

Legacy Resource Management Program

Inventory of Breeding Birds on Local Training Areas of the
Alaska Army National Guard

Final Report

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July 1999

EXECUTIVE SUMMARY

Baseline information on the distribution and abundance of breeding birds is central to the conservation of biodiversity on Local Training Areas (LTAs) of the Alaska Army National Guard (Guard). Because previous studies had not been conducted, we initiated baseline inventories of breeding bird resources, including neotropical migrants and threatened/endangered species, on training areas of the Guard. Area search methods were used to survey representative habitats on LTAs between 2 June and 17 July. Observers documented occurrence, relative abundance, and evidence of breeding for all bird species.

Between 1995 and 1998, we surveyed 58 LTAs between Ketchikan and Barrow; the majority of sites (41) were surveyed in western Alaska between Dillingham and Noatak. The surveyed sites represented >80% of all LTAs used by the Guard. Across all training areas, we recorded a total of 207 species. Of these 207 species, 97% were considered as possible, probable, or confirmed breeding birds on LTAs. To augment data collected during field surveys, we included seabird colony counts from sites on, or adjacent to, LTAs and conducted a literature search for information on bird occurrence at LTAs that we were unable to visit.

Using the literature and our field experience, we generated tables of regional breeding bird-habitat associations that can be used to assess bird communities of future LTAs within the surveyed regions. We also generated a set of recommendations to minimize disturbance to breeding birds during training activities.

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INTRODUCTION

Baseline information on the distribution and abundance of breeding birds is central to the conservation of biodiversity on Local Training Areas (LTAs) by the Alaska Army National Guard (Guard). Documentation of occurrence and distribution of all migratory bird species was identified as a primary need to conserve the natural diversity and abundance of birds on National Wildlife Refuge system lands (U.S. Fish and Wildlife Service [USFWS] 1993) and is a cornerstone of the Neotropical Bird Conservation Program (Partners in Flight). Indeed, the Monitoring Working Group of Partners in Flight (1992) recognized the importance of collecting information on the distribution of migratory birds and recommended that such programs be implemented nationwide. To meet this need, the USFWS, Nongame Migratory Bird Management, developed a detailed, standardized method for collecting information on occurrence, distribution, breeding status, and relative abundance of birds on National Wildlife Refuges in Alaska (Andres 1995, Doyle and Andres 1998).

Besides establishing baseline information on distribution, occurrence data, such as that collected in breeding bird atlases and area searches (Bibby et al. 1992), can also be used to examine broad-scale habitat requirements, community structure, richness, biogeographic patterns, and temporal changes in bird populations (Droege et al. 1998). The Rapid Assessment Program of Conservation International uses this type of approach to identify areas of high biodiversity throughout the tropics (see www.conservation.org). Occurrence data collected over intervals of years can be used to track population trends and to determine the effects of human-induced perturbations on breeding bird populations. Analysis of trends generated from reporting frequencies of checklists, completed during the breeding season, corresponded well with

estimates of trends generated from other breeding bird datasets (the Breeding Bird Survey) in Wisconsin (Temple and Carey 1990) and in Quebec (Cyr and Larivee 1993). However, trend estimates from checklists tended to be positively biased and might only be useful for detecting declines in populations (Dunn et al. 1996).

Because no information on distribution and abundance of breeding birds had been previously collected, we initiated baseline inventories of breeding birds, including neotropical migrants and threatened/endangered species, on LTAs of the Guard. Resource inventories must be completed on lands used for training by the Guard to meet National Environmental Policy Act requirements. Herein, we report on breeding bird inventories conducted on LTAs in Alaska between 1995 and 1998.

ACKNOWLEDGMENTS

This work was supported by the Legacy Resource Management Program of the U. S. Department of Defense. Dan Hartung, Mary Karen Keelan, Helen Lons, Doreen Sullivan, and Bill Voigt, of the Alaska Army National Guard, Environmental Division, provided administrative support for the project. Special thanks to Lieutenant Colonel Wiegele (Nome), Major Curtis (Nome) and Major Kline (Bethel) for their help in providing logistical support for the project.

The following Guard personnel greatly assisted us with arranging logistics in villages and provided valuable local expertise: Joseph Chanerak, Akiachak; John Jasper and Franklin Lott, Akiak; Sgt. Weaver, Alakanuk; Nick Pavilla, Atmautlauk; William Brown, Barrow; Dick Kugzruk, Brevig Mission; Paul Nylin, Elim; Fred Joseph, Emmonak; Waillie and James Roberts, Goodnews Bay; Brian Clay, Tom Narvaez, Steve Otnes, and John Phillips, Juneau; Donald

Nickoli, Kaltag; Sgt. Baldwin, Kodiak; Maynard Wilson, Mountain Village; Charlie Andrews, Napakiak; Chris Tulik, Nightmute; Fred Luther, Noatak; Greg Patsey, Nulato; Dan Goodwin, Petersburg; Martin Roach, Quinhagak; Michael Sookiayak, Shaktoolik; James Commack, Shungnak; Archie Lowe and Ben Miaysato, Sitka; Joseph Willie, Stebbins; Dan Nanalook, Togiak; James Allain, Jr., Tuluksak; David Enoch, Tuntutuliak; Glen Ryan, Unalakleet; Dan Harrelson, White Mountain; Glen Smith, Wrangell.

We thank Larry Barnes, Dana Bruden, Jay Carlisle, Paul Cotter, Sarah Hamilton, Julie Melton, Kelly Modla, Beverly Short, Matt Stotts, Todd Trapp, and Chris Wilson for competent and enthusiastic assistance with data collection in the field.

We appreciate the support of the following native corporations, and village residents, for this project: Akiachak Ltd. Corp.; Kokarmiut Corp., Akiak; Alakanuk Native Corp.; Atmautluak Ltd., Corp.; Ukpeagvik Inupiat Corp., Barrow; Bethel Native Corp.; Brevig Mission Native Corp.; Chevak Company Corp.; Choggiung Limited, Dillingham; Elim Native Corp.; Emmonak Corp.; Kuitsarak Inc., Goodnews Bay; Huna Totem Corp., Hoonah; Kake Tribal Corp.; Kotlik Yupik Corp.; Kikiktagruk Inupiat Corp., Kotzebue; Leisnoi Inc., Kodiak; Kwethluk Inc. Corp.; Manokotak Natives Ltd.; Maserculiq, Inc., Marshall; Nima Corp., Mekoryuk; Azachorak, Inc., Mountain Village; Napakiak Corp.; Stuyahok Ltd., New Stuyahok; Native Village of Noatak; Chinuruk Inc. Corp., Nightmute; Gana-a' Yoo Ltd., Nulato, Koyukuk, and Kaltag; Nunapitchuk Ltd. Corp.; Qanirtuuq Inc., Quinhagak; Qinamiut Corp., Tuntutuliak; Savoonga Native Corp.; Native Village of Selawik; Shaktoolik Native Corp.; Shishmaref Native Corp.; St. Michael Native Corp.; Stebbins Native Corp.; Shungnak Native Corp.; Teller Native Corp.; Togiak Natives Ltd. Corp.; Tulkisarmiut Inc. Corp., Tuluksak; Unalakleet Native Corp.; White Mountain Native

Corp.

We also appreciate the enthusiastic support we received from the following U.S. Forest Service personnel in Southeastern Alaska: John Edgington, Vivian Hoffman, Dale Kanen, Don Martin, Chris Reilly, Peg Robertsen and Jake Winn. Others who were of great help in the Southeast include Vicki Davis and Steve Brockman, USFWS Ecological Services Ketchikan; Capt. Brian Peterman and Mr. Moore, U.S. Coast Guard; Ritchie Campbell; Dan Frederickton; Pete Hocson; Gordon Jackson; and Lane Stumme. Thanks to the following National Wildlife Refuge personnel who provided valuable logistical support: Liz Jozwiak, Kenai; Denny Zwiefelhofer, Kodiak; Leslie Kerr and Mark Koepsel, Selawik; Donna Stovall, Togiak; Henry Ivanoff and John Morgart, Yukon Delta.

METHODS

Once granted permission from the appropriate state, native corporation, or federal land-owners to conduct breeding bird inventories on their lands, we contacted local Guard personnel to determine which areas were most often used for training exercises. To obtain the most representative information from a site, we attempted to survey all major habitats (lakes/ponds, rivers, tundra, alpine, shrublands, and forests) within these designated areas. Surveyed areas (plots) were delineated on 1:63,360 topographic maps and assigned unique numbers; we assumed that observers searched the entire area within the delineated region. Polygonal plots, and village site points, were digitized in ARCVIEW and integrated into the Guard's GIS system.

At each site, observers recorded the date and the amount of time they spent surveying each plot on the LTA. Effort was recorded as the number of person-hours spent in each plot (the sum of the number of hours each observer surveyed), rounded to 1 decimal place. If 2 observers

surveyed a plot together, the effort was determined as 1.5 times the hours surveyed together.

Although we attempted to spend a minimum of 32 person-hours surveying each LTA, some sites received less effort due to access, weather, and LTA size. All surveys were conducted between 2 June and 17 July.

We used the behavior of birds to determine the breeding evidence (status) for all species encountered on an LTA (Table 1). Specific status codes were included in raw plot data, but 4 broad status classes (observed, possible, probable [likely], or confirmed [Table 1]) were used for LTA summaries. Definitions of breeding status followed recommendations of the North American Ornithological Atlas Committee (1990) and has been used in many state Breeding Bird Atlases (e.g., Jacobs and Wilson 1997). We strove to confirm breeding of as many species as possible on each training area, and we used the highest level of breeding status obtained on any surveyed plot to characterize the breeding status of a species on the LTA.

To provide information on relative abundance that extended beyond mere occurrence, we determined the categorical abundance of each species, based on encounters per hour, during each LTA plot survey (Table 2). Abundance categories generally follow suggestions made by Allen (1993). Kessel (1989) used a similar birds per hour metric to describe differences in bird abundance among habitats on the Seward Peninsula. We used the categorical abundances recorded on each plot to calculate a mean abundance for every species recorded on each LTA. We delineated categories for mean bird abundance (Table 3) so that the distribution of mean abundance ranks generally followed a truncated lognormal distribution (Preston 1980).

Table 1. Descriptions and codes of breeding status of birds recorded on Local Training Areas of the Alaska Army National Guard, 1995-1998.

Status	Code	Description
Observed	O	Male or female observed, but did not show evidence of breeding, was not in suitable nesting habitat or was an obvious migrant.
Possible	P	Species (male or female) heard or seen in suitable nesting habitat but no further evidence of breeding was noted; included soaring birds (raptors) over suitable habitat.
Probable	L	Any of the following behaviors:
	PO	Pair observation - Male and female simultaneously observed in suitable habitat.
	PT	Permanent territory - Permanent territory presumed by observation of multiple, well-spaced, singing males (indicated territory holders). Also, if chases of individuals of the same species were seen.
	PC	Courtship behavior - Male-female behavior observed that was indicative of breeding or observed copulation; included aerial displays of pipits, longspurs, and shorebirds.
	PA	Agitated behavior - Adults seen exhibiting anxiety behavior, including distress calls.
Confirmed	C	Any of the following behaviors:
	CN	Carrying nesting material - Adult observed transporting nest building items such as sticks.
	CB	Nest building - Adults seen constructing nest at singular nest site.
	CO	Occupied nest - Adults observed repeatedly entering or leaving a nest site with food items or long bouts of nest occupation (contents of treetop or cavity nests that could not be directly observed).
	CD	Distraction display - Adults observed feigning injury (used by ground-nesting species to deter predators from detecting nest or young).
	CE	Nest with eggs - Nest found that contained eggs.
	CY	Nest with young - Live young seen or heard; dead, identifiable hatchlings found in a nest.
	CG	Precocial young - Flightless young observed in the immediate nest area and were dependent on adults or had limited development.
	CF	Carrying food - Adults seen delivering food to young.
	CR	Recently fledged young - Young birds (either precocial or altricial) observed that were incapable of sustained flight and were restricted to the natal area by dependence on adults or by limited mobility.
	CI	Feeding recently fledged young - Adult observed feeding recently fledged young (those incapable of sustained flight) away from nest site.

Table 2. Abundance ranks, and their descriptions, for breeding birds found on Local Training Areas of the Alaska Army National Guard, 1995-1998.

Abundance rank	Description (per plot-day)
1	1 individual per day
2	2-4 individuals per day, <1 individual per hour
3	5-9 individuals per day, 1 individual per hour
4	10-49 individuals per day, 2-5 individuals per hour
5	≥50 individuals per day, ≥6 individuals per hour

¹ day = 8 person-hours.

Table 3. Range of abundance ranks, averaged across plots within a site, and descriptive abundance category used for summaries of breeding birds found on Local Training Areas of the Alaska Army National Guard, 1995-1998.

Descriptive abundance category	Range of averaged ranks
rare (R)	0.00 - 0.50
uncommon (U)	0.51 - 1.50
fairly common (F)	1.51 - 2.75
common (C)	2.76 - 3.75
abundant (A)	3.76 - 5.00

To augment data collected at LTAs, we included seabird colony counts from sites on, or adjacent to, LTAs. We also conducted a literature search for information on bird occurrence at LTAs that we were unable to visit. For these additional locations, we generated a (potential) breeding bird species list. Because bird data were not collected specific to habitat, we used the literature and our field observations to create a table of regional associations of bird species and habitat types. Habitat descriptions, primarily based on vegetative structure, were defined at a gross level to permit ease of use by biologists and to apply to broad regions of the state. Bird occurrence data were combined across 6 major geographic areas to generate regional species lists. This information will assist interpretation of existing data and enable a reasonable assessment of breeding birds at sites where bird data were not collected. Database files were created to provide links to GIS files through plot names. Species codes can be used to link abundance and status tables with habitat information.

Lastly, we integrated information on species composition and habitat to produce a set of recommendations that Guard personnel could use to minimize disturbance to breeding birds and their habitats during training activities.

RESULTS

Breeding bird inventories were conducted on 58 Local Training Areas in southeast, southcentral, and western Alaska (Figure 1). This represents about 87% of active LTAs (minus Forts Wainwright, Greely, Richardson where breeding bird information is being collected independent of this project). The majority of surveyed sites (41) occurred in western Alaska between Dillingham and Noatak (Table 4). Observers spent, on average, 3.4 days and 38.2

person-hours at each LTA. The minimum effort was expended on Benjamin Island (1 day, 9 person-hours) and the maximum at the Stewart River (6 days, 75.5 person-hours).

Across all training areas, we recorded a total of 207 species (common and hoary redpolls were treated as one taxon). Taxonomy follows the recent American Ornithologists' Union (1998) checklist (scientific names are provided in Appendix 1). Of the 207 species, 97% were considered as possible, probable, or confirmed breeding species on LTAs. The number of species recorded on a LTA ranged from 34 to 80 species and varied among regions (Table 4); species richness was lowest on islands of southeastern Alaska (Table 5, 6). Although detection rates may have differed among regions, breeding bird composition in coniferous forests of southeastern Alaska is relatively monotone among islands. The percentage of confirmed or probable breeders varied from 33 to 85% among training areas and was highest on treeless LTAs (Table 4). The observation of breeding behaviors is much more difficult in dense coniferous forests than in open tundra and shrub habitats. Complete lists of breeding status and average abundance for each species recorded on each LTA are presented, by region, in Appendix 2.

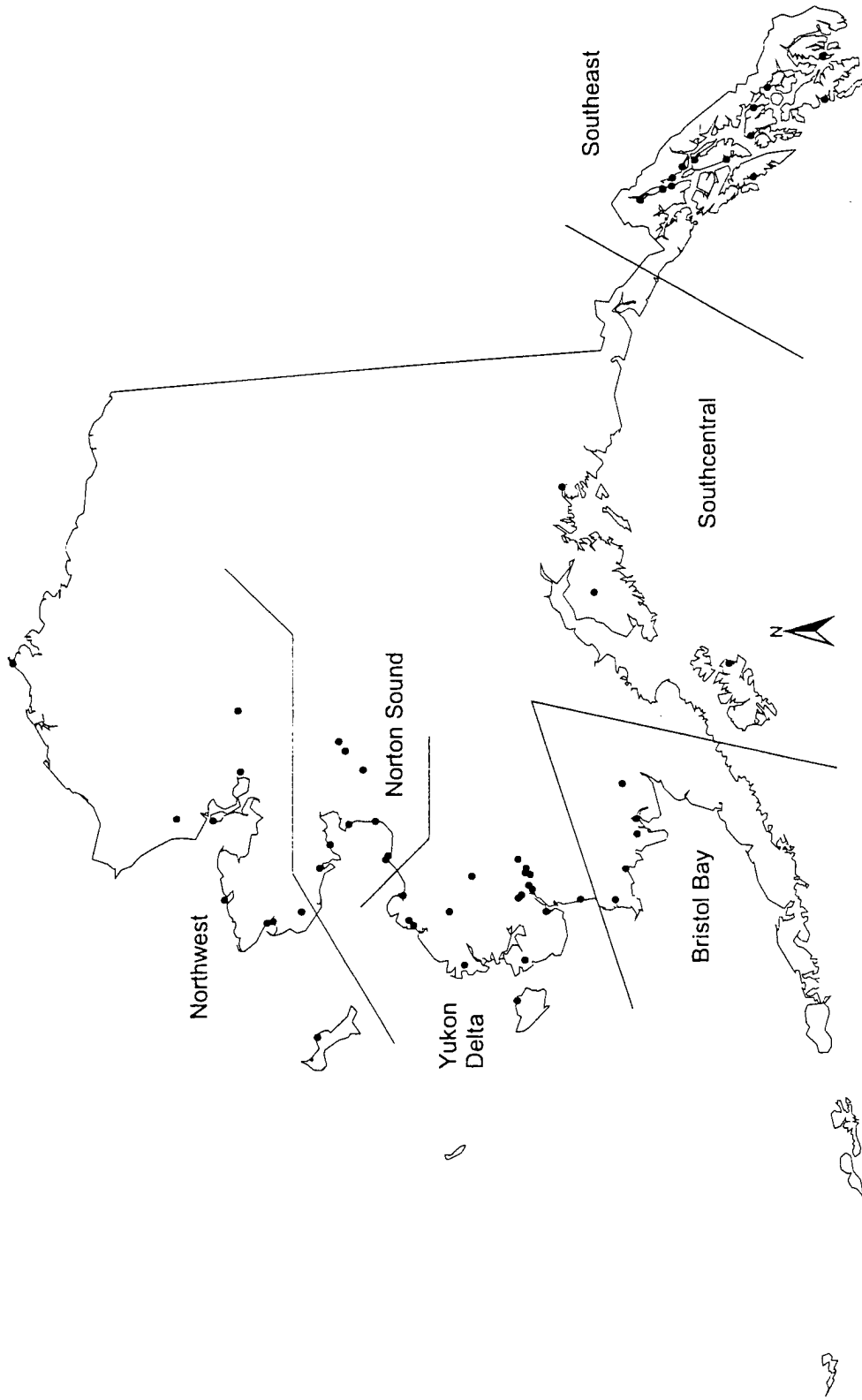


Figure 1. Location of Local Training Areas of the Alaska Army National Guard where breeding bird inventories were conducted between 1995 and 1998.

Table 4. Effort (number of days, number of person-hours), total number of bird species, number of potential breeders, percent of confirmed or probable breeders, and general habitat descriptions recorded during breeding bird surveys of Local Training Areas of the Alaska Army National Guard, 1995-1998.

