



ALASKA BREEDING BIRD SURVEYS

1983 Summary

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November 1983

INTRODUCTION

Breeding Bird Surveys (BBS) began in 1965 in Maryland and Delaware with a primary purpose to document changes in bird populations. Since these first test routes were conducted, the number of routes run has increased each year. Presently, about 2500 routes have been established in the conterminous states and Canada, and about 2000 are run each spring. Short- and long-term changes (both increases and decreases) in bird populations have already been documented from the BBS since the program was initiated. To be useful as an index, surveys need to be done for several years over a wide area by competent observers.

Until 1982, BBS were conducted only sporadically in Alaska. They were mainly conducted by people who had participated in the surveys in the "lower 48" states and were visiting Alaska or had recently moved here. Too few surveys have been completed to establish baseline levels of breeding bird populations. However, 1983 was the second year of organized BBS in Alaska which are coordinated by the Nongame Wildlife Program. If the observer interest level is maintained as has been demonstrated in the last two years and participation continues to grow, Alaska will develop the necessary data base to properly monitor its breeding bird populations.

METHODS

Most routes to be used in the BBS were randomly selected within a 1-degree block of latitude and longitude (latilong). Both the starting point and direction of travel were selected from a table of random numbers.

Three and occasionally four or more routes were selected per latilong along the major road system in Alaska and near major cities and towns. We were unable to apportion routes throughout Alaska because few roads exist and qualified observers were sparsely distributed. We did select some routes along rivers, trails and beaches, but many of these were not of the standard length.

In addition, some routes were selected by observers. The starting points, distances and directions of these routes were chosen because of access and time constraints and were not randomly selected. Specific instructions on how to conduct BBS were sent out to all potential observers who expressed an interest in conducting surveys. Organizational meetings were held in Fairbanks and Anchorage for all observers who wanted more information or wanted to select a route.

Three classes of observers were recognized: Senior Observer - proficient at identifying birds by both sight and sound; Junior Observer - experienced observer but still learning some bird calls and becoming

more familiar with the uncommon species and bird distribution in the region; Apprentice Observer - interested in birds but lacks identification experience. Only data from Senior Observers were included in the national survey.

Most BBS routes were 25 miles long - the standard length for those done in other states and provinces. However, it was necessary in certain localities to shorten the routes. Each route consisted of counting locations $\frac{1}{2}$ mile apart. At each stop the most experienced observer (if more than one observer was present) recorded every bird seen or heard within $\frac{1}{4}$ mile radius of the observer in a 3 minute time period. On certain routes more than one observer recorded bird sightings and on other routes counts were repeated one or more times during the 3-week count period. Weather data were recorded at the start and end of the survey. Relative abundance of habitat types was recorded at each stop. For routes not previously run, a description of each stop location was recorded so that the same location can be found in the future.

Surveys conducted between 1 and 20 June were eligible for inclusion in the Migratory Bird Laboratory data base. After 20 June many birds had stopped singing and surveys conducted after that date likely contained erroneous data. Observers were requested to start the transect at or near $\frac{1}{2}$ hour before sunrise which is 2:30 to 3:00 AM in most of Alaska.

Data were recorded on field sheets and totaled on summary sheets. Original forms were sent to the Nongame Wildlife Program, ADFG for summarization. Eligible forms were then sent to the Migratory Bird Laboratory.

RESULTS

38

In 1983, 36 BBS routes were completed in Alaska (Table 1). [Data from another route (Maclaren-6317) was still lost in the mail at the time of this writing.] Twenty of these routes were new to the BBS while eight of those surveyed in 1982 (the first year of coordinated surveys) were not done in 1983. Sixteen surveys were repeated from the 1982 count. Completed surveys included 23 of 25 miles, 5 of 10 miles, and the remainder were of varied lengths. Four surveys were conducted in southeastern, 25 in southcentral and southwestern, and 19 in interior and northwestern Alaska.

