weeks past normal.

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Although the survey was delayed until ice conditions were favorable all areas had some ice present even so.

The survey was conducted largely under cloudy skies with temperature in the forties and winds up to 30 knots. There would have been no survey this year if we had waited for calm weather.

The cool spring weather, heavy ice and heavy snow resulted in flooding in almost all the major drainages, that persisted into the nesting period.

In spite of this poor picture the situation is not as grim as was the case in 1964 when a "false breakup" resulted in early migrants finding open water which then refroze causing actual starvation. Flooding is not as extensive as in 1964 either.

III Breeding Population Indexes

Breeding population indexes for all dabblers are down significantly. This probably reflects a real decrease but also reflects the confusion that develops in a late year when nest sites are in short supply, much habitat is flooded and the birds simply can't be where they would like to be.

The later migrating divers seem to be about normal in numbers but there is some indication they may have actually decreased as well.

Mallard - Down 52% probably reflecting a hard winter in coastal Alaska where most of them stay.

Widgeon - Down 29% a significant decrease.

Teal - Down 65% possibly reflecting poor survey conditions with windy weather and flooded habitat.

Shoveler - Down 27% a significant decrease.

Pintail - Down 33% a significant decrease.

Canvasback - No change.

Greater Scaup - The tables do not reflect the fact that the scaup of stratum 37 are largely greaterers which show a decline of 11%.

Lesser Scaup - These are the scaup of Stratum 38 and are indicated to be up by 15%. This is surprising in the light of

a reduced breeding population and poor production last year. In this year's survey lone males and flocked birds made up a much higher percentage of the observed birds than last year and we felt that some scaup were still migrating at the time of survey. Possibly some greaterers were tallied in the interior as they waited for coastal areas to thaw and were again tallied in their proper nesting area.

Goldeneye - Up 24% possibly distorted by survey conditions.

Bufflehead - Down 43% a significant decrease.

Scoter - Up 5% this is not a true increase. Scoter are down in stratum 37 and the indicated increase comes from stratum 38 where they are a late migrant and normally have not arrived in some areas at the time of the survey as was the case in 1970.

Eider - Normal however we sample very little eider habitat.

Old Squaw - Up 23% This appears to be a significant increase for this Asian wintering species.

Dusky Canada Geese - Phil Havens of the Alaska Department of Fish and Game reports very poor conditions on the Copper Delta. Dusky-Canada Goose clutches were way down (see table below) and there appeared to be much confusion in the nesting areas with lots of idle birds. We can assume nesting for all species will be down in that area.

Whistling Swan - Across Alaska from the Copper Delta, on the Yukon Delta, nesting likewise appeared to be somewhat disrupted and swan clutches were way down in size which we feel indicates poor conditions for all species. (See table below).

Average Clutch Sizes 1963 - 71*

	63	64	65	66	67	68	69	70	71
Whistling Swan	4.32	3.30	4.34	4.14	4.95	4.80	4.67	4.45	3.5
Dusky Canada Goose		4.3	5.8			4.8		5.4	3.7

*Dusky Canada Goose clutches courtesy of Phil Haven, Alaska Dept. of Fish and Game.

IV. Conclusion

The outlook for waterfowl production in Alaska looks very poor this year by every indicator we have. A reduction in the fall flight appears certain. The only hopeful note is the fact that conditions are not as bad as in the devastating year of 1964 and possibly the population can recover more quickly.

Alaska - comparative status of waterfowl breeding population
 indexes by species and stratum, 1970 - 1971

(index numbers in thousands)

Species	Stratum		Total		Average 1962-1971	Percent Change from 1970		
	37	38	1970	1971		Ave.		
Ducks:								
Dabblers:								
Mallard	11	53	134	64	64	-52	0	
American Widgeon	39	84	174	123	81	-29	+52	
Green-winged teal	7	15	63	22	24	-65	-8	
Shoveler	6	18	33	24	14	-27	+71	
Pintail	145	128	409	273	357	-33	-24	
Subtotal	208	298	813	506	537	-38	-8	
Divers:								
Canvasback	1	21	22	22	20	0	+10	
Scaup	197	253	441	450	478	+2	-6	
Goldeneye	20	11	25	31	24	+24	+29	
Bufflehead	1	24	44	25	31	-43	-19	
Subtotal	219	309	532	528	552	-1	-4	
Miscellaneous:								
Scoter	147	84	220	231	223	+5	+4	
Eider	9		9	9	13	0	-31	
Old Squaw	108	3	90	111	90	+23	+23	
Subtotal	264	87	319	351	326	+10	+8	
Total ducks	691	694	1664	1385	1414	-17	-2	

Alaska - 10 year trend in breeding population indexes by species, 1962 - 1971

(index numbers in thousands)