Region	Survey effort			No. of species		% total	General habitat description of Local Training Area
	days	hours	total	breed ¹	con/prob ²		
Northwest							
Barrow	4	39.5	45	40	75	wet-coastal, upland tundra; marine waters-shores	
Noatak	3	45.0	63	62	71	lakes-ponds; upland tundra; riparian shrub; coniferous woodland; coniferous forest	
Kotzebue	3	84.0	69	64	68	marine waters-shores; lakes-ponds; upland tundra	
Shungnak	3	55.0	67	66	72	lakes-ponds; alpine-rocky, upland tundra; coniferous woodland; coniferous, riparian forest	
Selawik	3	34.0	47	46	79	lakes-ponds; upland tundra; riparian shrub	
Shishmaref	3	39.0	37	35	57	marine waters-shores; wet-coastal tundra	
Brevig Mission	4	37.5	52	50	58	marine waters-shores; lakes-ponds; alpine-rocky, upland tundra	
Teller	4	35.5	47	44	62	marine waters-shores; alpine-rocky, wet-coastal, upland tundra	
Stewart River	6	75.5	53	49	85	alpine-rocky, upland tundra; upland, riparian shrub	
Savoonga	3	37.5	42	36	69	marine waters-shores; lakes-ponds; alpine-rocky, wet-coastal, upland tundra	
Norton Sound							
White Mountain	3	47.0	64	62	66	lakes-ponds; upland tundra; coniferous, riparian forest	
Elim	3	39.5	66	64	61	marine waters-shores; lakes-ponds; wet-coastal, upland tundra; coniferous forest	
Shaktolik	3	52.5	80	79	66	lakes-ponds; alpine-rocky, wet-coastal, upland tundra; upland, riparian shrub; coniferous forest	
Unalakleet	4	38.0	69	67	38	marine waters-shores; lakes-ponds; upland tundra; upland, riparian shrub; mixed forest	
St. Michael	4	41.0	49	49	75	lakes-ponds; alpine-rocky, wet-coastal tundra, upland tundra; upland shrub	
Stebbins	3	46.5	50	49	66	lakes-ponds; wet-coastal, upland tundra; upland shrub	
Koyukuk	4	33.5	54	53	70	lakes-ponds; riparian shrub; riparian, mixed forest	
Nulato	5	40.5	53	52	64	lakes-ponds; riparian shrub; riparian, mixed forest	
Kaltag	4	35.0	48	48	67	mixed, riparian forest	

Region	Survey effort	No. of species	% total	General habitat description of Local Training Area			
Training area	days	hours	total	breed ¹	con/prob ²		
Yukon-Kuskokwim Delta							
Kotlik	3	41.5	53	53	62	wet-coastal tundra	
Emmonak	3	37.5	47	47	64	lakes-ponds; wet-coastal tundra	
Alakanuk	3	39.0	51	51	57	wet-coastal tundra; riparian shrub	
Mountain Village	3	49.5	57	57	77	lakes-ponds; wet-coastal, upland tundra; riparian shrub; riparian forest	
Marshall	2	30.5	46	45	61	alpine-rocky, upland tundra; riparian shrub; riparian forest	
Chevak	3	48.0	64	55	73	lakes-ponds; wet-coastal tundra	
Mekoryuk	4	63.5	68	50	57	marine waters-shores; lakes-ponds; wet-coastal, upland tundra; riparian shrub	
Nightmute	3	36.5	55	51	73	lakes-ponds; alpine-rocky, upland tundra; riparian shrub	
Tuntutuliak	3	33.0	51	50	84	lakes-ponds; wet-coastal tundra; riparian shrub	
Atmautlauk	2	15.5	44	44	73	lakes-ponds; wet-coastal tundra; riparian shrub	
Nunapitchuk	3	22.0	38	38	61	lakes-ponds; upland tundra; riparian shrub	
Napakiak	5	28.0	52	52	79	lakes-ponds; wet-coastal, upland tundra; riparian shrub	
Bethel	5	67.0	70	67	79	lakes-ponds; wet-coastal, upland tundra; riparian shrub; riparian forest	
Kwethluk	3	29.0	61	59	64	lakes-ponds; wet-coastal, upland tundra; riparian shrub; riparian forest	
Akiachak	4	20.0	60	60	72	lakes-ponds; wet-coastal, upland tundra; riparian forest	
Akiak	4	33.5	62	62	65	lakes-ponds; upland tundra; coniferous, riparian forest	
Tuluksak	3	21.0	65	65	65	lakes-ponds; upland tundra; riparian shrub; mixed forest	
Quinhagak	4	24.0	61	58	56	lakes-ponds; wet-coastal, upland tundra; riparian shrub	
Bristol Bay area							
Goodnews Bay	4	55.0	74	72	81	marine waters-shores; lakes-ponds; wet-coastal, upland tundra; upland, riparian shrub	
Togiak	3	34.0	52	52	65	lakes-ponds; upland tundra	
Manokotak	4	44.0	47	47	83	alpine-rocky, wet-coastal, upland tundra; riparian, upland shrub	
Dillingham	4	38.0	67	67	79	lakes-ponds; alpine-rocky, upland tundra; upland shrub; mixed forest	
New Stuyahok	3	39.0	56	56	71	upland tundra; riparian, mixed forest	

Region	Survey effort		No. of species		% total		General habitat description of Local Training Area
	days	hours	total	breed ¹	con/prob ²		
Southcentral							
Kodiak	6	54.5	58	57	66		marine waters-shores; lakes-ponds; alpine-rocky, wet-coastal tundra; upland shrub; coniferous, mixed, riparian forest
Kenai	3	36.0	66	65	62		lakes-ponds; mixed, riparian forest
Valdez	4	31.0	54	54	63		lakes-ponds; alpine-rocky tundra; upland shrub, mixed, riparian forest
Southeast							
Haines	4	35.0	60	56	53		coniferous, riparian forest
Endicott River	2	20.0	45	36	44		marine waters-shores; coniferous, riparian forest
Benjamin Island	1	9.0	27	20	33		marine waters-shores; coniferous forest
St. James Bay	4	40.0	43	37	49		marine waters-shores; muskeg; coniferous forest
Juneau	3	33.0	58	54	40		marine waters-shores; muskeg; coniferous, riparian forest
Hoonah	3	25.5	44	44	41		muskeg, coniferous forest
Angoon	2	16.5	36	34	39		marine waters-shores; muskeg; coniferous forest
Sitka	3	29.5	41	39	51		muskeg, coniferous forest
Kake	2	27.0	41	37	37		marine waters-shores; muskeg; coniferous forest
Petersburg	4	35.0	52	45	52		marine waters-shores; muskeg; coniferous forest
Wrangell	3	39.0	55	52	40		marine waters-shores; muskeg; coniferous, riparian forest
Craig	3	39.0	34	33	44		coniferous forest
Ketchikan	3	39.4	43	41	44		marine waters-shores; coniferous forest

¹ breeding status of possible, probable, or confirmed

² breeding status of probable or confirmed

Table 5. Number of possible, probable, or confirmed breeding species in taxonomic groups, by region, recorded during bird surveys of Local Training Areas of the Alaska Army National Guard, 1995-1998.

Taxonomic group	Northwest (n = 10)	Norton Sound (n = 9)	Yukon Delta (n = 18)	Bristol Bay (n = 5)	Southcentral (n = 3)	Southeast (n = 13)
Loons/Grebes	6	5	5	4	4	2
Cormorants/Herons	1	1	1	2	1	2
Waterfowl	24	22	25	17	11	6
Raptors	4	8	8	8	6	5
Grouse/Cranes	4	4	3	3	2	2
Shorebirds	27	19	26	19	10	9
Seabirds	21	12	12	12	13	7
Doves/Owls	3	3	2	1	1	1
Swifts/Hummingbirds	0	0	0	0	1	3
Kingfishers	1	1	1	1	1	1
Woodpeckers	2	3	1	1	3	5
Songbirds	40	45	39	40	49	48
Total	133	123	123	108	102	91

Table 6. Regional occurrence of possible, probable, or confirmed breeding birds (207 species) recorded on Local Training Areas of the Alaska Army National Guard, 1995-1998.

Taxonomic group Species	Northwest	Norton Sound	Yukon Delta	Bristol Bay	Southcentral	Southeast
Loons/Grebes						
Red-throated Loon	X	X	X	X		X
Arctic Loon	X					
Pacific Loon	X	X	X	X	X	
Common Loon		X	X	X	X	X
Yellow-billed Loon	X					
Horned Grebe	X	X	X		X	
Red-necked Grebe	X	X	X	X	X	
Cormorants/Herons						
Double-crested Cormorant				X		
Red-faced Cormorant					X	
Pelagic Cormorant	X	X	X	X		X
Great Blue Heron						X
Waterfowl						
Greater White-fronted Goose	X		X	X		
Emperor Goose			X			
Snow Goose	X					
Canada Goose	X	X	X			X
Brant	X		X			
Trumpeter Swan		X				
Tundra Swan	X	X	X	X		
Gadwall				X		
American Wigeon	X	X	X	X	X	
Mallard	X	X	X	X	X	X
Northern Shoveler	X	X	X	X		
Northern Pintail	X	X	X	X	X	
Green-winged Teal	X	X	X	X	X	
Canvasback	X	X	X			
Ring-necked Duck		X	X		X	
Greater Scaup	X	X	X	X	X	
Lesser Scaup	X	X	X			
Steller's Eider	X					
Spectacled Eider	X	X	X			
King Eider	X		X			
Common Eider	X	X	X	X	X	
Harlequin Duck	X	X	X	X	X	X
Surf Scoter	X	X	X			
White-winged Scoter	X		X	X		
Black Scoter	X	X	X	X		

Taxonomic group		Norton	Yukon	Bristol		
Species	Northwest	Sound	Delta	Bay	Southcentral	Southeast
Oldsquaw	X	X	X	X		
Bufflehead		X				
Common Goldeneye	X	X	X	X	X	
Barrow's Goldeneye						X
Common Merganser		X	X	X	X	X
Red-breasted Merganser	X	X	X	X	X	X
Raptors						
Osprey		X	X	X		
Bald Eagle		X	X	X	X	X
Northern Harrier	X	X	X	X	X	
Sharp-shinned Hawk					X	X
Northern Goshawk			X	X	X	
Red-tailed Hawk		X	X		X	X
Rough-legged Hawk	X	X	X	X		
Golden Eagle	X		X	X	X	
American Kestrel						X
Merlin	X	X		X		X
Gyr Falcon		X		X		
Peregrine Falcon		X	X			
Grouse/Cranes						
Ruffed Grouse		X				
Spruce Grouse	X	X	X	X	X	
Willow Ptarmigan	X	X	X	X		
Rock Ptarmigan	X					
White-tailed Ptarmigan					X	
Blue Grouse						X
Sandhill Crane	X	X	X	X		X
Shorebirds						
Black-bellied Plover	X	X	X	X		
American Golden-Plover	X		X	X		
Pacific Golden-Plover	X	X	X	X		
Semipalmated Plover	X	X	X	X	X	X
Killdeer					X	X
Black Oystercatcher					X	X
Greater Yellowlegs			X	X	X	X
Lesser Yellowlegs	X	X	X	X	X	X
Solitary Sandpiper	X	X	X	X		
Wandering Tattler	X		X		X	
Spotted Sandpiper	X	X	X	X	X	X
Whimbrel	X	X	X	X		
Hudsonian Godwit	X	X	X	X		

Taxonomic group		Norton	Yukon	Bristol		
Species	Northwest	Sound	Delta	Bay	Southcentral	Southeast
Bar-tailed Godwit	X	X	X			
Ruddy Turnstone	X		X			
Black Turnstone	X	X	X			
Surfbird	X			X		
Red Knot	X					
Semipalmated Sandpiper	X	X	X			
Western Sandpiper	X	X	X	X	X	
Least Sandpiper	X	X	X	X	X	X
Baird's Sandpiper	X	X	X			
Pectoral Sandpiper	X		X			
Rock Sandpiper	X		X	X		
Dunlin	X	X	X	X		
Short-billed Dowitcher			X	X		
Long-billed Dowitcher	X	X	X			
Common Snipe	X	X	X	X	X	X
Red-necked Phalarope	X	X	X	X		
Red Phalarope	X					
Seabirds						
Pomarine Jaeger	X		X			
Parasitic Jaeger	X	X	X	X	X	
Long-tailed Jaeger	X	X	X	X		
Bonaparte's Gull	X	X	X	X	X	X
Mew Gull	X	X	X	X	X	X
Herring Gull	X	X			X	
Glaucous-winged Gull	X	X	X	X	X	X
Glaucous Gull	X	X	X	X		
Sabine's Gull	X		X			
Black-legged Kittiwake	X	X		X	X	
Arctic Tern	X	X	X	X	X	X
Aleutian Tern	X		X	X	X	
Common Murre	X	X		X	X	
Thick-billed Murre	X					
Black Guillemot	X					
Pigeon Guillemot	X		X	X	X	X
Marbled Murrelet					X	X
Kittlitz's Murrelet						X
Parakeet Auklet	X					
Least Auklet	X					
Crested Auklet	X					
Horned Puffin	X	X	X	X	X	
Tufted Puffin	X	X			X	

Taxonomic group		Norton	Yukon	Bristol		
Species	Northwest	Sound	Delta	Bay	Southcentral	Southeast
Doves/Owls						
Rock Dove						X
Great Horned Owl		X	X			X
Snowy Owl	X					
Northern Hawk Owl	X	X				
Short-eared Owl	X	X	X	X	X	
Swifts/Hummingbirds						
Black Swift						X
Vaux's Swift						X
Rufous Hummingbird					X	X
Kingfishers						
Belted Kingfisher	X	X	X	X	X	X
Woodpeckers						
Red-breasted Sapsucker						X
Downy Woodpecker	X	X	X		X	X
Hairy Woodpecker					X	X
Three-toed Woodpecker		X		X	X	X
Northern Flicker	X	X				X
Songbirds						
Olive-sided Flycatcher	X	X	X		X	X
Western Wood-Pewee					X	
Alder Flycatcher	X	X	X	X	X	X
Hammond's Flycatcher		X				X
Pacific-slope Flycatcher						X
Say's Phoebe	X	X			X	
Northern Shrike	X	X	X	X		
Warbling Vireo						X
Gray Jay	X	X	X	X	X	
Steller's Jay					X	X
Black-billed Magpie				X	X	X
Northwestern Crow					X	X
Common Raven	X	X	X	X	X	X
Horned Lark	X	X	X	X	X	
Tree Swallow	X	X	X	X	X	X
Violet-green Swallow		X			X	X
N. Rough-winged Swallow						X
Cliff Swallow	X	X	X	X		
Bank Swallow	X	X	X	X	X	
Barn Swallow				X		X
Black-capped Chickadee		X	X	X	X	X
Chestnut-backed Chickadee					X	X

Taxonomic group Species	Northwest	Norton Sound	Yukon Delta	Bristol Bay	Southcentral	Southeast
Boreal Chickadee	X	X	X	X	X	
Red-breasted Nuthatch					X	X
Brown Creeper		X			X	X
Winter Wren					X	X
American Dipper						X
Golden-crowned Kinglet		X			X	X
Ruby-crowned Kinglet	X	X	X	X	X	X
Arctic Warbler	X	X	X	X		
Bluethroat	X					
Northern Wheatear	X		X			
Townsend's Solitaire		X				
Gray-cheeked Thrush	X	X	X	X	X	
Swainson's Thrush	X	X		X	X	X
Hermit Thrush		X		X	X	X
American Robin	X	X	X	X	X	X
Varied Thrush	X	X	X	X	X	X
European Starling						X
Yellow Wagtail	X	X	X	X		
White Wagtail	X					
American Pipit	X	X	X	X	X	
Bohemian Waxwing	X	X	X		X	X
Cedar Waxwing						X
Tennessee Warbler						X
Orange-crowned Warbler	X	X	X	X	X	X
Yellow Warbler	X	X	X	X	X	X
Yellow-rumped Warbler	X	X	X	X	X	X
Townsend's Warbler					X	X
Blackpoll Warbler	X	X	X	X	X	
American Redstart						X
Northern Waterthrush	X	X	X	X	X	X
MacGillivray's Warbler						X
Common Yellowthroat						X
Wilson's Warbler	X	X	X	X	X	X
American Tree Sparrow	X	X	X	X	X	
Chipping Sparrow						X
Savannah Sparrow	X	X	X	X	X	X
Fox Sparrow	X	X	X	X	X	X
Song Sparrow				X	X	X
Lincoln's Sparrow		X	X	X	X	X
White-crowned Sparrow	X	X	X	X	X	
Golden-crowned Sparrow	X	X	X	X	X	

Taxonomic group						
Species	Northwest	Norton Sound	Yukon Delta	Bristol Bay	Southcentral	Southeast
Dark-eyed Junco	X	X	X	X	X	X
Lapland Longspur	X	X	X	X		
Snow Bunting	X		X	X		
Rusty Blackbird	X	X	X	X	X	
Pine Grosbeak	X	X	X	X	X	X
Red Crossbill					X	X
White-winged Crossbill		X	X		X	X
Common/Hoary Redpoll	X	X	X	X	X	
Pine Siskin					X	X

Seabird colonies adjacent to LTAs at Savoonga and Gambel, on Saint Lawrence Island (Sevuokuk Mountain, Koomlangeelkuk Bay, Savoonga), were independently surveyed during 1996 and 1997 (Stephensen et al. 1998) and colonies on Little Diomed Island were surveyed in 1991 (Fowler 1994). Breeding was confirmed for 13 species of seabirds on these 2 Bering Sea Islands (Table 7). Saint Lawrence and Little Diomed Island were important nesting sites for least and crested auklets. Seabird colonies were also surveyed in Chiniak Bay, Kodiak Island (in 1997) and 6 species were found nesting (Table 8; Stotts et al. 1997). Chiniak Bay was the only site where red-faced cormorants were recorded during our fieldwork.

Table 7. Numbers of seabirds observed in colonies near Savoonga (Koomlangeelkuk Bay, Savoonga) and Gambel (Sevuokuk Mountain), Saint Lawrence Island, and on Little Diomede, 1992-1997 (Stephensen et al. 1998 and Fowler 1994).

Species	Saint Lawrence Island			
	Sevuokuk Mountain	Koomlangeelkuk Bay	Savoonga	Little Diomede
Pelagic Cormorant		4	8	103
Herring Gull		2	2	
Glaucous Gull			4	187
Black-legged Kittiwake			387	35,911
Dovekie	9			
Common Murre			168	
Thick-billed Murre			733	29,485
Pigeon Guillemot	795	56	402	164
Parakeet Auklet	present	78	151	
Least Auklet	382,600		17,814	330,000
Crested Auklet	127,500		128,208	135,000
Tufted Puffin	251	3	104	433
Horned Puffin	830	3	155	2,393
All Species	511,985	146	148,136	533,676

Table 8. Numbers of seabird nests at colonies in Chiniak Bay, Kodiak Island, Alaska, 1997 (Stotts et al. 1997).

Colony	Red-faced Cormorant	Pelagic Cormorant	Black-legged Kittiwake	Common Murre	Horned Puffin	Tufted Puffin
Sealand		8	630			
Gibson	1	7	480		<50	
Puffin		7	269		<50	50-100
Viesoki			410	<50		
Cliff						50-100
Kulichkof	3	10	576			
Holiday		14	4			
Popof		2				
Crooked	4	19	158			
Gull	13	63	160			
Blodgett		3	284		<50	<50
Mary	1	8	843		<50	<50
Marathon			108			
Queer			88		<50	
Kalsin			209		<50	<50
Pinnacle Rock			18			
Middle	6	6	259	<50	<50	<50
Svitlak	1	4	144			50-100
Utesistoi			222		<50	<50
Kekur	14	1	561			
Chiniak Island			893	<50		2,000
Elephant Rock			155	<50		

We were able to construct breeding bird species lists, from the published and unpublished literature, for 7 additional LTAs that we did not visit during 1995-1998 (Appendix 3). For the remaining 8 unsurveyed LTAs, we suggest sites that could be used as surrogates to build reasonable lists of possible breeding bird species for those unsurveyed sites (Appendix 3). By knowing the general habitat composition of any present, or future, LTA, regional bird occurrence data (Table 6) could be combined with regional bird-habitat associations (Table 9) to permit a reasonable assessment of the breeding bird community that is likely to occur at that site.