Several surveys may not have had totally accurate results because of the following factors: 98 surveys were done by "junior" observers, 45 were done after the 20 June cutoff date; 7 were started 1 hour or more past the $\frac{1}{2}$ hour before sunrise starting time and 1 was started 1 hour early. All these factors may have influenced the number of birds observed.

Table 1. Alaska Breeding Bird Survey routes and observers, 1983.

Route Name	Route Number	Quadrangle	Date of Survey	Route Length (mi)	Observers
Adak SE	5101	Adak	21 June C/	18.5	Fred Zeilemaker, Leslie Slater, Natasha Kline
Craig SE	5511	Craig	9 June	25	Tom Kogut, Gene Stagner
Cold Bay	5581	Cold Bay	8 June	25	Chris Dau, Michael Nunn
Wrangell D/ SE	5611	Petersburg	19 June	10	Lance Craighead, Kent Russell
Sitka SE	5724	Sitka	12 June	15	Marge Ward, David Krause, Marlys Tedin
Kodiak	5731	Kodiak	8 June	25	Rich MacIntosh, Jeff Allen, Matthew Weeks
Juneau SE	5821	Juneau	11 June	25	Frank Glass, Mark Kissel
Anchor River	5936	Seldovia	18 June	25	Paul Arneson
Yakutat D/	5944	Yakutat	6 June	12.5	Bruce Dinefond
Dillingham	5957	Dillingham	7 June	18	Irma O'Brien, John Wright
Cordova	6014	Cordova	16 June	25	Ruth Fairall, William Fairall, Heather Isleib
Hope	6027	Seward	7 June	25	Tony Route, Mark Bertram, Susan Howell
Kenai Lake	6028	Seward	11 June	10	Paul Arneson
Moose Pass	6029	Seward	12, 16 & 19 June	25	Tony Route, Betty Bair, Kathy Quilliam, Richard McAvinchey, Ellen Kord
Seward D/	6030	Seward	19 June	25	Rick Sinnott
Skilak Lake	6031	Kenai	3 July C/	25	Darrell Lee
Swan Lake Road	6033	Kenai	17 June C/	25	Ted Bailey, Mary Portner, John Malloy
Bethel D/	6067	Bethel	26 June C/	10	Peter Erhardt, John Burrows
Kenny Lake	6111	Valdez	19 June	25	Fred Broerman, Robert Kuntz II
Thompson Pass	6114	Valdez	11 June	10	Gordon Tans, Jerry Barringer
Valdez	6117	Anchorage	12 June	25	Gordon Tans, Lou Johnson
Sheep Mountain	6121	Anchorage	14 & 20 June	6	Herman Griese, Linda Terrell
Stuckkagain	6122	Anchorage	18 June	10	Barb Johnson, Steve Johnson
Pinnochie A/	6123	Anchorage	8 June	16	Herman Griese, Linda Terrell
Elmendorf	6124	Anchorage	18 June	25	Stacey Scott, John Pitcher, Patsy Martin
Matanuska	6126	Anchorage	12 June	25	John Trapp, Clay Hardy
Wasilla	6127	Anchorage	16 June	25	John Trapp, Clay Hardy, Dave Nysewander, Tesanna Trapp
Hatcher Pass D/	6129	Anchorage	23 June C/	25	Andy Hoffman, Liz Hoffman, Mike Bronson, Judy Bronson
Willow	6132	Anchorage	17 June	25	Buzz Scher
Sourdough	6215	Gulkana	15 June	25	Fred Broerman, Robert Kuntz II
Monahan	6331	Healy	16 June	25	Brian Lawhead, Donita Haynes
Toklat	6341	Mt. McKinley	18 June	25	Noble Proctor, Bob Armstrong
Chena Hot Spgs Rd. D/	6432	Fairbanks	13 June	25	James Silva, Holly Silva
Pinnell Mtn. A/ D/	6525	Circle	15 June	12	Mark Ross
Kotzebue	6671	Kotzebue	20 June	8.25	Kent Hall, Robert Schulmeister, Beverly Minn
Noatak B/ D/	6771	Noatak		11.5	Kent Hall, Beverly Minn

A/ survey done on foot.

B/ survey done in boat.