Species	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	Average
Ducks:											
Dabblers:											
Mallard	60	83	67	27	32	42	76	53	134	64	64
American Widgeon	42	27	36	40	32	59	133	144	174	123	81
Gr.-Wng. teal	2	2	10	14	17	24	45	41	63	22	24
Shoveler	7	5	7	4	5	6	32	21	33	24	14
Pintail	476	378	379	240	250	247	622	294	409	273	357
Subtotal	587	495	499	325	336	378	908	523	813	506	537
Divers:											
Canvasback	7	17	11	21	17	15	43	21	22	22	20
Scaup	657	585	562	355	425	314	498	488	441	450	478
Goldeneye	33	10	9	9	13	38	35	39	25	31	24
Bufflehead	39	37	32	29	22	30	21	26	44	25	31
Subtotal	736	649	614	414	477	397	597	574	532	528	552
Miscellaneous:											
Scoter	225	165	148	190	252	250	301	246	220	231	223
Eider	11	11	20	27	14	16	7	6	9	9	13
Old Squaw	69	94	92	49	79	87	133	93	90	111	90
Subtotal	305	270	260	266	345	353	441	345	319	351	326
Total ducks	1,628	1,414	1,373	1,005	1,158	1,128	1,946	1,442	1,664	1,385	1,414

--Alaska - whistling swan breeding population indexes, 1962 - 1971

(index numbers in thousands)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	10-year average
Square miles sampled	492	468	414	208	212	210	212	212	212	212	
Number counted	470	567	481	298	256	208	213	367	227	220	
Population index	56	64	50	62	52	43	50	75	69	61	58

--Alaska - stratum data sheet

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

Data

	Strata	
	37	38

Numbers of	Sample	Stratum	Sample	Stratum
Lone Males	632	129,560	808	125,240
Duck pairs	776	159,080	712	110,360
Flocked ducks	269	55,145	356	55,180
Unidentified ducks	197	40,385	733	113,615

WATERFOWL BREEDING POPULATION SURVEY

Stratum 37 Dates: 6 / 3 / 71 Thru 6 / 13 / 71

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	15	7	44	5			44	9		53	10,865
Black duck											
Gadwall											
American widgeon	54	23	154	19	1	11	155	36		191	39,155
Green-winged teal	8	2	20	3	5	56	25	6	1	32	6,560
Blue-winged teal											
Shoveler	8	4	24	3			24	6		30	6,150
Pintail	226	59	570	70	3	33	573	133	1	707	144,935
Redhead											
Canvasback											
Scaup											
Old Squaw											
Goldeneye											
Bufflehead											
Scooper											
Feldspar											
Merganser											
Sub-total	311	95	812	100	9	100	821	190	2	1013	207,665
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	311	61	73	146
Ducks in pairs (b)	100	37	44	44
Sub-total (c)				190
Ducks in groups (d)	91	21	2	2
Coot (e)				
Grand Total (f)	510	100	119	192

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: 6 / 3 / 71 Thru 6 / 13 / 71

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	2	1	6				6		6	1,230	
Scaup	154	285	878	44	45	17	923	35	2	960	196,800
Old Squaw	94	123	434	22	73	28	507	17	3	527	108,035
Gold plover	9	7	32	2	60	23	92	2	3	97	19,885
Bufflehead	1	2	6				6			6	1,230
Scoter	47	256	606	30	82	32	688	24	3	715	146,575
Eider	14	7	42	2			42	2		44	9,020
W. greaser											
Sub-total	321	681	2004	100	260	100	2264	80	11	2355	482,775
Coot											
GRAND TOTAL											
Canada geese											

Proportion of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed ducks (a)	321	17	13	26
Ducks in pairs (b)	1262	69	54	54
Sub total (c)				80
Ducks in groups (d)	260	14	11	11
Coot (e)				
Grand Total (f)	1843	100	78	91

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 / 22 / 71 Thru 6 / 17 / 71

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	60	31	182	18			182	158	340	52,700	
Black duck											
Gadwall											
American widgeon	96	50	292	28	1	17	293	245	539	83,545	
Green-winged teal	14	9	46	5	4	66	50	44	98	15,190	
Blue-winged teal											
Shoveler	18	15	66	6			66	52	118	18,290	
Pintail	182	43	450	43	1	17	451	377	829	128,495	
Redhead											
Canvasback											
Scaup											
Old Squaw											
Goldeneye											
Bufflehead											
Scoter											
Eider											
Merganser											
Sub-total	370	148	1036	100	6	100	1042	876	924	298,220	
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	370	55	313	626
Ducks in pairs (b)	296	44	250	250
Sub-total (c)				876
Ducks in groups (d)	6	1	6	6
Coot (e)				
Grand Total (f)	672	100	569	882

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 / 22 / 71 Thru 6 / 17 / 71

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	24	24	96	5	31	9	127	9	3	139	21,545
Scaup	296	363	1318	66	183	52	1501	114	15	1630	252,650
Old Squaw	3	2	10		8	2	18			18	2,790
Goldeneye	14	12	52	3	10	3	62	5	1	68	10,540
Rufflehead	34	28	124	6	20	6	144	10	2	156	24,180
Scoter	65	135	400	20	98	28	498	35	8	541	83,855
Eider											
Merganser	2		4				4			4	620
Sub-total	438	564	2004	100	350	100	2354	173	29	2556	396,180
Coot											
GRAND TOTAL											
Canada geese											

Proration of the Unidentified	Identified		Unidentified	
	Total (11)	% (12)	Estimate (13)	Total (14)
Observed drakes (a)	438	23	38	76
Ducks in pairs (b)	1128	59	97	97
Sub-total (c)				173
Ducks in groups (d)	350	18	29	29
Coot (e)				
Grand Total (f)	1916	100	164	202

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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