Table 9. Habitat associations, by region, of birds regularly breeding in southern and western Alaska.

Species	Southeast/Southcentral	Treeless West/Northwest	Forested West/Southwest
Loons/Grebes			
Red-throated Loon	lakes/ponds	lakes/ponds	lakes/ponds
Arctic Loon		coastal lakes/ponds	
Pacific Loon	lakes/ponds	lakes/ponds	lakes/ponds
Common Loon	lakes/ponds	lakes/ponds	lakes/ponds
Yellow-billed Loon		coastal lakes/ponds	
Horned Grebe	lakes/ponds	lakes/ponds	lakes/ponds
Red-necked Grebe	lakes/ponds	lakes/ponds	lakes/ponds
Tubenoses			
Northern Fulmar		coastal cliffs, waters	
Cormorants/Herons			
Double-crested Cormorant	coastal cliffs, waters	coastal cliffs, waters	
Pelagic Cormorant	coastal cliffs, waters	coastal cliffs, waters	
Great Blue Heron	coastal forests, beaches		
Waterfowl			
Greater White-fronted Goose	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
Emperor Goose		coastal meadows, lakes/ponds	
Snow Goose		coastal meadows, lakes/ponds	
Canada Goose	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
Brant		coastal meadows, lakes/ponds	
Trumpeter Swan	lakes/ponds		lakes/ponds
Tundra Swan		lakes/ponds	lakes/ponds
Gadwall	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
Eurasian Wigeon	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
American Wigeon	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
Mallard	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
Blue-winged Teal	meadows, lakes/ponds		
Northern Shoveler	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds

<u>Species</u>	<u>Southcentral</u>	<u>Treeless West/Northwest</u>	<u>Forested West/Southwest</u>
Northern Pintail	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
Green-winged Teal	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
Canvasback	lakes/ponds	lakes/ponds	lakes/ponds
Redhead		lakes/ponds	
Ring-necked Duck	lakes/ponds	lakes/ponds	lakes/ponds
Greater Scaup	lakes/ponds	lakes/ponds	lakes/ponds
Lesser Scaup	lakes/ponds	lakes/ponds	lakes/ponds
Steller's Eider		coastal meadows, lakes/ponds	
Spectacled Eider		coastal meadows, lakes/ponds	
King Eider		coastal meadows, lakes/ponds	
Common Eider	coastal waters, beaches	coastal waters, beaches	riverine waters
Harlequin Duck	coastal, riverine waters	coastal, riverine waters	lakes/ponds
Surf Scoter		lakes/ponds; coastal waters	lakes/ponds
White-winged Scoter		lakes/ponds; coastal waters	lakes/ponds
Black Scoter		lakes/ponds; coastal waters	lakes/ponds
Oldsquaw		lakes/ponds	lakes/ponds
Bufflehead	forested lakes/ponds		forested lakes/ponds
Common Goldeneye	forested lakes/ponds		forested lakes/ponds
Barrow's Goldeneye	forested lakes/ponds		
Common Merganser	forested lakes/ponds; riv./coastal waters		forested lakes/ponds; riverine waters
Red-breasted Merganser	coastal waters	lakes/ponds; riverine, coastal waters	lakes/ponds; riverine waters
Raptors			
Osprey	lake/pond, coastal, riverine forests		lake/pond, riverine forests
Bald Eagle	lake/pond, coastal, riverine forests	coastal, riverine	lake/pond, riverine forests
Northern Harrier	alpine meadows	meadows	meadows
Sharp-shinned Hawk	forests		forests
Northern Goshawk	forests	shrubs	forests
Red-tailed Hawk	forests		forests
Rough-legged Hawk		coastal, riverine, alpine cliffs	alpine cliffs

Species	Southeast/Southcentral	Treelless West/Northwest	Forested West/Southwest
Golden Eagle	alpine cliffs	alpine cliffs	alpine cliffs
American Kestrel	forests		forests
Merlin	forests	shrubs	forests
Gyrfalcon	alpine cliffs	alpine, riverine cliffs	alpine, riverine cliffs
Peregrine Falcon	alpine, coastal cliffs	coastal, riverine, alpine cliffs	alpine, riverine cliffs
Grouse/Cranes			
Ruffed Grouse	forests		forests
Spruce Grouse	forests		forests
Willow Ptarmigan	alpine meadows, shrubs	meadows; shrubs	meadows; shrubs
Rock Ptarmigan	alpine meadows	rocky meadows; alpine meadows	alpine meadows
White-tailed Ptarmigan	alpine meadows		alpine meadows
Blue Grouse	forests; alpine shrubs		
Sandhill Crane	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
Shorebirds			
Black-bellied Plover			
American Golden-Plover		coastal meadows, lakes/ponds	
Pacific Golden-Plover		meadows	alpine meadows
Semipalmated Plover	coastal, riverine beaches	meadows	
Killdeer	coastal, riverine beaches; meadows	coastal, riverine beaches	riverine beaches
Black Oystercatcher	coastal beaches		
Greater Yellowlegs	forested meadows, lakes/ponds		forested meadows, lakes/ponds
Lesser Yellowlegs	forested meadows, lakes/ponds		forested meadows, lakes/ponds
Solitary Sandpiper	forested meadows, lakes/ponds		forested meadows, lakes/ponds
Wandering Tattler	coastal, riverine, alpine beaches	coastal, riverine beaches; alpine	alpine
Spotted Sandpiper	coastal, riverine beaches	coastal, riverine beaches	riverine beaches
Whimbrel		meadows	
Hudsonian Godwit	meadows, lakes/ponds	meadows, lakes/ponds	
Bar-tailed Godwit	meadows	meadows	
Ruddy Turnstone	rocky meadows	rocky meadows	

Species	Southeast/Southcentral	Treelless West/Northwest	Forested West/Southwest
Black Turnstone		coastal meadows	
Surfbird		rocky, alpine meadows	rocky, alpine meadows
Red Knot		rocky, alpine meadows	
Semipalmated Sandpiper		coastal meadows, lakes/ponds	
Western Sandpiper		meadows	
Least Sandpiper	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
Baird's Sandpiper		alpine meadows	alpine meadows
Pectoral Sandpiper		meadows, lakes/ponds	
Rock Sandpiper		rocky meadows	
Dunlin	coastal meadows, lakes/ponds	coastal meadows, lakes/ponds	
Short-billed Dowitcher	coastal meadows, lakes/ponds	meadows, lakes/ponds	
Long-billed Dowitcher		meadows, lakes/ponds	
Common Snipe	shrubby meadows, lakes/ponds	shrubby meadows, lakes/ponds	shrubby meadows, lakes/ponds
Red-necked Phalarope	meadows, lakes/ponds	meadows, lakes/ponds	meadows, lakes/ponds
Red Phalarope		coastal meadows, lakes/ponds	
Seabirds			
Pomarine Jaeger		coastal meadows	
Parasitic Jaeger	alpine meadows; coastal waters	coastal meadows, waters	
Long-tailed Jaeger	meadows, lakes/ponds	meadows	alpine meadows
Bonaparte's Gull	forested lakes/ponds		forested lakes/ponds
Mew Gull	coastal waters, beaches; lakes/ponds	coastal waters, beaches; lakes/ponds	forested lakes/ponds
Herring Gull	coastal waters, beaches; lakes/ponds	coastal waters, beaches; lakes/ponds	lakes/ponds
Slaty-backed Gull		coastal waters, beaches	
Glaucous-winged Gull	coastal cliffs, waters, beaches	coastal cliffs, waters, beaches	
Glaucous Gull		coastal cliffs, waters, beaches; lakes/ponds	
Sabine's Gull		lakes/ponds	
Black-legged Kittiwake	coastal cliffs, waters	coastal cliffs, waters	
Caspian Tern	coastal beaches, waters		
Arctic Tern	coastal beaches, waters; lakes/ponds	coastal beaches, waters; lakes/ponds	lakes/ponds; riverine waters

Species	Southeast/Southcentral	Treeless West/Northwest	Forested West/Southwest
Aleutian Tern	coastal beaches, waters	coastal beaches, waters	
Dovekie		coastal cliffs, waters	
Common Murre	coastal cliffs, waters	coastal cliffs, waters	
Thick-billed Murre	coastal cliffs, waters	coastal cliffs, waters	
Black Guillemot		coastal beaches, waters	
Pigeon Guillemot	coastal cliffs, waters	coastal cliffs, waters	
Marbled Murrelet	coastal waters, forests	coastal waters; alpine	
Kitlitz's Murrelet	coastal waters; alpine	coastal waters; alpine	
Parakeet Auklet		coastal cliffs, waters	
Least Auklet		coastal cliffs, waters	
Crested Auklet		coastal cliffs, waters	
Horned Puffin	coastal cliffs, waters	coastal cliffs, waters	
Tufted Puffin	coastal cliffs, waters	coastal cliffs, waters	
Doves/Owls			
Rock Dove	artificial structures		artificial structures
Western Screech-Owl	forests		
Great Horned Owl	forests		forests
Snowy Owl		meadows	
Northern Hawk Owl	forests		forests
Great Gray Owl			forested meadows
Short-eared Owl	meadows		meadows
Boreal Owl	forests		forests
Northern Saw-whet Owl	forests		
Swifts/Hummingbirds			
Black Swift	riverine, coastal cliffs		
Vaux's Swift	riverine forests; forests		
Rufous Hummingbird	forests; shrubs		
Kingfishers			
Belted Kingfisher	rivers, lakes/ponds, coasts	rivers, lakes/ponds; coasts	rivers, lakes/ponds

Species	Southeast/Southcentral	Treeless West/Northwest	Forested West/Southwest
Woodpeckers			
Red-breasted Sapsucker	forests		forests
Downy Woodpecker	forests		forests
Hairy Woodpecker	forests		forests
Three-toed Woodpecker	forests		forests
Black-backed Woodpecker	forest		forests
Northern Flicker	forests		forests
Songbirds			
Olive-sided Flycatcher	forests		forests
Western Wood-Pewee	forests		
Alder Flycatcher	shrubs; riverine forests	riverine shrubs	shrubs; riverine forests
Hammond's Flycatcher	riverine forests		forests
Pacific-slope Flycatcher	forests		
Say's Phoebe	alpine cliffs, meadows	alpine cliffs, meadows	alpine cliffs, meadows
Northern Shrike	shrubs; forests	shrubs	shrubs; forests
Warbling Vireo	riverine forests		
Gray Jay	forests		forests
Steller's Jay	forests		
Black-billed Magpie	shrubs; forests	shrubs	shrubs; forests
Northwestern Crow	coastal forests		
Common Raven	alpine, coastal cliffs; forests;	alpine, coastal cliffs; human structures	alpine cliffs; forests
Horned Lark	alpine meadows	alpine meadows	alpine meadows
Tree Swallow	river, lake/pond forests; human structures		river, lake/pond forests; human struct.
Violet-green Swallow	river, lake/pond forests; human structures		river, lake/pond forests; human struct.
N. Rough-winged Swallow	riverine forests		
Cliff Swallow	riverine, coastal cliffs; artificial structures	riverine, coastal cliffs; artificial structures	riverine cliffs; artificial structures
Bank Swallow	riverine, coastal cliffs	riverine, coastal cliffs	riverine, coastal cliffs
Barn Swallow	artificial structures	artificial structures	
Black-capped Chickadee	forests		forests

Species	Southeast/Southcentral	Treeless West/Northwest	Forested West/Southwest
Chestnut-backed Chickadee	forests		
Boreal Chickadee	forests		forests
Red-breasted Nuthatch	forests		
Brown Creeper	forests		forests
Winter Wren	shrubs; forests		
American Dipper	riverine, coastal beaches	riverine, coastal beaches	riverine beaches
Golden-crowned Kinglet	forests		forests
Ruby-crowned Kinglet	forests		forests
Arctic Warbler		shrubs	shrubs; forests
Bluethroat		shrubs	
Northern Wheatear	rocky, alpine meadows	rocky, alpine meadows	rocky, alpine meadows
Townsend's Solitaire	alpine shrubs		alpine shrubs
Gray-cheeked Thrush	forests; shrubs	shrubs	shrubs
Swainson's Thrush	forests		forests
Hermit Thrush	forests; shrubs	shrubs	forests; shrubs
American Robin	forests; shrubs; artificial structures	shrubs	forests; shrubs; artificial structures
Varied Thrush	forests; shrubs	shrubs	forests
European Starling			
Yellow Wagtail		meadows, shrubs	
White Wagtail		artificial structures; coastal beaches	
American Pipit	rocky, alpine meadows	alpine meadows	alpine meadows
Bohemian Waxwing	forested meadows		forested meadows
Cedar Waxwing	forests		
Tennessee Warbler	forested meadows		
Orange-crowned Warbler	shrubs; forests	shrubs	shrubs; forests
Yellow Warbler	shrubs; riverine forests	shrubs	shrubs; forests
Yellow-rumped Warbler	forests		forests
Townsend's Warbler	forests		forests
Blackpoll Warbler	shrubs; forests	shrubs	shrubs; forests

Species	Southeast/Southcentral	Treeless West/Northwest	Forested West/Southwest
American Redstart	riverine forests		
Northern Waterthrush	shrubs, lakes/ponds; riverine forests	riverine shrubs, lakes/ponds	riverine, lakes/ponds, shrubs, forests
MacGillivray's Warbler	shrubs; forests		
Common Yellowthroat	shrubs		
Wilson's Warbler	shrubs; forests	shrubs	
Western Tanager	forests		
American Tree Sparrow	alpine shrubs	shrubby meadows	shrubby meadows
Chipping Sparrow	forested meadows; artificial structures		forested meadows
Savannah Sparrow	meadows	meadows	meadows
Fox Sparrow	shrubs	shrubs	shrubs
Song Sparrow	coastal meadows, shrubs	coastal meadows	
Lincoln's Sparrow	shrubby meadows	shrubby meadows	shrubby meadows
White-crowned Sparrow	shrubs	shrubs	shrubs; forests
Golden-crowned Sparrow	alpine shrubby meadows	shrubby meadows	shrubby meadows
Dark-eyed Junco	forests		forests
Lapland Longspur	alpine meadows	meadows	alpine meadows
Snow Bunting	rocky, alpine meadows	rocky meadows	rocky meadows
Red-winged Blackbird	meadows, shrubs, lakes/ponds		meadows, shrubs, lakes/ponds
Rusty Blackbird	shrubs, lakes/ponds	shrubs, lakes/ponds	shrubs, lakes/ponds
Pine Grosbeak	forests		forests
Red Crossbill	forests		
White-winged Crossbill	forests		forests
Common Redpoll	forests; shrubs	shrubs, meadows	forests; shrubs
Hoary Redpoll		shrubs, meadows	
Pine Siskin	forests		

TRAINING MANAGEMENT CONSIDERATIONS

General considerations - Breeding birds in Alaska are most active (have eggs or dependent young) between mid-May and mid-July. If possible, training activities should be minimized during this period. Because training is more likely to occur in areas with minimal forest or shrub cover, ground-nesting species are more vulnerable to foot and vehicle disturbance.

Riparian habitats - Shrub and deciduous forest communities along rivers and streams are rich avian habitats throughout all regions of Alaska (see Spindler and Kessel 1980, Kessel 1998). Deciduous, riparian corridors often differ markedly from the surrounding landscape (e.g., coniferous forest, tundra) and have a unique bird assemblage; many riparian-dependent species occur in high densities in these habitats. Therefore, vehicle movements should be planned to minimize disturbance to riparian habitats: trails should be set well away from riparian corridors, river crossings should be minimized, and crossings should be well designed. This concern is greatest for sites in Northwestern Alaska, Norton Sound, the Yukon Delta, and Bristol Bay.

Seabirds - Loud activities around seabird colonies should be avoided. Yelling or blasting boat horns near colonies can cause adults to knock eggs and chicks from nests, unattended chicks to die from hypothermia, chicks to be eaten by predators, or adults to abandon nests. Low level flights over colonies should be avoided for the above reasons. Because auklets breed in talus slopes, rather than on inaccessible cliffs, activity in colonies should be avoided during the breeding season on Little Diomedede and Saint Lawrence islands. Besides these 2 sites, seabird colonies occur adjacent to Kodiak and at Mekoryuk. Colonies of other seabirds should also be avoided; arctic terns and mew gulls can be found in wetlands throughout the state. Aleutian terns nest on beaches and in wetlands in western and southcentral Alaska; probable and confirmed

breeding birds were recorded at Dillingham, Goodnews Bay, Kodiak, Mekoryuk, Quinhagak, and Togiak.

Waterfowl - Disturbance to waterfowl is most likely in the treeless portions of western Alaska. If adult waterfowl or loons are observed on nests during training exercises, soldiers, or vehicles, should alter their path to avoid flushing birds from nests. If waterfowl are flushed from a nest, eggs should be covered by down and foliage and the soldier should leave the nest site immediately. Colonies of nesting brant should be avoided.

Raptors - To minimize disturbance to breeding raptors, training activities should not occur within ¼ mile of cliff or tree nests. In areas where nests are highly visible, buffer areas should be extended to ½ mile. Bald eagles are most likely to nest adjacent to marine shorelines in southeastern Alaska; in western Alaska, gyrfalcons, peregrine falcons, rough-legged hawks, and golden eagles nest on cliffs along rivers or above treeline.

Sensitive species - Endangered spectacled eiders nest in wet, coastal tundra of western Alaska from the Yukon Delta to Barrow. Threatened Steller's eiders are known to breed in the vicinity of Barrow and were recorded on our surveys there. Restricting training activities to periods outside of June and July would eliminate disturbance to nesting eiders. If an eider is flushed from a nest, eggs should be covered by down or foliage and the soldier should leave the nest site immediately. If training activities are planned for June or July, Guard personnel should consult (annually) with the U. S. Fish and Wildlife Service, Northern Alaska Ecological Services office, Fairbanks, to determine locations of nesting Steller's eiders around Barrow.

The bristle-thighed curlew, a former Candidate 2 species, nests near Mountain Village in the Nulato Hills. To avoid disturbance to nesting curlews, training activities should not occur in

upland habitats from mid-May to early August. Although bristle-thighed curlews also breed in the central Seward Peninsula, no pairs were found at the Stewart River. Locations where we recorded threatened, endangered, and sensitive species are given in Table 10.

Table 10. Threatened (T), previously listed (P), or previous endangered/threatened candidate species (C) found on Local Training Areas of the Alaska Army National Guard, 1995-1998.

Species	Scientific Name	Status	Location
Spectacled Eider	<i>Somateria fischeri</i>	T	Barrow
Steller's Eider	<i>Polysticta stelleri</i>	T	Barrow
Arctic Peregrine Falcon	<i>Falco pergrinus tundrius</i>	P	Shaktoolik, Stebbins, Koyukuk, Nightmute
Harlequin Duck	<i>Histrionicus histrionicus</i>	C	Mekoryuk, Kodiak
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	C	Petersburg, St. James Bay
Olive-sided Flycatcher	<i>Contopus sordidulus</i>	C	Koyukuk, Kenai

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Appendix 1. Common name and scientific names of bird species.

Table A-1. Common name and scientific names of birds of all bird species recorded during breeding bird surveys of Local Training Areas of the Alaska Army National Guard, 1995-1998.