C/ survey completed after 20 June cutoff.

D/ survey conducted by "junior" observer.

Macken *a*

6317 At. Hayes 23 June C

6428 Big Delta 16 June A

Junior Kerns

[Lost in mail]

[Sent in late J]

In the 36 surveys, 150 species of birds were observed (Table 2). The number of species per route ranged from 8 to 56 and the total number of individuals observed ranged from 33 to 898.

As in 1982, the American Robin was the most widely distributed species. It was seen or heard on 34 of 36 routes. It was also the most abundant species (898 individuals). Other abundant (over 500 individuals) and widely distributed (found on over 20 routes) birds included: Swainson's Thrush (796;27), Varied Thrush (751;28), Dark-eyed Junco (729;24), White-crowned Sparrow (718;24), Common Redpoll (627;27), Orange-crowned Warbler (607;29), Hermit Thrush (588;21), Yellow-rumped Warbler (573;20), Fox Sparrow (572;29), Wilson's Warbler (567;23), and Savannah Sparrow (506;25). Forty one species were found on only one route and, of these, 15 were single individuals.

Alder Flycatchers and Common Snipe were common and widely distributed (467;21 and 295;27, respectively) as in 1982. Glaucous-winged Gull numbers decreased from 1982 to 1983 (740 to 304), but the route (Homer) where most (463) were recorded in 1982 was not run this year.

The Cordova route traverses a variety of habitats including salt water, mudflats, spruce forest, fresh water lakes, willow and alder thickets, rivers, ponds, and muskeg. This habitat diversity contributed to the high diversity of birds (56 species) encountered along the route. Other routes with high bird diversity were Sheep Mountain (47), Monohan (46) Willow (44) and Noatak (43). Routes with large numbers of birds were Cordova (898), Wasilla (818), Kodiak (773) and Willow (719).

The number of stops on which a given bird species is found is another measure of relative abundance. The ten most frequently encountered birds and the number of stops on which they were found are: American Robin (505), Dark-eyed Junco (435), Swainson's Thrush (425), Varied Thrush (408), White-crowned Sparrow (400), Orange-crowned Warbler (390), Yellow-rumped Warbler (372), Fox Sparrow (357), Wilson's Warbler (340) and Hermit Thrush (336) [Table 3].

With the increase in number of completed routes from 1982 to 1983, an increase in the number of participants also occurred. Of 78 volunteers this year, 69 were able to participate as observers or assistants (Table 4). *H*

DISCUSSION

The BBS have proven to be an effective index of bird distribution and abundance in the conterminous 48 states. In Alaska, we have a need for such an index to help monitor our bird populations. As Alaska's human population grows, more and more pressures will be placed on bird

Table 2. Summary of Breeding Bird Surveys conducted in Alaska, 1983. Total number of birds seen per route. Replicate surveys are in alphabetic order by senior observer's last name or in chronological order.

Section A	Species	Craig	Wrangell	Sitka-1	Sitka-2	Juneau	Adak	Cordova	Hope	Kemati Lake	Moose Pass-1	Moose Pass-2	Moose Pass-3	Seaward	Skilak Lake	Swan Lake Rd.	Bethel	L.H. S. L.
	Red-throated Loon																	
	Arctic Loon					1											1	
	Common Loon																6	
	Red-necked Grebe																	
	Horned Grebe																	
	Pelagic Cormorant						3		1									
	Great Blue Heron			1	1													
	Trumpeter Swan																	11
	Tundra Swan							2										
	Gr. White-fronted Goose																	
	Canada Goose	10	6	6				5		6	5			2	156			
	Green-winged Teal																2	
	Mallard																5	
	Northern Shoveler							3	4	4							1	
	American Wigeon							3	3	3							1	
	Canvasback																	
	Ring-necked Duck																	
	Greater Scaup							13	2									
	Lesser Scaup																	
	Scaup																	
	Common Eider														1	1		
	Harlequin Duck														10			
	Oldsquaw																	
	Black Scoter														5			
	Surf Scoter														3			
	White-winged Scoter																	
	Barrow's Goldeneye														3			
	Goldeneye																	
	Bufflehead																	
	Common Merganser	1	1	1	1											11	7	
	Red-breasted Merganser															7	7	
	Merganser																1	
	Unid. Duck																2	