Taxonomic group		
Family	Common name	Scientific name
Loons/Grebes		
Loons	Red-throated Loon	<i>Gavia stellata</i>
	Arctic Loon	<i>Gavia arctica</i>
	Pacific Loon	<i>Gavia pacifica</i>
	Common Loon	<i>Gavia immer</i>
	Yellow-billed Loon	<i>Gavia adamsii</i>
Grebes	Horned Grebe	<i>Podiceps auritus</i>
	Red-necked Grebe	<i>Podiceps grisegena</i>
Cormorants/Herons		
Cormorants	Double-crested Cormorant	<i>Phalacrocorax auritus</i>
	Red-faced Cormorant	<i>Phalacrocorax urile</i>
	Pelagic Cormorant	<i>Phalacrocorax pelagicus</i>
Herons	Great Blue Heron	<i>Ardea herodias</i>
Waterfowl		
Geese, Swans, Ducks	Greater White-fronted Goose	<i>Anser albifrons</i>
	Emperor Goose	<i>Chen canagica</i>
	Snow Goose	<i>Chen caerulescens</i>
	Canada Goose	<i>Branta canadensis</i>
	Brant	<i>Branta bernicla</i>
	Trumpeter Swan	<i>Cygnus buccinator</i>
	Tundra Swan	<i>Cygnus columbianus</i>
	Gadwall	<i>Anas strepera</i>
	Eurasian Wigeon	<i>Anas penelope</i>
	American Wigeon	<i>Anas americana</i>
	Mallard	<i>Anas platyrhynchos</i>
	Blue-winged Teal	<i>Anas discors</i>
	Northern Shoveler	<i>Anas clypeata</i>
	Northern Pintail	<i>Anas acuta</i>
	Green-winged Teal	<i>Anas crecca</i>
	Canvasback	<i>Aythya valisineria</i>
	Ring-necked Duck	<i>Aythya collaris</i>
	Greater Scaup	<i>Aythya marila</i>
	Lesser Scaup	<i>Aythya affinis</i>
Steller's Eider	<i>Polysticta stelleri</i>	

Taxonomic group		
Family	Common name	Scientific name
	Spectacled Eider	<i>Somateria fischeri</i>
	King Eider	<i>Somateria spectabilis</i>
	Common Eider	<i>Somateria mollissima</i>
	Harlequin Duck	<i>Histrionicus histrionicus</i>
	Surf Scoter	<i>Melanitta perspicillata</i>
	White-winged Scoter	<i>Melanitta fusca</i>
	Black Scoter	<i>Melanitta nigra</i>
	Oldsquaw	<i>Clangula hyemalis</i>
	Bufflehead	<i>Bucephala albeola</i>
	Common Goldeneye	<i>Bucephala clangula</i>
	Barrow's Goldeneye	<i>Bucephala islandica</i>
	Common Merganser	<i>Mergus merganser</i>
	Red-breasted Merganser	<i>Mergus serrator</i>
Raptors		
Hawks, Eagles	Osprey	<i>Pandion haliaetus</i>
	Bald Eagle	<i>Haliaeetus leucocephalus</i>
	Northern Harrier	<i>Circus cyaneus</i>
	Sharp-shinned Hawk	<i>Accipiter striatus</i>
	Northern Goshawk	<i>Accipiter gentilis</i>
	Red-tailed Hawk	<i>Buteo jamaicensis</i>
	Rough-legged Hawk	<i>Buteo lagopus</i>
	Golden Eagle	<i>Aquila chrysaetos</i>
Falcons	American Kestrel	<i>Falco sparverius</i>
	Merlin	<i>Falco columbarius</i>
	Gyr Falcon	<i>Falco rusticolus</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
Grouse/Cranes		
Grouse	Ruffed Grouse	<i>Bonasa umbellus</i>
	Spruce Grouse	<i>Falcapennis canadensis</i>
	Willow Ptarmigan	<i>Lagopus lagopus</i>
	Rock Ptarmigan	<i>Lagopus mutus</i>
	White-tailed Ptarmigan	<i>Lagopus leucurus</i>
	Blue Grouse	<i>Dendragapus obscurus</i>
Cranes	Sandhill Crane	<i>Grus canadensis</i>
Shorebirds		
Plovers	Black-bellied Plover	<i>Pluvialis squatarola</i>
	American Golden-Plover	<i>Pluvialis dominica</i>

Taxonomic group		
Family	Common name	Scientific name
Oystercatchers Sandpipers	Pacific Golden-Plover	<i>Pluvialis fulva</i>
	Mongolian Plover	<i>Charadrius mongolus</i>
	Semipalmated Plover	<i>Charadrius semipalmatus</i>
	Killdeer	<i>Charadrius vociferus</i>
	Black Oystercatcher	<i>Haematopus bachmani</i>
	Common Greenshank	<i>Tringa nebularia</i>
	Greater Yellowlegs	<i>Tringa melanoleuca</i>
	Lesser Yellowlegs	<i>Tringa flavipes</i>
	Solitary Sandpiper	<i>Tringa solitaria</i>
	Wandering Tattler	<i>Heteroscelus incanus</i>
	Spotted Sandpiper	<i>Actitis macularia</i>
	Whimbrel	<i>Numenius phaeopus</i>
	Hudsonian Godwit	<i>Limosa haemastica</i>
	Bar-tailed Godwit	<i>Limosa lapponica</i>
	Ruddy Turnstone	<i>Arenaria interpres</i>
	Black Turnstone	<i>Arenaria melanocephala</i>
	Surfbird	<i>Aphriza virgata</i>
	Red Knot	<i>Calidris canutus</i>
	Semipalmated Sandpiper	<i>Calidris pusilla</i>
	Western Sandpiper	<i>Calidris mauri</i>
	Least Sandpiper	<i>Calidris minutilla</i>
	Baird's Sandpiper	<i>Calidris bairdii</i>
	Pectoral Sandpiper	<i>Calidris melanotos</i>
Rock Sandpiper	<i>Calidris ptilocnemis</i>	
Dunlin	<i>Calidris alpina</i>	
Short-billed Dowitcher	<i>Limnodromus griseus</i>	
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	
Common Snipe	<i>Gallinago gallinago</i>	
Red-necked Phalarope	<i>Phalaropus lobatus</i>	
Red Phalarope	<i>Phalaropus fulicaria</i>	
Seabirds		
Gulls, Terns	Pomarine Jaeger	<i>Stercorarius pomarinus</i>
	Parasitic Jaeger	<i>Stercorarius parasiticus</i>
	Long-tailed Jaeger	<i>Stercorarius longicaudus</i>
	Bonaparte's Gull	<i>Larus philadelphia</i>
	Mew Gull	<i>Larus canus</i>
Herring Gull	<i>Larus argentatus</i>	

Taxonomic group		
Family	Common name	Scientific name
Alcids	Slaty-backed Gull	<i>Larus schistisagus</i>
	Glaucous-winged Gull	<i>Larus glaucescens</i>
	Glaucous Gull	<i>Larus hyperboreus</i>
	Sabine's Gull	<i>Xema sabini</i>
	Black-legged Kittiwake	<i>Rissa tridactyla</i>
	Caspian Tern	<i>Sterna caspia</i>
	Arctic Tern	<i>Sterna paradisaea</i>
	Aleutian Tern	<i>Sterna aleutica</i>
	Common Murre	<i>Uria aalge</i>
	Thick-billed Murre	<i>Uria lomvia</i>
	Black Guillemot	<i>Cephus grylle</i>
	Pigeon Guillemot	<i>Cephus columba</i>
	Marbled Murrelet	<i>Brachyramphus marmoratus</i>
	Kittlitz's Murrelet	<i>Brachyramphus brevirostris</i>
	Parakeet Auklet	<i>Aethia psittacula</i>
	Least Auklet	<i>Aethia pusilla</i>
Crested Auklet	<i>Aethia cristatella</i>	
Horned Puffin	<i>Fratercula corniculata</i>	
Tufted Puffin	<i>Fratercula cirrhata</i>	
Doves/Owls		
Doves, Pigeons	Rock Dove	<i>Columba livia</i>
Owls	Great Horned Owl	<i>Bubo virginianus</i>
	Snowy Owl	<i>Nyctea scandiaca</i>
	Northern Hawk Owl	<i>Surnia ulula</i>
	Short-eared Owl	<i>Asio flammeus</i>
Swifts/Hummingbirds		
Swifts	Black Swift	<i>Cypseloides niger</i>
	Vaux's Swift	<i>Chaetura vauxi</i>
Hummingbirds	Rufous Hummingbird	<i>Selasphorus rufus</i>
Kingfishers		
Kingfishers	Belted Kingfisher	<i>Ceryle alcyon</i>
Woodpeckers		
Woodpeckers	Red-breasted Sapsucker	<i>Sphyrapicus ruber</i>
	Downy Woodpecker	<i>Picoides pubescens</i>
	Hairy Woodpecker	<i>Picoides villosus</i>
	Three-toed Woodpecker	<i>Picoides tridactylus</i>
	Northern Flicker	<i>Colaptes auratus</i>

Taxonomic group		
Family	Common name	Scientific name
Songbirds		
Flycatchers	Olive-sided Flycatcher	<i>Contopus cooperi</i>
	Western Wood-Pewee	<i>Contopus sordidulus</i>
	Alder Flycatcher	<i>Empidonax alnorum</i>
	Hammond's Flycatcher	<i>Empidonax hammondii</i>
	Pacific-slope Flycatcher	<i>Empidonax difficilis</i>
	Say's Phoebe	<i>Sayornis saya</i>
Shrikes	Northern Shrike	<i>Lanius excubitor</i>
Vireos	Warbling Vireo	<i>Vireo gilvus</i>
Jays, Crows	Gray Jay	<i>Perisoreus canadensis</i>
	Steller's Jay	<i>Cyanocitta stelleri</i>
	Black-billed Magpie	<i>Pica pica</i>
	Northwestern Crow	<i>Corvus caurinus</i>
	Common Raven	<i>Corvus corax</i>
	Larks	Horned Lark
Swallows	Tree Swallow	<i>Tachycineta bicolor</i>
	Violet-green Swallow	<i>Tachycineta thalassina</i>
	N. Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
	Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
	Bank Swallow	<i>Riparia riparia</i>
	Barn Swallow	<i>Hirundo rustica</i>
Chickadees	Black-capped Chickadee	<i>Poecile atricapillus</i>
	Chestnut-backed Chickadee	<i>Poecile rufescens</i>
	Boreal Chickadee	<i>Poecile hudsonicus</i>
Nuthatches	Red-breasted Nuthatch	<i>Sitta canadensis</i>
Creepers	Brown Creeper	<i>Certhia americana</i>
Wrens	Winter Wren	<i>Troglodytes troglodytes</i>
Dippers	American Dipper	<i>Cinclus mexicanus</i>
Kinglets	Golden-crowned Kinglet	<i>Regulus satrapa</i>
	Ruby-crowned Kinglet	<i>Regulus calendula</i>
Old World Warblers	Arctic Warbler	<i>Phylloscopus borealis</i>
Thrushes	Bluethroat	<i>Luscinia svecica</i>
	Northern Wheatear	<i>Oenanthe oenanthe</i>
	Townsend's Solitaire	<i>Myadestes townsendi</i>
	Gray-cheeked Thrush	<i>Catharus minimus</i>
	Swainson's Thrush	<i>Catharus ustulatus</i>
	Hermit Thrush	<i>Catharus guttatus</i>

Taxonomic group		
Family	Common name	Scientific name
	American Robin	<i>Turdus migratorius</i>
	Varied Thrush	<i>Ixoreus naevius</i>
Starlings	European Starling	<i>Sturnus vulgaris</i>
Pipits, Wagtails	Yellow Wagtail	<i>Motacilla flava</i>
	White Wagtail	<i>Motacilla alba</i>
	American Pipit	<i>Anthus rubescens</i>
Waxwings	Bohemian Waxwing	<i>Bombycilla garrulus</i>
	Cedar Waxwing	<i>Bombycilla cedrorum</i>
New World Warblers	Tennessee Warbler	<i>Vermivora peregrina</i>
	Orange-crowned Warbler	<i>Vermivora celata</i>
	Yellow Warbler	<i>Dendroica petechia</i>
	Yellow-rumped Warbler	<i>Dendroica coronata</i>
	Townsend's Warbler	<i>Dendroica townsendi</i>
	Blackpoll Warbler	<i>Dendroica striata</i>
	American Redstart	<i>Setophaga ruticilla</i>
	Northern Waterthrush	<i>Seiurus noveboracensis</i>
	MacGillivray's Warbler	<i>Oporornis tolmiei</i>
	Common Yellowthroat	<i>Geothlypis trichas</i>
	Wilson's Warbler	<i>Wilsonia pusilla</i>
Sparrows, Buntings	American Tree Sparrow	<i>Spizella arborea</i>
	Chipping Sparrow	<i>Spizella passerina</i>
	Savannah Sparrow	<i>Passerculus sandwichensis</i>
	Fox Sparrow	<i>Passerella iliaca</i>
	Song Sparrow	<i>Melospiza melodia</i>
	Lincoln's Sparrow	<i>Melospiza lincolni</i>
	White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
	Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>
	Dark-eyed Junco	<i>Junco hyemalis</i>
	Lapland Longspur	<i>Calcarius lapponicus</i>
	Snow Bunting	<i>Plectrophenax nivalis</i>
Blackbirds	Red-winged Blackbird	<i>Agelaius phoeniceus</i>
	Rusty Blackbird	<i>Euphagus carolinus</i>
Finches	Pine Grosbeak	<i>Pinicola enucleator</i>
	Red Crossbill	<i>Loxia curvirostra</i>
	White-winged Crossbill	<i>Loxia leucoptera</i>
	Common Redpoll	<i>Carduelis flammea</i>
	Pine Siskin	<i>Carduelis pinus</i>

Appendix 2. Abundance and breeding status of birds on all Local Training Areas of the Alaska Army National Guard.

Table A-2. Abundance (AB) and breeding status (ST) of birds on Local Training Areas of the Alaska Army National Guard in Northwest Alaska, 1995-1998.

Taxonomic group	Barrow		Noatak		Kotzebue		Shungnak		Selawik	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Loons/Grebes										
Red-throated Loon	F	L			U	C			U	L
Arctic Loon			R	P	R	P				
Pacific Loon	C	L	F	L	F	L	R	L	F	L
Yellow-billed Loon	R	L								
Horned Grebe			U	P						
Red-necked Grebe			U	L	U	C	F	L	F	L
Cormorants										
Pelagic Cormorant										
Waterfowl										
Greater White-fronted Goose	C	C	F	P					U	O
Snow Goose	U	P								
Canada Goose			U	C	F	L	U	P	U	L
Brant	F	L			R	O				
Tundra Swan	F	L	F	L	F	L			F	C
American Wigeon			F	L	C	L	F	L	C	L
Mallard			F	L	U	P	U	C	F	L
Northern Shoveler	R	L	U	L	F	L			C	L
Northern Pintail	C	L	F	L	C	L	U	P	C	C
Green-winged Teal	U	L	C	C	F	L	F	C	C	L
Canvasback					U	L				
Greater Scaup			F	L	C	L	F	L	C	L
Lesser Scaup			R	P	U	L	U	L	U	P
Steller's Eider	U	L								
Spectacled Eider	R	P								
King Eider	C	L								
Common Eider	R	P								
Harlequin Duck										
Surf Scoter					R	P				
White-winged Scoter					R	L				
Black Scoter					F	L	R	L	F	L

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Northwest Alaska

Taxonomic group	Barrow		Noatak		Kotzebue		Shungnak		Selawik	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Oldsquaw	A	L	R	P	F	L	F	L	R	P
Common Goldeneye							R	P		
Common Merganser										
Red-breasted Merganser	U	L	U	L			U	P		
Raptors										
Bald Eagle							R	O		
Northern Harrier			R	P	R	P			F	P
Rough-legged Hawk										
Golden Eagle										
Merlin			R	L	R	P	R	L		
Gyr Falcon	R	O			R	O				
Peregrine Falcon	R	O								
Grouse/Cranes										
Spruce Grouse			R	L			R	P		
Willow Ptarmigan					R	P				
Rock Ptarmigan										
Sandhill Crane			F	L	F	C	U	L	C	L
Shorebirds										
American Golden-Plover	A	C			R	P	R	C		
Pacific Golden-Plover			R	P	F	C	U	L	F	P
Semipalmated Plover	U	L			R	P				
Lesser Yellowlegs			C	L			C	L		
Solitary Sandpiper							U	C		
Wandering Tattler										
Spotted Sandpiper			R	P			F	L		
Whimbrel			F	L	F	L	U	C	U	L
Hudsonian Godwit			U	L	R	O				
Bar-tailed Godwit					R	L			U	L
Ruddy Turnstone	R	C								
Black Turnstone					R	C				
Surfbird										
Semipalmated Sandpiper	A	C			F	C	R	L	F	L
Western Sandpiper	F	C			F	C			F	P
Least Sandpiper			R	C			U	L		
Baird's Sandpiper	C	C								
Pectoral Sandpiper	C	C			U	O				

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Northwest Alaska

Taxonomic group	Barrow		Noatak		Kotzebue		Shungnak		Selawik	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Species										
Rock Sandpiper										
Dunlin	C	C								
Long-billed Dowitcher	C	C	R	P	R	P				
Common Snipe	R	L	C	L	F	L	F	L	A	C
Red-necked Phalarope	C	L	F	P	C	L	F	L	F	L
Red Phalarope	A	C			R	P				
Seabirds										
Pomarine Jaeger	C	C			R	P				
Parasitic Jaeger	F	C	R	L	F	C	R	P	U	P
Long-tailed Jaeger	F	L	F	L	C	C	F	L	C	C
Bonaparte's Gull							R	P		
Mew Gull			F	P	F	C	F	C	F	L
Herring Gull	R	L								
Glaucous-winged Gull									U	P
Glaucous Gull	C	C	F	L	C	C	F	L	U	P
Sabine's Gull	R	P								
Black-legged Kittiwake	R	O			F	O				
Arctic Tern			F	C	F	C	F	L	F	L
Aleutian Tern					R	P				
Common Murre										
Black Guillemot	U	L								
Pigeon Guillemot										
Least Auklet										
Crested Auklet										
Horned Puffin										
Owls										
Snowy Owl	F	L								
Northern Hawk Owl							R	P		
Short-eared Owl			R	P	R	C				
Kingfishers										
Belted Kingfisher							R	P		
Woodpeckers										
Downy Woodpecker							R	C		
Northern Flicker							R	C		

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Northwest Alaska

Taxonomic group	Barrow		Noatak		Kotzebue		Shungnak		Selawik	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Songbirds										
Olive-sided Flycatcher			R	P			U	P		
Alder Flycatcher							F	L	F	L
Say's Phoebe										
Northern Shrike			R	P	R	P				
Gray Jay			C	C			F	L		
Common Raven	U	L	C	L	A	C	C	P	C	P
Horned Lark							U	P		
Tree Swallow	R	O	F	C	U	P	F	P	F	C
Cliff Swallow			F	C			R	L		
Bank Swallow			C	C	U	C	U	P		
Boreal Chickadee			R	L			U	P		
Ruby-crowned Kinglet			U	P			C	L		
Arctic Warbler					R	P				
Bluethroat					U	L				
Northern Wheatear										
Gray-cheeked Thrush	R	O	C	L	C	L	A	L	C	L
Swainson's Thrush			U	L			F	L		
American Robin			C	L	F	L	C	C	F	L
Varied Thrush			R	L	R	P	U	C		
Yellow Wagtail					A	L			A	L
White Wagtail										
American Pipit										
Bohemian Waxwing							U	L		
Orange-crowned Warbler			U	P	R	P	R	P		
Yellow Warbler			F	L	C	L	A	L	A	C
Yellow-rumped Warbler			F	P			F	P		
Blackpoll Warbler			F	L	U	L	F	L	C	L
Northern Waterthrush			F	P	F	L	C	L	C	C
Wilson's Warbler			F	P	C	L	F	L	F	P
American Tree Sparrow			C	C	C	C	F	L	A	C
Savannah Sparrow			F	L	C	C	C	C	A	C
Fox Sparrow			F	C	C	L	C	L	C	L
White-crowned Sparrow			C	L	C	L	C	C	C	L
Golden-crowned Sparrow										
Dark-eyed Junco			U	L			F	L		

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Northwest Alaska

Taxonomic group	Barrow		Noatak		Kotzebue		Shungnak		Selawik	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Lapland Longspur	A	C	U	P	A	C	F	C	U	L
Snow Bunting	F	L								
Red-winged Blackbird			R	O						
Rusty Blackbird			F	C	R	C	F	C	F	C
Pine Grosbeak							R	P		
Redpoll spp.	U	P	C	C	A	C	C	P	A	L

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Northwest Alaska

Table A-2 (cont.).

Taxonomic group	Shishmaref		Brevig Mission		Teller		Stewart River		Savoonga	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Loons/Grebes										
Red-throated Loon	F	C	U	C	U	P				
Arctic Loon										
Pacific Loon	C	L	F	P	R	O				
Yellow-billed Loon										
Horned Grebe										
Red-necked Grebe			U	P						
Cormorants										
Pelagic Cormorant			U	O	U	C				
Waterfowl										
Greater White-fronted Goose										
Snow Goose										
Canada Goose			R	L						
Brant	C	P	F	L						
Tundra Swan			U	L	R	P				
American Wigeon			R	P						
Mallard										
Northern Shoveler			U	P	U	L				
Northern Pintail	C	L	F	C	U	L	R	P	F	L
Green-winged Teal	U	L	F	L	F	L	U	L	U	C
Canvasback										
Greater Scaup			F	L						
Lesser Scaup			U	L						
Steller's Eider										
Spectacled Eider										
King Eider										
Common Eider	F	C	U	P	U	L			U	O
Harlequin Duck	R	O					U	L	R	O
Surf Scoter										
White-winged Scoter	U	P								
Black Scoter										
Oldsquaw	C	L	U	L					U	L
Common Goldeneye										
Common Merganser									U	O
Red-breasted Merganser	U	L	F	L	F	P	U	L	U	O

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Northwest Alaska

Taxonomic group	Shishmaref		Brevig Mission		Teller		Stewart River		Savoonga	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Raptors										
Bald Eagle										
Northern Harrier										
Rough-legged Hawk			U	C	U	L	R	O		
Golden Eagle							U	L		
Merlin							R	O		
Gyrfalcon										
Peregrine Falcon										
Grouse/Cranes										
Spruce Grouse										
Willow Ptarmigan							F	C		
Rock Ptarmigan							U	C		
Sandhill Crane	F	P	U	P	U	O			F	C
Shorebirds										
American Golden-Plover			F	L	F	C	F	L		
Pacific Golden-Plover							F	C	R	P
Semipalmated Plover							U	C		
Lesser Yellowlegs										
Solitary Sandpiper										
Wandering Tattler							U	L		
Spotted Sandpiper							R	P		
Whimbrel							U	C		
Hudsonian Godwit										
Bar-tailed Godwit	U	P	U	P	U	L	F	L		
Ruddy Turnstone	F	L					R	P	F	L
Black Turnstone	C	L								
Surfbird							U	C		
Red Knot							R	C		
Semipalmated Sandpiper	A	C	F	L	F	L				
Western Sandpiper	C	C	C	C	C	C	C	C	C	C
Least Sandpiper	U	P					R	O		
Baird's Sandpiper					R	O	R	L		
Pectoral Sandpiper	R	P							R	P
Rock Sandpiper							R	L	F	C
Dunlin	C	C							A	C
Long-billed Dowitcher	F	L			R	P			U	C

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Northwest Alaska

Taxonomic group	Shishmaref		Brevig Mission		Teller		Stewart River		Savoonga	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Common Snipe	R	L	F	L	F	L	C	C	R	P
Red-necked Phalarope	A	C	F	L	U	L	R	L	F	L
Red Phalarope	A	L							C	L
Seabirds										
Pomarine Jaeger	C	P							F	L
Parasitic Jaeger	U	P			U	P	U	L	U	P
Long-tailed Jaeger	R	P	U	C	F	P	C	C	F	C
Bonaparte's Gull										
Mew Gull			R	P			U	P		
Herring Gull	U	P							A	O
Glaucous-winged Gull							R	O		
Glaucous Gull	A	C	C	C	F	C	U	L	A	O
Sabine's Gull	F	P							R	P
Black-legged Kittiwake	A	O	F	P	F	P				
Arctic Tern	A	C	F	C			U	L		
Aleutian Tern	F	P	U	P						
Common Murre			U	O						
Black Guillemot										
Pigeon Guillemot			R	P	R	P				
Least Auklet									F	C
Crested Auklet									F	C
Horned Puffin					U	C				
Owls										
Snowy Owl										
Northern Hawk Owl										
Short-eared Owl			R	P	U	L			U	P
Kingfishers										
Belted Kingfisher										
Woodpeckers										
Downy Woodpecker										
Northern Flicker										

Songbirds

Olive-sided Flycatcher
Alder Flycatcher

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Northwest Alaska

Taxonomic group	Shishmaref		Brevig Mission		Teller		Stewart River		Savoonga	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Say's Phoebe			U	P	R	P				
Northern Shrike							R	C		
Gray Jay										
Common Raven	C	P	C	P	F	P	F	L	C	O
Horned Lark			F	L	R	P	U	C		
Tree Swallow					U	C				
Cliff Swallow					U	P				
Bank Swallow										
Boreal Chickadee										
Ruby-crowned Kinglet										
Arctic Warbler			U	P			C	L		
Bluethroat					U	L	F	C		
Northern Wheatear			R	P	R	P	F	C		
Gray-cheeked Thrush			R	P	C	L	A	C	R	O
Swainson's Thrush										
American Robin			U	P	C	C	F	C		
Varied Thrush										
Yellow Wagtail	F	C	C	C	A	L	C	C	U	L
White Wagtail			U	L					R	L
American Pipit			U	L			C	C		
Bohemian Waxwing										
Orange-crowned Warbler							F	C		
Yellow Warbler					F	L	C	L		
Yellow-rumped Warbler										
Blackpoll Warbler										
Northern Waterthrush					R	P	F	L		
Wilson's Warbler			R	P	F	L	C	L		
American Tree Sparrow			F	L	C	L	C	C		
Savannah Sparrow	F	C	C	C	C	C	A	C		
Fox Sparrow			R	C	C	L	C	C		
White-crowned Sparrow			C	P	C	L	U	L		
Golden-crowned Sparrow			U	L	F	L	A	C		
Dark-eyed Junco										
Lapland Longspur	A	C	C	C	A	C	A	C	A	C
Snow Bunting			U	P	R	P	F	L	A	C
Red-winged Blackbird										

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Abundance and breeding status at LTAs in Northwest Alaska

Taxonomic group	Shishmaref		Brevig Mission		Teller		Stewart River		Savoonga	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Rusty Blackbird										
Pine Grosbeak										
Redpoll spp.	U	P	A	C	A	L	A	C	F	C

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Table A-3. Abundance (AB) and breeding status (ST) of birds on Local Training Areas of the Alaska Army National Guard in eastern Norton Sound, Alaska, 1995-1998.

Taxonomic group	White Mountain		Elim		Shaktoolik		Unalakleet		St. Michael	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Loons/Grebes										
Red-throated Loon			U	L	F	C	F	C	F	C
Pacific Loon	U	L	U	L	F	C	U	C	F	L
Common Loon							U	L	U	L
Horned Grebe					R	L				
Red-necked Grebe	U	L	R	P	U	C			R	P
Cormorants										
Pelagic Cormorant					U	P				
Waterfowl										
Canada Goose	U	C								
Brant			R	O						
Trumpeter Swan										
Tundra Swan	U	L	U	C	U	L			U	C
American Wigeon	U	L	F	P	U	C	F	C	F	P
Mallard					R	P	U	C	U	L
Northern Shoveler	U	P	U	P			F	C	R	L
Northern Pintail	U	C	F	C	F	C	F	C	F	L
Green-winged Teal	F	C	F	C	C	C	U	C	F	C
Canvasback										
Ring-necked Duck									U	P
Greater Scaup	F	L	F	C	U	C	U	P	F	L
Lesser Scaup					R	C				
Spectacled Eider					U	P				
Common Eider			U	C	U	C			C	L
Harlequin Duck					R	P				
Surf Scoter										
Black Scoter					U	P			U	L
Oldsquaw			U	P	U	P	U	P		
Bufflehead										
Common Goldeneye										
Common Merganser							U	P		
Red-breasted Merganser	F	L	F	L	U	L	F	L	F	L
Raptors										
Osprey	R	C			R	P	U	C		
Bald Eagle					R	P	R	P		

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in eastern Norton Sound, Alaska

Taxonomic group	White Mountain		Elim		Shaktoolik		Unalakleet		St. Michael	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Species										
Northern Harrier	R	P			U	C	U	P	R	P
Red-tailed Hawk										
Rough-legged Hawk	U	C			U	L				
Merlin	U	L			U	L			R	L
Gyrfalcon					R	L				
Peregrine Falcon					R	L	R	P		
Grouse/Cranes										
Ruffed Grouse										
Spruce Grouse	R	C								
Willow Ptarmigan					U	C			R	C
Sandhill Crane	U	P	F	C	F	C	R	P	F	P
Shorebirds										
Black-bellied Plover									U	L
Pacific Golden-Plover	R	L			U	C			U	C
Semipalmated Plover	R	L	U	C	R	L	R	P		
Lesser Yellowlegs	F	C	U	L	U	L				
Solitary Sandpiper	F	C	U	L	U	C				
Spotted Sandpiper	R	P			R	P	U	C		
Whimbrel	R	L	R	L	U	P	U	P		
Hudsonian Godwit							U	P		
Bar-tailed Godwit							U	P		
Black Turnstone			R	P			U	P		
Semipalmated Sandpiper			F	C	R	L	F	P	C	C
Western Sandpiper			U	O	R	C	F	P	C	C
Least Sandpiper	U	C	U	C	F	C	U	P	U	C
Baird's Sandpiper							U	P		
Dunlin					R	C	U	P	R	P
Long-billed Dowitcher							U	P		
Common Snipe	C	C	U	C	U	C	R	P	F	C
Red-necked Phalarope	U	P	C	C	F	L	F	P	C	C
Seabirds										
Parasitic Jaeger	R	P	U	L	U	C	U	P	F	C
Long-tailed Jaeger	U	L	U	L	F	C	U	P	F	C
Bonaparte's Gull	U	P	R	P			U	P		
Mew Gull	F	P	F	L	F	C	C	P		
Herring Gull			U	P	R	P	R	P		

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in eastern Norton Sound, Alaska

Taxonomic group	White Mountain		Elim		Shaktoolik		Unalakleet		St. Michael	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Species										
Slaty-backed Gull					R	O	R	O		
Glaucous-winged Gull										
Glaucous Gull	F	P	C	L	A	C	C	P	C	P
Black-legged Kittiwake	R	O	U	P	U	P	U	O	U	P
Arctic Tern	F	P	U	P	R	P	U	P	F	P
Common Murre					U	P				
Horned Puffin					U	P				
Tufted Puffin					R	P				
Owls										
Great Horned Owl	R	P								
Northern Hawk Owl	R	C								
Short-eared Owl	R	P	U	L	U	L	R	P		
Kingfishers										
Belted Kingfisher					R	P				
Woodpeckers										
Downy Woodpecker			R	P						
Three-toed Woodpecker										
Northern Flicker					R	P				
Songbirds										
Olive-sided Flycatcher										
Alder Flycatcher			R	P			U	P	R	L
Hammond's Flycatcher										
Say's Phoebe							R	C		
Northern Shrike	R	P			U	C	U	C		
Gray Jay	F	L	U	P	U	P	U	P		
Common Raven	C	P	C	P	C	P	C	P	F	P
Horned Lark			R	P						
Tree Swallow	U	P	U	C	U	P	F	C	C	C
Violet-green Swallow	R	P								
Cliff Swallow	R	P	U	C	U	C	U	P	R	P
Bank Swallow	F	P	U	P	U	C	F	C	C	C
Black-capped Chickadee					R	P	U	P		
Boreal Chickadee	F	C	U	P						
Brown Creeper										
Golden-crowned Kinglet										
Ruby-crowned Kinglet	F	L	R	C						
Arctic Warbler	F	C	F	L	R	C	R	P		

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in eastern Norton Sound, Alaska

Taxonomic group Species	White Mountain		Elim		Shaktoolik		Unalakleet		St. Michael	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Townsend's Solitaire										
Gray-cheeked Thrush	C	C	F	C	F	L	F	L	C	L
Swainson's Thrush										
Hermit Thrush			R	L	U	P	U	L		
American Robin	C	C	F	C	F	C	F	C	F	C
Varied Thrush	F	C	U	L	R	L	U	P		
Yellow Wagtail			F	C	F	C			A	C
American Pipit			U	C	R	C				
Bohemian Waxwing	R	O			R	C	U	P		
Orange-crowned Warbler	U	P	U	P			U	P		
Yellow Warbler	F	L	U	C	F	C	F	P	A	C
Yellow-rumped Warbler	C	C	F	C			U	P	R	P
Blackpoll Warbler	C	C	F	C	U	P	U	C		
Northern Waterthrush	F	C	U	P	R	C	U	P		
Wilson's Warbler	F	L	R	P	U	C	F	C	C	C
American Tree Sparrow	C	C	R	P	F	C	U	P	F	C
Savannah Sparrow	U	L	C	C	A	C	F	C	C	C
Fox Sparrow	C	L	F	C	U	L	F	C	U	L
Lincoln's Sparrow	U	C	R	P	R	P				
White-crowned Sparrow	A	C	C	C	C	C	F	C	C	C
Golden-crowned Sparrow										
Dark-eyed Junco	F	P	U	L			F	C		
Lapland Longspur	U	L	F	L	C	C	U	P	A	C
Rusty Blackbird	F	C	U	P	U	C				
Pine Grosbeak										
White-winged Crossbill			U	P						
Redpoll spp.	A	P	C	P	C	P	C	C	A	C

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in eastern Norton Sound, Alaska

Table A-3 (cont.).

Taxonomic group	Stebbins		Koyukuk		Nulato		Kaltag	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Loons/Grebes								
Red-throated Loon	F	C			R	P		
Pacific Loon	C	C						
Common Loon	U	L						
Horned Grebe								
Red-necked Grebe	U	L	F	C			R	P
Cormorants								
Pelagic Cormorant								
Waterfowl								
Canada Goose							U	C
Brant								
Trumpeter Swan			U	C				
Tundra Swan	R	C						
American Wigeon	R	P	C	C	U	C		
Mallard	R	P	U	C	U	C		
Northern Shoveler	F	C	U	C				
Northern Pintail	C	C	F	C	R	P		
Green-winged Teal	C	C	U	L				
Canvasback	U	C						
Ring-necked Duck			F	L				
Greater Scaup	F	C						
Lesser Scaup	R	P						
Spectacled Eider								
Common Eider								
Harlequin Duck								
Surf Scoter	U	P						
Black Scoter								
Oldsquaw	R	P						
Bufflehead			F	C				
Common Goldeneye			U	P	R	P		
Common Merganser					R	L	U	L
Red-breasted Merganser	F	P						
Raptors								
Osprey								
Bald Eagle					R	P	U	P
Northern Harrier							R	P

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in eastern Norton Sound, Alaska

Taxonomic group	Stebbins		Koyukuk		Nulato		Kaltag	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Species								
Red-tailed Hawk			U	P				
Rough-legged Hawk								
Merlin								
Gyrfalcon								
Peregrine Falcon	R	C	R	C				
Grouse/Cranes								
Ruffed Grouse					U	C		
Spruce Grouse					U	C	F	C
Willow Ptarmigan	U	C						
Sandhill Crane	C	P			U	O		
Shorebirds								
Black-bellied Plover								
Pacific Golden-Plover								
Semipalmated Plover							U	C
Lesser Yellowlegs			U	L	R	L		
Solitary Sandpiper			F	L	U	L	U	L
Spotted Sandpiper			C	C	U	L	U	L
Whimbrel								
Hudsonian Godwit								
Bar-tailed Godwit								
Black Turnstone	R	P						
Semipalmated Sandpiper	F	C						
Western Sandpiper	U	C						
Least Sandpiper	R	P	R	L			F	C
Baird's Sandpiper								
Dunlin	F	C						
Long-billed Dowitcher								
Common Snipe	F	C	U	L	F	L		
Red-necked Phalarope	C	C			R	P		
Seabirds								
Parasitic Jaeger	F	C						
Long-tailed Jaeger	F	P						
Bonaparte's Gull								
Mew Gull	U	P	F	P	F	P	F	P
Herring Gull			R	O				
Slaty-backed Gull								
Glaucous-winged Gull					U	P		

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in eastern Norton Sound, Alaska

Taxonomic group	Stebbins		Koyukuk		Nulato		Kaltag	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Species								
Glaucous Gull	C	C	F	P	U	P	U	P
Black-legged Kittiwake	U	O						
Arctic Tern								
Common Murre								
Horned Puffin								
Tufted Puffin								
Owls								
Great Horned Owl			R	P			R	L
Northern Hawk Owl					R	P		
Short-eared Owl	R	P						
Kingfishers								
Belted Kingfisher							U	P
Woodpeckers								
Downy Woodpecker			R	P				
Three-toed Woodpecker					R	L	U	P
Northern Flicker								
Songbirds								
Olive-sided Flycatcher			U	L	R	P	R	P
Alder Flycatcher	U	P	A	L	C	L	C	L
Hammond's Flycatcher			U	P	R	P	U	C
Say's Phoebe								
Northern Shrike	R	C						
Gray Jay			C	C	C	L	F	C
Common Raven	C	P	F	P	F	P	C	P
Horned Lark								
Tree Swallow	F	C	F	C	F	C	C	C
Violet-green Swallow			U	P	U	C	C	C
Cliff Swallow	U	C	U	C	F	C	C	C
Bank Swallow	C	P	A	C	F	C	C	C
Black-capped Chickadee			F	C			U	P
Boreal Chickadee			C	C	A	L	C	L
Brown Creeper			U	P				
Golden-crowned Kinglet							R	C
Ruby-crowned Kinglet			F	L	F	C	C	C
Arctic Warbler					R	P		
Townsend's Solitaire			R	P	R	P		
Gray-cheeked Thrush	F	C	F	P	U	L	F	C

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in eastern Norton Sound, Alaska

Taxonomic group	Stebbins		Koyukuk		Nulato		Kaltag	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Swainson's Thrush			C	C	A	C	C	L
Hermit Thrush	U	C						
American Robin	U	L	C	C	F	C	C	C
Varied Thrush			F	L	F	L	U	L
Yellow Wagtail	A	C						
American Pipit								
Bohemian Waxwing			U	P	R	P	R	P
Orange-crowned Warbler			F	L	F	L	F	C
Yellow Warbler	C	C	A	C	F	L	C	C
Yellow-rumped Warbler			A	C	C	C	C	C
Blackpoll Warbler			F	P	U	L	R	P
Northern Waterthrush			A	C	F	L	C	C
Wilson's Warbler	F	C			U	C	U	L
American Tree Sparrow							R	P
Savannah Sparrow	A	C	F	L	R	P	F	C
Fox Sparrow	U	P	F	L	F	C	U	P
Lincoln's Sparrow			U	P	F	C	U	P
White-crowned Sparrow	F	C	F	C	F	C	C	C
Golden-crowned Sparrow	U	L						
Dark-eyed Junco			C	C	A	C	C	L
Lapland Longspur	C	C						
Rusty Blackbird			F	C	U	L	U	P
Pine Grosbeak					U	P	U	C
White-winged Crossbill			U	P	U	P		
Redpoll spp.	A	C	C	P	A	L	C	L

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Table A-4. Abundance (AB) and breeding status (ST) of birds on Local Training Areas of the Alaska Army National Guard in the Yukon-Kuskokwim Delta, Alaska, 1995-1998.