X /

Table 2. (cont'd)

Section A	Species	No. of Routes	Total No. Birds
Kennedy Lake	Red-throated Loon	1	2
Valdez	Arctic Loon	2	2
Common Loon	Common Loon	3	6
Wasilla	Red-necked Grebe	2	1
Hatcher Pass	Horned Grebe	2	1
Matanuska	Pelagic Cormorant	3	1
Elmendorf	Great Blue Heron	2	1
Seward Mountain	Trumpeter Swan	2	1
Stuckagaitn-1	Tundra Swan	1	1
Stuckagaitn-2	Gr. White-fronted Goose	7	4
Matanuska	Canada Goose	35	1
Wasilla	Green-winged Teal	1	4
Elmendorf	Mallard	1	1
Monahan	Northern Pintail	1	1
Toklat	Northern Shoveler	1	2
Chena H.S. Road	American Wigeon	7	2
Pinehill Mtn.	Canvasback	3	2
Kotzebue	Ring-necked Duck	3	1
Noatak	Greater Scaup	23	7
Chena H.S. Road	Lesser Scaup	3	3
Pinehill Mtn.	Scaup	3	1
Monahan	Common Eider	1	1
Toklat	Harlequin Duck	1	1
Chena H.S. Road	Oldsquaw	5	5
Pinehill Mtn.	Black Scoter	1	6
Kotzebue	Surf Scoter	1	2
Noatak	White-winged Scoter	3	15
Pinehill Mtn.	Barrow's Goldeneye	2	7
Chena H.S. Road	Goldeneye	1	3
Pinehill Mtn.	Bufflehead	1	4
Noatak	Common Merganser	2	2
Chena H.S. Road	Red-breasted Merganser	21	2
Pinehill Mtn.	Merganser	8	2
Noatak	Unid. Duck	2	1

Table 2. (continued)

Table 2. (cont'd)

Section B	Species	No. of Routes	Total No. Birds
Kenny Lake	Bald Eagle	119	10
Sheep Mountain	Northern Harrier	5	3
Wadlez	Red-tailed Hawk	4	3
Thompson Pass	Golden Eagle	1	1
Stuckagatin-1	Gyr Falcon	1	1
Elmendorf	Blue Grouse	2	1
Matanuska	Willow Ptarmigan	1	1
Hatcher Pass	Rock Ptarmigan	3	2
Wasilla	Sandhill Crane	8	2
Pinehill Mtn.	Lesser Golden Plover	1	4
Monahan	Semipalmated Plover	2	1
Toklat	Am. Black Oystercatcher	1	1
Chena H.S. Road	Greater Yellowlegs	1	1
Kotzebue	Lesser Yellowlegs	5	4
Noatak	Yellowlegs	3	2
Pinehill Mtn.	Solitary Sandpiper	24	2
Monahan	Wandering Tattler	1	1
Chena H.S. Road	Spotted Sandpiper	1	1
Kotzebue	Upland Sandpiper	14	14
Noatak	Whimbrel	1	1
Pinehill Mtn.	Hudsonian Godwit	10	7
Monahan	Bar-tailed Godwit	17	17
Toklat	Black Turnstone	2	2
Chena H.S. Road	Surfbird	6	1
Kotzebue	Semipalmated Sandpiper	4	3
Noatak	Western Sandpiper	9	2
Pinehill Mtn.	Least Sandpiper	2	1
Monahan	Rock Sandpiper	9	1
Toklat	Dunlin	2	1
Chena H.S. Road	Short-billed Dowitcher	1	1
Kotzebue	Unid. Dowitcher	1	1
Noatak	Common Snipe	4	2
Pinehill Mtn.	Red-necked Phalarope	1	1
Monahan	Unid. Shorebird	2	2

Table 2. (cont'd)