Taxonomic group	Kotlik		Emmonak		Alakanuk		Mountain Village		Marshall	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Loons/Grebes										
Red-throated Loon	U	C								
Pacific Loon	C	C	F	L	F	C	U	L	U	L
Common Loon	U	L	F	C			U	L		
Yellow-billed Loon										
Horned Grebe										
Red-necked Grebe	R	P	U	C	U	P				
Cormorants										
Double-crested Cormorant										
Pelagic Cormorant										
Waterfowl										
Greater White-fronted Goose	U	C								
Emperor Goose										
Canada Goose	R	P			R	P	R	L		
Brant										
Tundra Swan	F	L	F	C	F	L	F	C	F	O
Eurasian Wigeon										
American Wigeon	U	L	U	L	F	P	F	C	F	L
Mallard	U	L	R	P	R	P	U	L		
Blue-winged Teal										
Northern Shoveler	U	C			F	C	U	P		
Northern Pintail	F	C	U	P	F	P	F	C		
Green-winged Teal	F	C	F	L	C	C	F	C	U	P
Canvasback										
Ring-necked Duck							R	L		
Greater Scaup	F	C	F	P	F	C	U	L		
Lesser Scaup										
Steller's Eider										
Spectacled Eider										
King Eider										
Common Eider										
Harlequin Duck										
Surf Scoter										
White-winged Scoter										
Black Scoter	R	P								
Oldsquaw										

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group	Kotlik		Emmonak		Alakanuk		Mountain Village		Marshall	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Common Goldeneye							U	L	U	L
Common Merganser							R	P		
Red-breasted Merganser										
Raptors										
Osprey										
Bald Eagle							R	P		
Northern Harrier	R	P	F	P	F	P	R	P		
Northern Goshawk			R	P						
Red-tailed Hawk										
Rough-legged Hawk										
Golden Eagle										
Peregrine Falcon										
Grouse/Cranes										
Spruce Grouse										
Willow Ptarmigan	U	P					R	C	R	P
Sandhill Crane	C	C	C	C	C	C	F	C	U	P
Shorebirds										
Black-bellied Plover	U	P	R	P	R	P				
American Golden-Plover							U	P		
Pacific Golden-Plover							U	C		
Mongolian Plover										
Semipalmated Plover			R	P						
Killdeer										
Common Greenshank										
Greater Yellowlegs										
Lesser Yellowlegs	R	P	R	P	R	P	R	P	R	P
Solitary Sandpiper	R	P	U	L	F	C	R	L	R	P
Wandering Tattler										
Spotted Sandpiper					R	C				
Whimbrel					F	L	U	L		
Hudsonian Godwit										
Bar-tailed Godwit	U	P	U	L	F	C				
Ruddy Turnstone										
Black Turnstone										
Surfbird										
Red Knot										

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group	Kotlik		Emmonak		Alakanuk		Mountain Village		Marshall	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Species										
Semipalmated Sandpiper					F	C				
Western Sandpiper	F	L	F	C	R	C	U	L	U	L
Least Sandpiper			R	P			C	C	F	L
Baird's Sandpiper									R	P
Pectoral Sandpiper			R	L						
Rock Sandpiper										
Dunlin	F	C			F	C				
Short-billed Dowitcher										
Long-billed Dowitcher	U	L	U	L	R	P	U	L		
Common Snipe	A	C	A	C	C	C	C	C	F	C
Red-necked Phalarope	C	C	A	C	A	C	U	C		
Red Phalarope										
Seabirds										
Parasitic Jaeger	F	C			U	P	R	P		
Long-tailed Jaeger	F	L	C	L	F	C	F	L		
Bonaparte's Gull									R	P
Mew Gull	C	L	C	L	U	P	F	L	C	P
Herring Gull										
Glaucous-winged Gull	F	L	U	P	R	P	F	L	U	P
Glaucous Gull	F	L	U	P	R	P	R	P		
Sabine's Gull					R	P				
Black-legged Kittiwake										
Arctic Tern	F	C	F	C	F	P	F	L	R	P
Aleutian Tern					R	P				
Common Murre										
Pigeon Guillemot										
Horned Puffin										
Owls										
Great Horned Owl										
Short-eared Owl										
Kingfishers										
Belted Kingfisher										
Woodpeckers										
Downy Woodpecker									R	P
Songbirds										

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group	Kotlik		Emmonak		Alakanuk		Mountain Village		Marshall	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Olive-sided Flycatcher										
Alder Flycatcher	R	P	U	P	U	P	F	L	C	L
Northern Shrike	R	P					R	P		
Gray Jay										
Common Raven	F	P	F	L	R	P	F	P	F	L
Tree Swallow	C	C	C	C	F	C	C	P	C	C
Violet-green Swallow										
Cliff Swallow	U	C					R	P	F	C
Bank Swallow	U	P	U	P	C	C	U	C	F	P
Black-capped Chickadee			U	P	F	L				
Boreal Chickadee										
Ruby-crowned Kinglet									U	P
Arctic Warbler									U	P
Northern Wheatear										
Gray-cheeked Thrush	F	L	C	C	C	C	C	L	A	L
American Robin	R	P	U	C	F	P	F	L	C	C
Varied Thrush	R	P	U	P	U	P	U	L	F	P
Yellow Wagtail	F	C					F	L		
American Pipit									U	C
Bohemian Waxwing									U	P
Orange-crowned Warbler	R	P	R	P	R	P	C	L	C	L
Yellow Warbler	C	L	A	C	C	C	A	C	C	L
Yellow-rumped Warbler									U	P
Blackpoll Warbler	R	P	F	L	F	L	F	C	C	L
Northern Waterthrush	F	P	C	C	C	C	C	C	C	C
Wilson's Warbler							F	C	C	L
American Tree Sparrow	C	C	A	L	C	L	C	C	A	L
Savannah Sparrow	A	C	A	C	A	C	A	C	A	C
Fox Sparrow	U	P	F	P	F	P	F	P	F	C
Lincoln's Sparrow							U	L	F	P
White-crowned Sparrow	U	P	R	P	F	L	F	C	C	L
Golden-crowned Sparrow							R	P	U	C
Dark-eyed Junco									U	P
Lapland Longspur	F	C	F	L	F	C	C	C	C	C
Snow Bunting										
Rusty Blackbird	U	L	F	C	F	L	F	C	U	L

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group	Kotlik		Emmonak		Alakanuk		Mountain Village		Marshall	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Pine Grosbeak										
White-winged Crossbill										
Redpoll spp.	A	C	A	C	A	C	A	C	A	C
Pine Siskin										

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Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Table A-4 (cont.).

Taxonomic group	Chevak		Mekoryuk		Nightmute		Tuntutuliak		Atmautlauk	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Loons/Grebes										
Red-throated Loon	F	C	C	C						
Pacific Loon	C	C	C	C	C	C	F	L	R	P
Common Loon					R	P				
Yellow-billed Loon			U	O						
Horned Grebe	F	L	R	O						
Red-necked Grebe	F	C	R	O	F	C	F	C		
Cormorants										
Double-crested Cormorant			R	O						
Pelagic Cormorant			F	C						
Waterfowl										
Greater White-fronted Goose	F	C	F	L			U	P		
Emperor Goose	F	C	U	P						
Canada Goose	F	L	U	L			F	L		
Brant	F	C	F	O						
Tundra Swan	C	C	U	L	F	C	F	P	U	L
Eurasian Wigeon	R	O								
American Wigeon	A	C			F	C	F	L	C	L
Mallard	U	P	U	P	R	C	C	L	C	L
Blue-winged Teal	R	O								
Northern Shoveler	C	C	U	P			F	L	C	P
Northern Pintail	A	C	C	L	F	C	C	L	C	P
Green-winged Teal	C	C	F	L	C	C	C	L	C	C
Canvasback	U	C			U	P				
Ring-necked Duck										
Greater Scaup	C	C	F	L	C	C	C	L	C	L
Lesser Scaup							R	L		
Steller's Eider			F	O						
Spectacled Eider	U	P								
King Eider	U	L	F	O						
Common Eider			F	L						
Harlequin Duck	R	O	F	L						
Surf Scoter			R	O					U	L
White-winged Scoter			U	O						
Black Scoter	U	L	U	L	F	C				
Oldsquaw	C	C	C	L	C	C				

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group	Chevak		Mekoryuk		Nightmute		Tuntutuliak		Atmautlauk	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Common Goldeneye										
Common Merganser										
Raptors										
Red-breasted Merganser	R	P	C	L	U	P				
Osprey										
Bald Eagle										
Northern Harrier			R	P			R	P		
Northern Goshawk										
Red-tailed Hawk										
Rough-legged Hawk										
Golden Eagle					U	C				
Peregrine Falcon					R	P				
Grouse/Cranes										
Spruce Grouse										
Willow Ptarmigan	F	C	U	L	F	C			U	P
Sandhill Crane	C	C	F	L	C	C	C	L	F	L
Shorebirds										
Black-bellied Plover	C	C	U	L	C	C	C	L	C	L
American Golden-Plover										
Pacific Golden-Plover	U	O	F	L	F	L			U	P
Mongolian Plover			R	O						
Semipalmated Plover			F	C						
Killdeer							R	O		
Common Greenshank			R	O						
Greater Yellowlegs							U	P		
Lesser Yellowlegs			R	P						
Solitary Sandpiper										
Wandering Tattler			R	P						
Spotted Sandpiper										
Whimbrel	F	P	U	P					C	P
Hudsonian Godwit									U	L
Bar-tailed Godwit	C	C			F	L	R	L	F	C
Ruddy Turnstone	F	L							F	C
Black Turnstone	C	C			U	O				
Surfbird			R	O						
Red Knot	F	O								

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group	Chevak		Mekoryuk		Nightmute		Tuntutuliak		Atmautlauk		
	Species	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Sandpipers											
Semipalmated Sandpiper	U	O									
Western Sandpiper	A	C	A	C	C	C	A	C	C	C	
Least Sandpiper							F	C	U	C	
Baird's Sandpiper											
Pectoral Sandpiper	F	C			U	L			U	L	
Rock Sandpiper			F	C	R	C					
Dunlin	A	C	C	C	U	O					
Short-billed Dowitcher	C	L									
Long-billed Dowitcher	C	C	F	L			C	L			
Common Snipe	F	L	F	L	C	C	A	C	A	C	
Red-necked Phalarope	A	C	C	L	C	C	C	C	A	C	
Red Phalarope	U	P	U	P							
Seabirds											
Parasitic Jaeger	C	C	F	C	C	L	F	L	U	P	
Long-tailed Jaeger	C	L	F	C	F	P	C	L	F	L	
Bonaparte's Gull											
Mew Gull	C	C			C	L	A	P	C	L	
Herring Gull	R	O	U	O							
Glaucous-winged Gull	U	O	F	O	F	O					
Glaucous Gull	C	C	A	C	C	P	F	P			
Sabine's Gull	C	C			U	O					
Black-legged Kittiwake			C	O							
Arctic Tern	A	C	C	L	C	C	C	L	A	L	
Aleutian Tern	R	O	F	L							
Common Murre			U	O							
Pigeon Guillemot			U	L							
Horned Puffin			U	L							
Owls											
Great Horned Owl											
Short-eared Owl	U	P									
Kingfishers											
Belted Kingfisher											
Woodpeckers											
Downy Woodpecker											
Songbirds											

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group Species	Chevak		Mekoryuk		Nightmute		Tuntutuliak		Atmautlauk	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Olive-sided Flycatcher										
Alder Flycatcher							C	L	U	P
Northern Shrike							R	L		
Gray Jay										
Common Raven	U	P	F	L	R	P	C	L	U	P
Tree Swallow	F	C	R	O	F	C	C	C	A	C
Violet-green Swallow										
Cliff Swallow	U	P			U	P	F	C	A	C
Bank Swallow	F	C	F	P	U	P	F	L	U	L
Black-capped Chickadee										
Boreal Chickadee										
Ruby-crowned Kinglet										
Arctic Warbler										
Northern Wheatear					U	L				
Gray-cheeked Thrush	R	L			C	C	C	L	C	P
American Robin							F	C	U	P
Varied Thrush					R	P	F	L		
Yellow Wagtail	C	C	F	L	A	C	F	L	A	C
American Pipit					F	C				
Bohemian Waxwing										
Orange-crowned Warbler					U	L	R	P		
Yellow Warbler	F	C	R	P	C	C	A	C	A	C
Yellow-rumped Warbler										
Blackpoll Warbler							U	L		
Northern Waterthrush					F	C	F	L	F	C
Wilson's Warbler	R	L	R	P	F	C	F	L		
American Tree Sparrow	C	C			C	C	A	C	A	C
Savannah Sparrow	A	C	A	C	A	C	A	C	A	C
Fox Sparrow					F	L	C	C	F	C
Lincoln's Sparrow									U	L
White-crowned Sparrow					R	P	F	L		
Golden-crowned Sparrow			U	L	F	C	U	L		
Dark-eyed Junco										
Lapland Longspur	A	C	A	C	A	C	A	C	A	C
Snow Bunting			C	C	F	C				
Rusty Blackbird							F	C	C	C

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group Species	Chevak		Mekoryuk		Nightmute		Tuntutuliak		Atmautlauk	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Pine Grosbeak										
White-winged Crossbill										
Redpoll spp.	C	C	A	C	A	C	A	C	A	C
Pine Siskin			R	O						

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Table A-4. (cont.).

Taxonomic group	Nunapitchuk		Napakiak		Bethel		Kwethluk	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Loon/Grebes								
Red-throated Loon								
Pacific Loon	F	L	F	L	F	C	U	L
Common Loon			U	L	U	C	U	P
Yellow-billed Loon								
Horned Grebe					U	L	U	L
Red-necked Grebe	F	P	U	P	U	C	F	C
Cormorants								
Double-crested Cormorant								
Pelagic Cormorant								
Waterfowl								
Greater White-fronted Goose								
Emperor Goose								
Canada Goose			U	C	U	L		
Brant								
Tundra Swan	U	P	F	L	F	C	U	L
Eurasian Wigeon					R	O		
American Wigeon	F	P	F	L	F	C	C	C
Mallard			U	L	U	C	U	P
Blue-winged Teal								
Northern Shoveler	F	L	U	L	U	L	A	C
Northern Pintail	C	C	F	P	F	L	A	C
Green-winged Teal	C	C	F	C	F	L	A	C
Canvasback	U	P			R	L	U	C
Ring-necked Duck								
Greater Scaup	C	L	C	L	F	L	F	C
Lesser Scaup								
Steller's Eider								
Spectacled Eider								
King Eider								
Common Eider								
Harlequin Duck								
Surf Scoter								
White-winged Scoter	U	P			R	P	U	P
Black Scoter	F	P	F	L	F	L	R	L
Oldsquaw					R	C	R	P

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group	Nunapitchuk		Napakiak		Bethel		Kwethluk	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Common Goldeneye					R	P	U	C
Common Merganser								
Red-breasted Merganser								
Raptors								
Osprey							U	L
Bald Eagle			R	P	R	O	R	P
Northern Harrier			U	P				
Northern Goshawk							U	P
Red-tailed Hawk								
Rough-legged Hawk								
Golden Eagle								
Peregrine Falcon								
Grouse/Cranes								
Spruce Grouse								
Willow Ptarmigan	R	P	U	C	R	C		
Sandhill Crane	C	L	U	L	U	C	F	L
Shorebirds								
Black-bellied Plover	F	C	F	L	U	L	U	O
American Golden-Plover								
Pacific Golden-Plover			C	C	F	C	U	L
Mongolian Plover								
Semipalmated Plover					R	C	U	P
Killdeer								
Common Greenshank								
Greater Yellowlegs					U	C		
Lesser Yellowlegs					U	L	F	P
Solitary Sandpiper			U	L	U	C	U	P
Wandering Tattler								
Spotted Sandpiper								
Whimbrel	C	L	F	C	U	C	R	P
Hudsonian Godwit					R	C		
Bar-tailed Godwit								
Ruddy Turnstone	F	C			R	P		
Black Turnstone								
Surfbird								
Red Knot								

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group	Nunapitchuk		Napakiak		Bethel		Kwethluk	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Sandpipers								
Semipalmated Sandpiper								
Western Sandpiper	F	C	A	L	C	C	F	P
Least Sandpiper			U	L	C	C	F	P
Baird's Sandpiper								
Pectoral Sandpiper								
Rock Sandpiper								
Dunlin								
Short-billed Dowitcher			F	C	F	C	F	C
Long-billed Dowitcher			R	P	R	P		
Common Snipe	C	L	C	C	C	C	A	C
Red-necked Phalarope	C	L	C	C	A	C	F	C
Red Phalarope					R	P		
Seabirds								
Parasitic Jaeger	F	P			R	P	U	L
Long-tailed Jaeger	A	L	A	C	C	C	C	L
Bonaparte's Gull								
Mew Gull	C	P	A	C	C	C	C	P
Herring Gull								
Glaucous-winged Gull							U	O
Glaucous Gull	R	P	U	P	F	C	F	P
Sabine's Gull					R	P		
Black-legged Kittiwake								
Arctic Tern	A	C	F	C	C	C	C	C
Aleutian Tern								
Common Murre								
Pigeon Guillemot								
Horned Puffin								
Owls								
Great Horned Owl								
Short-eared Owl			U	P	R	L		
Kingfishers								
Belted Kingfisher								
Woodpeckers								
Downy Woodpecker								
Songbirds								

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group	Nunapitchuk		Napakiak		Bethel		Kwethluk	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Olive-sided Flycatcher								
Alder Flycatcher			F	P	F	L	U	P
Northern Shrike							F	C
Gray Jay					R	C	R	C
Common Raven	R	P	R	P	C	P	F	P
Tree Swallow	U	P	F	P	C	C	F	C
Violet-green Swallow					R	O		
Cliff Swallow	U	P			U	P	U	P
Bank Swallow	U	P	U	P	F	C	F	C
Black-capped Chickadee					U	P	U	P
Boreal Chickadee								
Ruby-crowned Kinglet								
Arctic Warbler								
Northern Wheatear								
Gray-cheeked Thrush	F	L	F	L	C	L	C	C
American Robin			C	C	C	C	A	C
Varied Thrush			U	L	R	P	R	P
Yellow Wagtail	A	C	F	C	F	C		
American Pipit								
Bohemian Waxwing								
Orange-crowned Warbler			F	L	F	L	U	L
Yellow Warbler	A	C	C	L	C	C	A	C
Yellow-rumped Warbler			R	L	R	P	U	P
Blackpoll Warbler			F	L	C	C	C	C
Northern Waterthrush	F	C	F	C	F	C	C	C
Wilson's Warbler			U	L	F	L	U	C
American Tree Sparrow	A	C	A	C	A	C	A	C
Savannah Sparrow	A	C	A	C	A	C	C	C
Fox Sparrow	U	P	F	L	F	C	F	L
Lincoln's Sparrow					U	L		
White-crowned Sparrow			C	L	C	C	F	C
Golden-crowned Sparrow								
Dark-eyed Junco								
Lapland Longspur	C	C	A	L	A	C	F	C
Snow Bunting								
Rusty Blackbird	F	C	F	C	U	C	A	C

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic group	Nunapitchuk		Napakiak		Bethel		Kwethluk	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Pine Grosbeak								
White-winged Crossbill								
Redpoll spp.	A	C	A	C	A	C	A	C
Pine Siskin								

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Table A-4. (cont.).

Taxonomic Species	Akiachak		Akiak		Tuluksak		Quinhagak	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Loons/Grebes								
Red-throated Loon							R	C
Pacific Loon	U	C	U	L			F	L
Common Loon			R	P				
Yellow-billed Loon								
Horned Grebe								
Red-necked Grebe	R	C	F	C	U	P	R	P
Cormorants								
Double-crested Cormorant								
Pelagic Cormorant								
Waterfowl								
Greater White-fronted Goose							R	P
Emperor Goose								
Canada Goose	U	L						
Brant							R	P
Tundra Swan	F	L	C	C	U	L	R	P
Eurasian Wigeon							R	O
American Wigeon	R	P	C	C	U	P	U	P
Mallard			U	L	F	L	R	P
Blue-winged Teal								
Northern Shoveler	F	L	U	P	U	P	R	P
Northern Pintail	U	C	F	C	U	P	C	C
Green-winged Teal	F	C	F	C	F	C	F	L
Canvasback								
Ring-necked Duck					U	P		
Greater Scaup	U	L	F	C	U	P	U	L
Lesser Scaup								
Steller's Eider								
Spectacled Eider								
King Eider								
Common Eider								
Harlequin Duck							R	P
Surf Scoter			U	P				
White-winged Scoter								
Black Scoter	U	C	R	P			F	L
Oldsquaw	U	L	R	P			R	P

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic Species	Akiachak		Akiak		Tuluksak		Quinhagak	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Common Goldeneye	R	C	C	C	F	P		
Common Merganser								
Red-breasted Merganser							R	L
Raptors								
Osprey	R	P	R	P	U	C		
Bald Eagle					R	P	R	O
Northern Harrier	R	P			U	P		
Northern Goshawk			R	P				
Red-tailed Hawk	R	P			U	L		
Rough-legged Hawk	U	P	R	P				
Golden Eagle								
Peregrine Falcon								
Grouse/Cranes								
Spruce Grouse					R	C		
Willow Ptarmigan								
Sandhill Crane	U	L	U	P	U	L	U	L
Shorebirds								
Black-bellied Plover	U	C	U	L	R	P	U	P
American Golden-Plover								
Pacific Golden-Plover	F	C	F	C	U	P	U	L
Mongolian Plover								
Semipalmated Plover	U	P	U	P	F	L	R	C
Killdeer								
Common Greenshank								
Greater Yellowlegs			U	L	F	L	R	P
Lesser Yellowlegs	F	L	F	L	R	P		
Solitary Sandpiper	U	P	F	C	F	C		
Wandering Tattler								
Spotted Sandpiper	F	C	U	C	F	C	U	L
Whimbrel	U	C	U	C				
Hudsonian Godwit	U	L						
Bar-tailed Godwit								
Ruddy Turnstone								
Black Turnstone							U	P
Surfbird								
Red Knot								

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic Species	Akiachak		Akiak		Tuluksak		Quinhagak	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Semipalmated Sandpiper								
Western Sandpiper	F	C	U	C			F	C
Least Sandpiper	F	C	F	L	C	C	U	P
Baird's Sandpiper								
Pectoral Sandpiper								
Rock Sandpiper								
Dunlin							F	C
Short-billed Dowitcher	F	L	U	P	R	L	U	P
Long-billed Dowitcher			U	L			R	C
Common Snipe	C	C	C	C	C	L	C	C
Red-necked Phalarope	F	L	C	C	F	C	F	C
Red Phalarope								
Seabirds								
Parasitic Jaeger	R	P					F	P
Long-tailed Jaeger	U	L	F	P	U	L	F	P
Bonaparte's Gull	U	P	F	C				
Mew Gull	C	C	F	P	C	P	F	P
Herring Gull								
Slaty-backed Gull							R	O
Glaucous-winged Gull							C	P
Glaucous Gull	C	P	F	P	F	P	U	C
Sabine's Gull								
Black-legged Kittiwake								
Arctic Tern	F	C	C	L	F	L	C	C
Aleutian Tern							F	L
Common Murre								
Pigeon Guillemot								
Horned Puffin								
Owls								
Great Horned Owl	R	P						
Short-eared Owl					U	P		
Kingfishers								
Belted Kingfisher					F	C		
Woodpeckers								
Downy Woodpecker					U	C		
Songbirds								

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic Species	Akiachak		Akiak		Tuluksak		Quinhagak	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Olive-sided Flycatcher			R	P	R	P		
Alder Flycatcher	U	P	U	P	F	C	U	L
Northern Shrike	R	P			R	C		
Gray Jay			F	C	C	C		
Common Raven	U	P	F	P	F	C	C	P
Tree Swallow	C	C	F	C	A	C	C	P
Violet-green Swallow								
Cliff Swallow	U	C			C	C	U	P
Bank Swallow	A	C	F	C	C	C	U	P
Black-capped Chickadee	F	C	F	L	C	P		
Boreal Chickadee			U	P	U	P		
Ruby-crowned Kinglet					U	P		
Arctic Warbler							R	P
Northern Wheatear								
Gray-cheeked Thrush	C	C	C	C	F	C	F	L
American Robin	C	C	C	C	C	C		
Varied Thrush	U	C	F	P	U	P	U	L
Yellow Wagtail	R	P					F	C
American Pipit								
Bohemian Waxwing			R	P				
Orange-crowned Warbler	U	P	U	P	U	C	R	P
Yellow Warbler	A	L	C	C	C	C	F	L
Yellow-rumped Warbler	R	P	F	C	F	P		
Blackpoll Warbler	C	C	C	C	C	C	F	L
Northern Waterthrush	C	C	C	C	C	C	F	L
Wilson's Warbler			U	P	F	C	U	L
American Tree Sparrow	A	C	A	C	F	C	C	L
Savannah Sparrow	F	C	C	C	C	C	C	C
Fox Sparrow	U	P	F	L	C	C	F	L
Lincoln's Sparrow					F	C		
White-crowned Sparrow	U	C	U	C	C	C	F	L
Golden-crowned Sparrow							F	L
Dark-eyed Junco					R	P		
Lapland Longspur	F	C	F	C	F	C	F	L
Snow Bunting								
Rusty Blackbird	F	C	A	C	C	C		

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Yukon Delta region, Alaska

Taxonomic Species	Akiachak		Akiak		Tuluksak		Quinhagak	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST
Pine Grosbeak					U	C		
White-winged Crossbill					U	P		
Redpoll spp.	A	C	A	C	A	C	A	C
Pine Siskin								

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Table A-5. Abundance (AB) and breeding status (ST) of birds on Local Training Areas of the Alaska Army National Guard in the Bristol Bay area, Alaska, 1995-1998.

Taxonomic Species	Goodnews Bay		Togiak		Manokotak		Dillingham		New Stuyahok	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Loons/Grebes										
Red-throated Loon	F	L	F	C						
Pacific Loon	F	C	C	C						
Common Loon	U	O			U	P	U	L		
Red-necked Grebe	U	L	U	C						
Cormorants										
Double-crested Cormorant			U	P						
Pelagic Cormorant	F	C								
Waterfowl										
Greater White-fronted Goose	U	L								
Tundra Swan	U	L	U	C	U	L	R	C		
Gadwall	U	L								
American Wigeon	U	L	F	C						
Mallard	F	L	F	C			R	P	U	C
Northern Shoveler	F	L								
Northern Pintail	C	L	F	C			R	P		
Green-winged Teal	C	C	F	C	U	C	F	C	U	C
Greater Scaup	C	L	C	C			U	P		
King Eider	U	O								
Common Eider			R	C						
Harlequin Duck							R	P		
White-winged Scoter	U	P								
Black Scoter	U	P	U	P						
Oldsquaw			R	P						
Common Goldeneye									F	P
Common Merganser									R	P
Red-breasted Merganser	F	L							R	P
Raptors										
Osprey									U	C
Bald Eagle	F	C	U	P	R	L	F	P	U	P
Northern Harrier	U	P	U	P	U	L	R	P		
Northern Goshawk							R	P		
Rough-legged Hawk	U	C								
Golden Eagle	U	L								
Merlin	R	P			U	C	U	C	R	P

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Bristol Bay region, Alaska

Taxonomic Species	Goodnews Bay		Togiak		Manokotak		Dillingham		New Stuyahok	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Gyrfalcon					R	P				
Grouse/Cranes										
Spruce Grouse					R	C	U	P	U	C
Willow Ptarmigan			R	C	U	L				
Sandhill Crane	F	L	C	C	F	L	F	L	U	L
Shorebirds										
Black-bellied Plover	F	P	U	P			R	P	R	P
American Golden-Plover					F	L	U	C	U	L
Pacific Golden-Plover	F	L			U	C	U	L		
Semipalmated Plover	F	C							U	L
Greater Yellowlegs	U	L	F	C	F	C	C	C	F	L
Lesser Yellowlegs									R	P
Solitary Sandpiper							R	L		
Spotted Sandpiper									U	C
Whimbrel	U	P	A	P			U	P		
Hudsonian Godwit					U	C	U	C		
Surfbird	U	P								
Western Sandpiper	C	L	F	P					F	P
Least Sandpiper	C	C	C	C	F	C	C	C	F	L
Rock Sandpiper	F	L								
Dunlin	F	L	C	C			U	L		
Short-billed Dowitcher	U	L	F	P			U	C		
Common Snipe	F	C	C	L	C	C	C	C	U	C
Red-necked Phalarope	F	L	A	C			U	C	U	P
Seabirds										
Parasitic Jaeger	F	L	C	C	U	P	U	P		
Long-tailed Jaeger	U	L								
Bonaparte's Gull							U	C		
Mew Gull	C	C	C	C	U	L	C	C	F	P
Glaucous-winged Gull	C	C	C	C	F	P	C	P	F	P
Glaucous Gull	F	P	P	L						
Black-legged Kittiwake	U	P								
Arctic Tern	C	C	C	C	U	C	F	C	U	C
Aleutian Tern	U	L	F	L			F	C		
Common Murre	U	P								
Pigeon Guillemot	F	L								

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Bristol Bay region, Alaska

Taxonomic	Goodnews Bay		Togiak		Manokotak		Dillingham		New Stuyahok	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Species										
Horned Puffin	U	L								
Owls										
Short-eared Owl	U	P								
Kingfishers										
Belted Kingfisher									U	C
Woodpeckers										
Three-toed Woodpecker							U	L		
Songbirds										
Alder Flycatcher	R	P	R	P	C	L	C	L	U	L
Northern Shrike							U	C	R	P
Gray Jay					R	C	U	C	F	C
Black-billed Magpie	U	L			F	C			F	P
Common Raven	C	C	C	P	F	C	C	C	F	C
Horned Lark	U	C								
Tree Swallow	C	C	F	C	F	C	C	C	F	C
Cliff Swallow	F	C	U	P	U	C	U	C	R	P
Bank Swallow	F	L	R	P			F	C	F	C
Barn Swallow			F	C						
Black-capped Chickadee					U	C	U	P	C	C
Boreal Chickadee							U	L	F	P
Ruby-crowned Kinglet							F	L		
Arctic Warbler	R	L	R	P	C	L	A	C	C	C
Gray-cheeked Thrush	C	L	F	P	F	C	C	L	A	C
Swainson's Thrush							F	C	U	C
Hermit Thrush	F	L	F	P	C	C	F	C	C	L
American Robin	F	C	U	C	F	C	C	C	C	C
Varied Thrush					F	C	F	C	C	C
Yellow Wagtail	A	L	A	C			U	C		
American Pipit	F	C			F	C	U	C		
Orange-crowned Warbler	C	L	F	C	C	C	C	C	C	C
Yellow Warbler	F	L			R	P	F	L		
Yellow-rumped Warbler							F	C	F	C
Blackpoll Warbler					U	C	C	L	A	C
Northern Waterthrush	U	L			U	P	C	C	C	C
Wilson's Warbler	C	L	C	C	C	C	C	C	C	C
American Tree Sparrow	C	L	C	C	F	C	F	L	A	C

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in the Bristol Bay region, Alaska

Taxonomic Species	Goodnews Bay		Togiak		Manokotak		Dillingham		New Stuyahok	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Savannah Sparrow	A	C	A	C	A	C	A	C	C	C
Fox Sparrow	F	L	R	P	F	L	F	L	C	C
Song Sparrow					U	P				
Lincoln's Sparrow					C	C	F	C	F	C
White-crowned Sparrow	F	C	F	P	F	L	C	C	C	C
Golden-crowned Sparrow	C	C	C	C	C	C	C	L	R	P
Dark-eyed Junco							U	C	F	C
Lapland Longspur	C	C	A	C	R	P	F	C	F	C
Snow Bunting	U	C								
Rusty Blackbird							C	C	U	C
Pine Grosbeak							R	P	U	L
Redpoll spp.	A	C	A	C	A	L	A	L	A	C

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Table A-6. Abundance (AB) and breeding status (ST) of birds on Local Training Areas of the Alaska Army National Guard in Southcentral Alaska, 1995-1998.

Taxonomic group	Kodiak		Kenai		Valdez	
	AB ¹	ST ²	AB	ST	AB	ST
Loons/Grebes						
Pacific Loon			F	L		
Common Loon			F	L		
Red-necked Grebe			U	P	U	C
Cormorants						
Double-crested Cormorant			F	C		
Waterfowl						
American Wigeon			U	L		
Mallard	F	C	U	P	U	P
Northern Pintail					R	P
Green-winged Teal	U	P				
Ring-necked Duck			U	P		
Greater Scaup			U	L		
Common Eider	U	C				
Harlequin Duck	F	L				
Surf Scoter			U	O		
Common Goldeneye	R	P	U	P	U	P
Common Merganser	U	L	U	C		
Red-breasted Merganser	F	L	F	L		
Raptors						
Bald Eagle	F	C	F	P	U	P
Northern Harrier			R	P		
Sharp-shinned Hawk			U	P	U	P
Northern Goshawk	R	P	R	C		
Red-tailed Hawk			R	P	U	L
Golden Eagle					R	C
Grouse						
Spruce Grouse			U	C	R	C
White-tailed Ptarmigan					U	C
Shorebirds						
Mongolian Plover	R	O				
Semipalmated Plover	F	C				
Killdeer					R	P
Black Oystercatcher	U	L				
Greater Yellowlegs	U	C	F	L		
Lesser Yellowlegs	R	P	U	C		

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southcentral Alaska

Taxonomic group	Kodiak		Kenai		Valdez	
	AB ¹	ST ²	AB	ST	AB	ST
Species						
Wandering Tattler					U	L
Spotted Sandpiper	R	P	F	L	F	L
Western Sandpiper	U	P				
Least Sandpiper	U	C				
Common Snipe	C	C	F	L	U	L
Seabirds						
Parasitic Jaeger	R	P				
Bonaparte's Gull			F	L		
Mew Gull	U	P	U	P	F	C
Herring Gull			C	C		
Glaucous-winged Gull	C	C	U	P	U	P
Black-legged Kittiwake	F	C				
Arctic Tern	R	P	F	P	U	P
Aleutian Tern	U	C				
Common Murre	U	P				
Pigeon Guillemot	F	C				
Marbled Murrelet	U	P				
Owls						
Short-eared Owl					U	P
Hummingbirds						
Rufous Hummingbird					U	P
Kingfishers						
Belted Kingfisher	U	C				
Woodpeckers						
Downy Woodpecker	U	P	R	P	F	L
Hairy Woodpecker			U	L		
Three-toed Woodpecker	U	P	U	P		
Songbirds						
Olive-sided Flycatcher			F	L		
Western Wood-Pewee			F	L		
Alder Flycatcher			U	L		
Say's Phoebe					U	C
Gray Jay			F	C		
Steller's Jay					U	P
Black-billed Magpie	F	C	F	P	R	P
Northwestern Crow	U	L				

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southcentral Alaska

Taxonomic group	Kodiak		Kenai		Valdez	
	AB ¹	ST ²	AB	ST	AB	ST
Common Raven	U	C	F	C	F	C
Horned Lark					U	P
Tree Swallow	R	P	C	C	F	P
Violet-green Swallow			F	C	F	P
Bank Swallow	F	C	U	P		
Black-capped Chickadee	F	C	F	L	F	C
Chestnut-backed Chickadee					F	C
Boreal Chickadee			F	L		
Red-breasted Nuthatch	U	P			U	P
Brown Creeper	U	P	U	C	U	L
Winter Wren	C	C				
Golden-crowned Kinglet	F	C	U	C	F	L
Ruby-crowned Kinglet			C	C	F	C
Gray-cheeked Thrush	C	L			F	L
Swainson's Thrush			C	L	U	L
Hermit Thrush	A	C	F	L	A	C
American Robin			A	C	C	P
Varied Thrush	C	C	F	C	C	C
American Pipit					U	C
Bohemian Waxwing			U	P		
Orange-crowned Warbler	C	L	F	C	C	C
Yellow Warbler	A	C			C	C
Yellow-rumped Warbler			A	L	U	C
Townsend's Warbler			U	L	U	C
Blackpoll Warbler			U	P		
Northern Waterthrush			F	L	R	P
Wilson's Warbler	A	C	U	P	C	C
American Tree Sparrow			R	P		
Savannah Sparrow	A	C	F	L	U	C
Fox Sparrow	A	C	U	L	A	C
Song Sparrow	F	C			U	C
Lincoln's Sparrow			U	P	F	C
White-crowned Sparrow			C	L		
Golden-crowned Sparrow	A	C	U	P	U	L
Dark-eyed Junco			A	C	U	P
Rusty Blackbird			U	L		

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southcentral Alaska

Taxonomic group	Kodiak		Kenai		Valdez	
	AB ¹	ST ²	AB	ST	AB	ST
Pine Grosbeak	U	P	F	P		
Red Crossbill	U	P				
White-winged Crossbill					C	L
Redpoll spp.	F	C	U	P	C	C
Pine Siskin	C	P	F	P	C	P

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Table A-7. Abundance (AB) and breeding status (ST) of birds on Local Training Areas of the Alaska Army National Guard in Southeastern, Alaska, 1995-1998.