Section C	Species	Craig	Wrangell	Sitka-1	Sitka-2	Juneau	Adak	Cold Bay	Anchorage River	Dillingham	Hope	Kenai Lake	Moose Pass-1	Moose Pass-2	Moose Pass-3	Seward	Skilak Lake	Swan Lake Rd.	Bethel	MacLean	All Sleds
	Pomarine Jaeger		1																		
	Parasitic Jaeger																				
	Long-tailed Jaeger																				
	Bonaparte's Gull																				
	Mew Gull			21	83	107		73													
	Herring Gull																				
	Glaucous-winged Gull																				
	Glaucous Gull																				
	Black-legged Kittiwake																				
	Unid. Gull																				
	Arctic Tern																				
	Aleutian Tern																				
	Pigeon Guillemot																				
	Marbled Murrelet																				
	Ancient Murrelet																				
	Tufted Puffin																				
	Horned Puffin																				
	Rock Dove																				
	Great-horned Owl																				
	Northern Hawk-Owl																				
	Short-eared Owl																				
	Rufous Hummingbird																				
	Belted Kingfisher																				
	Red-breasted Sapsucker																				
	Downy Woodpecker																				
	Hairy Woodpecker																				
	Three-toed Woodpecker																				
	Northern Flicker																				
	Unid. Woodpecker																				
	Olive-sided Flycatcher																				
	Western Wood Pewee																				
	Alder Flycatcher																				
	Western Flycatcher																				
	Unid. Flycatcher																				

Table 2. (cont'd)

Section C	Species	Total No. Birds	No. of Routes
Kennedy Lake	Pomarine Jaeger	2	2
	Parasitic Jaeger	2	3
	Long-tailed Jaeger	2	4
	Bonaparte's Gull	3	32
	New Gull	10	6
	Herring Gull	2	25
	Glaucoous-winged Gull	10	373
	Glaucoous Gull	9	17
	Black-legged Kittiwake	1	1
	Unid. Gull	1	1
	Arctic Tern	2	13
	Aleutian Tern	2	3
	Pigeon Guillemot	7	10
	Marbled Murrelet	1	1
	Ancient Murrelet	1	1
	Tufted Puffin	1	1
	Horned Puffin	1	1
	Rock Dove	5	1
	Great-horned Owl	1	1
	Northern Hawk-Owl	1	1
	Short-eared Owl	1	1
	Rufous Hummingbird	1	4
	Belted Kingfisher	1	18
	Red-breasted Sapsucker	3	7
	Downy Woodpecker	1	1
	Hairy Woodpecker	1	12
	Three-toed Woodpecker	4	4
	Northern Flicker	1	13
	Unid. Woodpecker	1	20
	Olive-sided Flycatcher	3	9
	Western Wood Pewee	6	39
	Alder Flycatcher	22	9
	Western Flycatcher	50	21
	Unid. Flycatcher	1	20
		34	3

Table 2. (cont'd)

Section D	Species	Craig	Wrangeell	Sittka-1	Sittka-2	Juneau	Adak	Cordova	Hope	Kennai Lake	Moose Pass-1	Moose Pass-2	Moose Pass-3	Skilak Lake	Swan Lake Rd.	Bethel
	Say's Phoebe															3
	Horned Lark															
	Tree Swallow	1	8	12	29	1	1	24	28	10	4	3	9	1	2	9
	Violet-green Swallow									9	18	11		15	1	
	Bank Swallow		X					24	21	8	35				12	44
	Cliff Swallow									10				3	3	10
	Barn Swallow									15						
	Unid. Swallow															
	Gray Jay	2	1	13			1	1	1	9	9	3	1	4	1	1
	Steller's Jay	7	1	2	2	9			3		2					
	Black-billed Magpie							14	8	7	2	1				
	Northwestern Crow	2					28	2	1		5					
	Common Raven	11	30	61	3	5		4	1	6	10	1	1	2	5	27
	Black-capped Chickadee	49	42				1	1	30		1		3	4	2	1
	Boreal Chickadee										1	1	1	2		3
	Chestnut-backed Chickadee	19	8	37	19	26				4						
	Unid. Chickadee									1						
	Red-breasted Nuthatch										1					
	Brown Creeper							1			2					
	Winter Wren	94	13	21	21	30			24	21		2				
	American Dipper									1		2				
	Arctic Warbler										4					
	Golden-crowned Kinglet	13		22	22	2								2		
	Ruby-crowned Kinglet			17	10	5			27	34	15	59	15	13	16	17
	Northern Wheatear															
	Townsend's Solitaire															
	Gray-cheeked Thrush							13	7	10	13	19	1	1	19	2
	Swainson's Thrush	23	8	18	8	14			60	21	8	2	1	41	37	28
	Hermit Thrush	49	23	17	20	16			57	1	23	7	53	31	14	28
	American Robin	12	5	33	69	45			2	1	112	28	10	13	8	9
	Varied Thrush	60	24	74	54	56			12	7	35	46	16	32	74	37
	Unid. Thrush													6	1	4
	Yellow Wagtail															2
	Water Pipit															4