Taxonomic group	Haines		Endicott River		Benjamin Island		St. James Bay		Juneau	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Loons/Grebes										
Red-throated Loon							U	O	R	P
Pacific Loon	R	O	R	O						
Common Loon			R	O			U	O		
Cormorants/Herons										
Pelagic Cormorant										
Great Blue Heron	R	P			R	O	U	P	R	P
Waterfowl										
Canada Goose									R	P
Gadwall										
Mallard			R	P			F	P		
Ring-necked Duck										
Harlequin Duck			F	O	C	O				
Surf Scoter			U	O			R	O	R	O
White-winged Scoter			U	O	F	O	F	O	U	O
Black Scoter							U	O		
Oldsquaw			R	O						
Common Goldeneye										
Barrow's Goldeneye										
Common Merganser	U	C	R	P					R	P
Red-breasted Merganser							F	P		
Raptors										
Bald Eagle	F	L	F	L	F	P	C	L	F	P
Sharp-shinned Hawk	R	P					R	P		
Red-tailed Hawk	U	P								
American Kestrel	U	L								
Merlin										
Grouse/Cranes										
Blue Grouse	R	P	R	L			R	L	R	P
Sandhill Crane										
Shorebirds										
Semipalmated Plover			R	C						
Killdeer										
Black Oystercatcher					R	P				
Greater Yellowlegs							U	P		

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Taxonomic group	Haines		Endicott River		Benjamin Island		St. James Bay		Juneau	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Species										
Lesser Yellowlegs										
Spotted Sandpiper	F	C	U	C			R	P	U	P
Least Sandpiper							U	O		
Common Snipe	U	P							R	P
Seabirds										
Bonaparte's Gull	U	O			F	O	U	P	U	P
Mew Gull	F	P	U	O	R	O	C	P	U	P
Herring Gull	R	O	U	O	A	O				
Glaucous-winged Gull	U	O							F	C
Black-legged Kittiwake									U	O
Caspian Tern									U	O
Arctic Tern									U	C
Thick-billed Murre										
Pigeon Guillemot			R	P	U	P			R	P
Marbled Murrelet	U	L	U	O	A	O	U	L	R	P
Kittlitz's Murrelet	U	P								
Doves/Owls										
Rock Dove									U	P
Great Horned Owl										
Swifts/Hummingbirds										
Black Swift	U	P								
Vaux's Swift	U	C	U	P						
Rufous Hummingbird	U	P	U	P	U	P	F	P	F	P
Kingfishers										
Belted Kingfisher					R	P			R	P
Woodpeckers										
Red-breasted Sapsucker	U	P	R	P			U	C	U	P
Downy Woodpecker									R	L
Hairy Woodpecker	U	C					U	C		
Three-toed Woodpecker										
Northern Flicker	U	P								
Songbirds										
Olive-sided Flycatcher										
Alder Flycatcher									U	P
Hammond's Flycatcher	U	P								
Pacific-slope Flycatcher	C	C	U	L	F	P	F	L	F	L

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Taxonomic group	Haines		Endicott River		Benjamin Island		St. James Bay		Juneau	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Warbling Vireo	U	C	R	P						
Steller's Jay	F	P	R	P			F	C	F	L
Northwestern Crow	U	P	F	P	A	P	A	P	U	P
Common Raven	F	P	R	P	U	P	F	P	F	P
Tree Swallow			R	L					R	P
Violet-green Swallow	F	C							U	P
Northern Rough-winged Swallow										
Barn Swallow									U	L
Black-capped Chickadee	U	P								
Chestnut-backed Chickadee	C	C	U	C	A	C	A	C	C	C
Red-breasted Nuthatch	U	C					U	L	R	P
Brown Creeper	F	P			U	P	R	P	U	P
Winter Wren	C	C	U	C	A	L	F	C	C	L
American Dipper									U	C
Golden-crowned Kinglet	C	L	R	C	A	C	C	C	F	C
Ruby-crowned Kinglet	C	C	F	C	A	C	F	C	F	P
Swainson's Thrush	F	C	U	L			R	P	U	P
Hermit Thrush	A	C	F	C	A	C	A	C	C	C
American Robin	C	C	U	P			U	L	C	C
Varied Thrush	C	C	U	L			F	C	C	L
European Starling									R	P
Bohemian Waxwing	U	P								
Cedar Waxwing										
Tennessee Warbler	U	C								
Orange-crowned Warbler	C	C	F	L	A	C	C	C	C	C
Yellow Warbler	U	P	R	P					F	P
Yellow-rumped Warbler	F	C	R	C					U	P
Townsend's Warbler	C	C	U	C			F	C	C	C
American Redstart	U	P								
Northern Waterthrush	U	P	R	C						
MacGillivray's Warbler	U	C								
Common Yellowthroat	R	P							U	P
Wilson's Warbler	C	C	R	P					F	L
Chipping Sparrow	U	C								
Savannah Sparrow	U	C	R	P			U	L	U	C
Fox Sparrow	F	C							F	L

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Taxonomic group	Haines		Endicott River		Benjamin Island		St. James Bay		Juneau	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Song Sparrow	R	P	U	L	U	C	U	L	F	C
Lincoln's Sparrow	C	C	F	C	R	L	C	C	F	C
Dark-eyed Junco	U	C	U	L	F	C	F	C	F	C
Pine Grosbeak									U	P
Red Crossbill	A	P	F	P	U	P	A	P	C	P
White-winged Crossbill	F	L					R	P	R	L
Pine Siskin	A	C	U	P			F	P	C	L

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Table A-7 (cont.).

Taxonomic group	Hoonah		Angoon		Sitka		Kake		Petersburg	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Loons										
Red-throated Loon									R	O
Pacific Loon							U	O		
Common Loon			U	P			U	O	U	O
Cormorants/Herons										
Pelagic Cormorant			U	O			F	P		
Great Blue Heron	R	P	U	P						
Waterfowl										
Canada Goose							C	P	F	L
Gadwall									R	O
Mallard	F	P			R	C				
Ring-necked Duck					U	L			U	L
Harlequin Duck			C	P					U	O
Surf Scoter							C	O		
White-winged Scoter			F	O	U	O	C	O	U	O
Black Scoter									U	O
Oldsquaw										
Common Goldeneye									U	O
Barrow's Goldeneye										
Common Merganser	U	L			U	P				
Red-breasted Merganser										
Raptors										
Bald Eagle	C	P	F	P	C	P	C	P	C	P
Sharp-shinned Hawk	R	P								
Red-tailed Hawk	U	L								
American Kestrel										
Merlin	R	L								
Grouse/Cranes										
Blue Grouse									R	C
Sandhill Crane										
Shorebirds										
Semipalmated Plover										
Killdeer										
Black Oystercatcher										
Greater Yellowlegs	R	P					R	P	F	L

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Taxonomic group	Hoonah		Angoon		Sitka		Kake		Petersburg	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Species										
Lesser Yellowlegs										
Spotted Sandpiper	R	P								
Least Sandpiper										
Common Snipe	R	P								
Seabirds										
Bonaparte's Gull							F	P	U	P
Mew Gull	F	P	C	P	F	P	U	P	F	P
Herring Gull										
Glaucous-winged Gull			U	P	R	P	F	P		
Black-legged Kittiwake										
Caspian Tern										
Arctic Tern										
Thick-billed Murre					R	O				
Pigeon Guillemot	F	P					R	P	U	P
Marbled Murrelet	R	P	F	P	F	P	F	P	U	L
Kittlitz's Murrelet										
Doves/Owls										
Rock Dove					C	P			F	C
Great Horned Owl									R	C
Swifts/Hummingbirds										
Black Swift										
Vaux's Swift										
Rufous Hummingbird	F	P	U	P	F	P			U	L
Kingfishers										
Belted Kingfisher			U	P	U	L	U	P		
Woodpeckers										
Red-breasted Sapsucker	F	L	F	C	F	P	F	L	F	L
Downy Woodpecker					U	P			R	L
Hairy Woodpecker			U	P			U	P		
Three-toed Woodpecker	U	L	U	L					R	P
Northern Flicker										
Songbirds										
Olive-sided Flycatcher									U	P
Alder Flycatcher										
Hammond's Flycatcher										
Pacific-slope Flycatcher	C	L	C	L	C	L	C	L	C	L

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Taxonomic group	Hoonah		Angoon		Sitka		Kake		Petersburg	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Warbling Vireo										
Steller's Jay	F	L	F	L	U	P	F	L	F	L
Northwestern Crow	F	L	C	P	A	P	C	P	A	P
Common Raven	C	P	F	P	A	L	C	L	C	P
Tree Swallow	R	P			U	P				
Violet-green Swallow										
Northern Rough-winged Swallow	U	P								
Barn Swallow	U	P	U	L	U	L	U	P	F	C
Black-capped Chickadee										
Chestnut-backed Chickadee	A	L	A	L	C	C	A	L	A	L
Red-breasted Nuthatch										
Brown Creeper	U	P	U	L			U	C	R	P
Winter Wren	C	C	C	L	C	C	C	C	C	L
American Dipper	U	P					R	P		
Golden-crowned Kinglet	F	L	U	P	F	L	F	L	U	P
Ruby-crowned Kinglet	F	L	C	C	C	C	C	C	F	L
Swainson's Thrush	F	P	U	P	C	L	F	L	U	L
Hermit Thrush	A	C	C	L	C	L	C	C	C	L
American Robin	A	C	F	C	C	C	F	L	C	C
Varied Thrush	C	L	C	C	C	C	C	C	F	L
European Starling					F	C				
Bohemian Waxwing										
Cedar Waxwing									U	P
Tennessee Warbler										
Orange-crowned Warbler	C	L	C	C	A	L	C	L	A	L
Yellow Warbler					R	P			R	P
Yellow-rumped Warbler	U	C			R	P			F	L
Townsend's Warbler	C	L	U	P	F	L	F	L	C	L
American Redstart										
Northern Waterthrush									R	P
MacGillivray's Warbler										
Common Yellowthroat					R	P				
Wilson's Warbler	R	P			F	C	U	P	U	L
Chipping Sparrow										
Savannah Sparrow	R	P	U	P					F	P
Fox Sparrow	U	P	F	C	F	L	U	P	R	P

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² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Taxonomic group	Hoonah		Angoon		Sitka		Kake		Petersburg	
	AB ¹	ST ²	AB	ST	AB	ST	AB	ST	AB	ST
Song Sparrow							F	P	R	P
Lincoln's Sparrow	F	P	U	P	U	L	R	P	F	C
Dark-eyed Junco	C	C	C	C	C	C	F	C	C	C
Pine Grosbeak	U	P			R	P	R	P	U	P
Red Crossbill	C	L	C	P	F	P	C	P	F	P
White-winged Crossbill										
Pine Siskin	F	P	C	P	C	P	F	P	C	C

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Table A-7 (cont.).

Taxonomic group	Wrangell		Craig		Ketchikan	
	AB ¹	ST ²	AB	ST	AB	ST
Loons						
Red-throated Loon						
Pacific Loon						
Common Loon	R	P				
Cormorants/Herons						
Pelagic Cormorant					R	P
Great Blue Heron	U	P	R	P		
Waterfowl						
Canada Goose			U	P	U	P
Gadwall						
Mallard	R	P				
Ring-necked Duck						
Harlequin Duck	U	P				
Surf Scoter						
White-winged Scoter						
Black Scoter	U	O			R	O
Oldsquaw						
Common Goldeneye						
Barrow's Goldeneye					R	P
Common Merganser	U	P	F	L		
Red-breasted Merganser						
Raptors						
Bald Eagle	F	P	U	P	F	P
Sharp-shinned Hawk						
Red-tailed Hawk	U	L				
American Kestrel						
Merlin						
Grouse/Cranes						
Blue Grouse	F	C			R	L
Sandhill Crane			U	P		
Shorebirds						
Semipalmated Plover						
Killdeer	R	P			R	L
Black Oystercatcher						
Greater Yellowlegs	R	L			U	C

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Taxonomic group	Wrangell		Craig		Ketchikan	
	AB ¹	ST ²	AB	ST	AB	ST
Species						
Lesser Yellowlegs	U	L				
Spotted Sandpiper					U	P
Least Sandpiper	U	P				
Common Snipe						
Seabirds						
Bonaparte's Gull						
Mew Gull	F	C			F	P
Herring Gull						
Glaucous-winged Gull						
Black-legged Kittiwake						
Caspian Tern						
Arctic Tern						
Thick-billed Murre						
Pigeon Guillemot	F	P				
Marbled Murrelet	F	P				
Kittlitz's Murrelet						
Doves/Owls						
Rock Dove	U	P			R	P
Great Horned Owl	R	P				
Swifts/Hummingbirds						
Black Swift						
Vaux's Swift						
Rufous Hummingbird	R	P	U	P	F	L
Kingfishers						
Belted Kingfisher	F	L	U	P	R	P
Woodpeckers						
Red-breasted Sapsucker	U	P	U	P	U	C
Downy Woodpecker						
Hairy Woodpecker	U	L	U	P		
Three-toed Woodpecker						
Northern Flicker	R	P			R	P
Songbirds						
Olive-sided Flycatcher					U	P
Alder Flycatcher	U	P				
Hammond's Flycatcher						
Pacific-slope Flycatcher	A	L	C	L	C	L

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Taxonomic group	Wrangell		Craig		Ketchikan	
	AB ¹	ST ²	AB	ST	AB	ST
Warbling Vireo	R	O				
Steller's Jay	F	L	F	L	F	L
Northwestern Crow	C	P	U	C	U	P
Common Raven	F	P	U	P	F	P
Tree Swallow			U	P	R	P
Violet-green Swallow					R	P
Northern Rough-winged Swallow			R	O		
Barn Swallow	U	P			U	P
Black-capped Chickadee	R	P				
Chestnut-backed Chickadee	C	L	A	C	F	C
Red-breasted Nuthatch	R	P	R	P		
Brown Creeper			R	P	U	P
Winter Wren	A	L	A	C	F	L
American Dipper						
Golden-crowned Kinglet	F	L	C	P	C	L
Ruby-crowned Kinglet	F	C	F	P	F	L
Swainson's Thrush	U	P	C	L	F	L
Hermit Thrush	C	C	C	C	C	L
American Robin	F	L	F	C	C	C
Varied Thrush	F	L	C	C	F	L
European Starling						
Bohemian Waxwing						
Cedar Waxwing	R	P				
Tennessee Warbler						
Orange-crowned Warbler	C	L	C	C	C	L
Yellow Warbler			R	P	U	C
Yellow-rumped Warbler	U	P				
Townsend's Warbler	C	C	C	L	C	L
American Redstart						
Northern Waterthrush						
MacGillivray's Warbler	R	O				
Common Yellowthroat	U	L				
Wilson's Warbler	R	P	U	P	F	L
Chipping Sparrow						
Savannah Sparrow	U	P				
Fox Sparrow	U	P	F	L	R	P

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Abundance and breeding status at LTAs in Southeast Alaska

Taxonomic group	Wrangell		Craig		Ketchikan	
	AB ¹	ST ²	AB	ST	AB	ST
Song Sparrow	R	P			U	P
Lincoln's Sparrow	U	C			R	P
Dark-eyed Junco	C	C	A	C	C	C
Pine Grosbeak	R	P	U	L	R	O
Red Crossbill	C	P	C	P	F	P
White-winged Crossbill						
Pine Siskin	F	L	U	P	U	P

¹ Abundance: A = abundant, C = common, F = fairly common, U = uncommon, R = rare

² Status: C = confirmed, L = probable (likely), P = possible, O = observed

Appendix 3. Information from LTAs of the National Guard not surveyed for breeding birds between 1995 and 1998.

Table A-8. Occurrence of possible breeding birds at sites in western Alaska not covered by Alaska Army National Guard breeding bird inventories, 1995-1998 (references provided as footnotes).

Taxonomic group Species	Little Diomede¹	Gambel²	Scammon/ Hooper Bay^{3,4}	Tununak⁵	Eek⁶	Napaskiak⁷
Loons/Grebes						
Red-throated Loon		X	X	X	X	X
Pacific Loon		X	X	X	X	
Common Loon					X	X
Horned Grebe						X
Red-necked Grebe			X		X	X
Cormorants						
Pelagic Cormorant	X	X		X		
Waterfowl						
Gr. White-fronted Goose			X			X
Emperor Goose			X	X		
Canada Goose			X	X	X	X
Brant			X	X		
Tundra Swan		X	X		X	X
American Wigeon			X		X	X
Mallard			X	X	X	X
Northern Shoveler					X	
Northern Pintail		X	X	X	X	X
Green-winged Teal			X	X	X	X
Greater Scaup		X	X	X	X	X
Lesser Scaup						X
Steller's Eider			X	X		
Spectacled Eider			X	X		
King Eider				X		
Common Eider		X	X	X		
Harlequin Duck				X		
White-winged Scoter					X	X
Black Scoter			X	X	X	X
Oldsquaw		X	X	X	X	X
Bufflehead						X
Common Goldeneye					X	
Red-breasted Merganser			X	X	X	
Raptors						
Northern Harrier					X	X
Northern Goshawk						X
Rough-legged Hawk		X	X	X		X

Taxonomic group Species	Little Diomede¹	Gambel²	Scammon/ Hooper Bay^{3,4}	Tununak⁵	Eek⁶	Napaskiak⁷
Golden Eagle			X	X		
Gyrfalcon	X	X	X			
Peregrine Falcon	X					
Grouse/Cranes						
Willow Ptarmigan			X	X	X	X
Rock Ptarmigan				X	X	
Sandhill Crane		X	X	X	X	X
Shorebirds						
Black-bellied Plover			X	X	X	
Am./Pacific Golden-Plover		X	X	X	X	X
Semipalmated Plover		X	X	X	X	X
Eurasian Dotterel		X				
Greater Yellowlegs					X	
Solitary Sandpiper						X
Spotted Sandpiper					X	
Whimbrel					X	
Hudsonian Godwit					X	
Ruddy Turnstone		X	X	X		
Black Turnstone			X	X		
Surfbird				X		X
Semipalmated Sandpiper			X			
Western Sandpiper		X	X	X	X	X
Least Sandpiper					X	X
Baird's Sandpiper		X	X			
Pectoral Sandpiper		X	X			
Rock Sandpiper		X	X	X		
Dunlin		X	X	X		
Long-billed Dowitcher		X	X	X	X	
Common Snipe			X	X	X	X
Red-necked Phalarope		X	X	X	X	X
Red Phalarope		X	X			
Seabirds						
Pomarine Jaeger			X	X		
Parasitic Jaeger			X	X	X	X
Long-tailed Jaeger		X	X	X	X	X
Bonaparte's Gull					X	X
Mew Gull			X	X	X	X
Herring Gull		X				
Glaucous-winged Gull					X	
Glaucous Gull	X	X	X	X	X	X
Sabine's Gull			X			
Black-legged Kittiwake	X	X		X		
Arctic Tern		X	X		X	X
Dovekie	X	X				

Taxonomic group Species	Little Diomede¹	Gambel²	Scammon/ Hooper Bay^{3,4}	Tununak⁵	Eek⁶	Napaskiak⁷
Common Murre	X	X		X		
Thick-billed Murre	X	X				
Pigeon Guillemot	X	X				
Parakeet Auklet	X	X				
Least Auklet	X	X				
Crested Auklet	X	X				
Horned Puffin	X	X				
Tufted Puffin	X	X				
Owls						
Great Horned Owl						X
Snowy Owl		X	X			
Short-eared Owl		X	X			X
Songbirds						
Alder Flycatcher						X
Northern Shrike					X	
Gray Jay						X
Common Raven	X	X	X	X	X	X
Horned Lark				X		
Tree Swallow				X	X	X
Cliff Swallow			X	X		
Bank Swallow					X	X
Barn Swallow			X			X
Black-capped Chickadee						X
Arctic Warbler						
Northern Wheatear	X	X				
Gray-cheeked Thrush			X	X	X	X
American Robin					X	X
Varied Thrush					X	X
Yellow Wagtail	X	X	X	X	X	
White Wagtail	X					
Black-backed Wagtail		X				
Red-throated Pipit	X	X				
American Pipit		X	X	X		
Orange-crowned Warbler				X	X	X
Yellow Warbler			X		X	X
Yellow-rumped Warbler					X	X
Blackpoll Warbler					X	X
Northern Waterthrush					X	X
Wilson's Warbler			X	X	X	X
American Tree Sparrow			X	X	X	X
Savannah Sparrow			X	X	X	X
Fox Sparrow			X	X	X	X
White-crowned Sparrow				X	X	
Golden-crowned Sparrow				X		X

Taxonomic group Species	Little Diomede ¹	Gambel ²	Scammon/ Hooper Bay ^{3,4}	Tununak ⁵	Eek ⁶	Napaskiak ⁷
Lapland Longspur	X	X	X	X	X	X
Snow Bunting	X	X	X	X		
McKay's Bunting		X				
Rusty Blackbird					X	X
Pine Grosbeak						X
Redpoll spp.		X	X	X	X	X

¹ Benoit and Barnes 1999

² Kelly 1995

³ Brandt 1943

⁴ Kessel et al. 1964

⁵ McCaffery and Peltola 1986

⁶ Brown et al. 1985

⁷ Williamson 1957

Table A-9. Surrogate sites for Local Training Areas (LTAs) of the Alaska Army National Guard not surveyed for breeding birds during 1995-1998.

Region/LTA	Surrogate surveyed site
Northwest	
Kivalina	Kotzebue
Buckland	Koyukuk/Shungnak
Yukon-Kuskokwim Delta	
Chefornak	Tuntutuliak
Kasigluk	Tuntutuliak
Kongignak	Tuntutuliak
Kwigillingok	Tuntutuliak
Newtok	Chevak
Tooksook Bay	Nightmute/Tununak