Table 2. (cont'd)

Table 2. (cont'd)

Section E	Species	Craig	Sittka-1	Sittka-2	Chneau	Adak	Kodiak-1	Kodiak-2	Yakutat	Ancchor River	Dillingham	Cordova	Hope	Kennai Lake	Moose Pass-1	Moose Pass-2	Moose Pass-3	Seward	Skilak Lake	Swan Lake Rd.	MacLaren	The Salcha		
	Bohemian Waxwing																							
	Northern Shrike				3																			
	European Starling			11	11	7	12	29	38	23	73	16	27	4	12	62	48	8	9	16				
	Orange-crowned Warbler					3	10	4	50	52	1	1	9	24	1	35	8	1	7	2	9	6	1	
	Yellow Warbler											19	11	6		20	15	24	42		1	62		
	Yellow-rumped Warbler																							
	Townsend's Warbler			21		8	10	9				3		1	5	7	3	17	4	19				
	Blackpoll Warbler													9	15	1		4		8	6	2	13	10
	Northern Waterthrush														31	1			4	5	2		16	
	Wilson's Warbler			14	12	10			47	46		24	27	32	31	6	32	28	23			1	16	
	Unid. Warbler			3	6														1	4				
	American Tree Sparrow														1									
	Savannah Sparrow					27	41	30	28	113	113	6	14	24	7	15	2							
	Fox Sparrow			7	2	11	11	27					36	17	6		2							
	Song Sparrow			2	3	13	1	19					2		24	3	17							
	Lincoln's Sparrow			3				1					2		30		1							
	Golden-crowned Sparrow								7	54	42		32	32	1	29	2	9	8	10	1			
	White-crowned Sparrow												7	15			2	1		2	28	33	1	53
	Dark-eyed Junco			47	45	63	1						16	6	3	36	22	32	37	25	2	13	37	84
	Unid. Sparrow			2												1								1
	Lapland Longspur																							
	Smith's Longspur																							
	Red-winged Blackbird																2							
	Rusty Blackbird																							
	Rosy Finch																							
	Pine Grosbeak																							
	White-winged Crossbill																							
	Common Redpoll																							
	Pine Siskin			6											4		24	17	4	15	14	24	70	3
	Unid. Birds			11														2	2	4		1		19
	Total Individuals	421	116	476	532	508	476	303	774	633	289	569	414	898	363	201	356	514	438	434	258	456	386	716
	Total Species	24	12	28	29	34	22	19	38	33	14	35	34	56	22	27	30	32	31	36	30	29	28	17

Table 2. (cont'd)

Section E	Species	No. of Routes										Total No. Birds									
		Kennedy Lake	Thompson Pass	Valedz	Sheep Mountain	Stuckagaitn-1	Stuckagaitn-2	Elmendorf	Matsamuska	Wasilla	Milllow	Sourdough	Monahans	Toklat	Kotzebue	Noatak					
	Bohemian Waxwing	2		5						9	2				25	7					
	Northern Shrike				1	1									2	2					
	European Starling														3	1					
	Orange-crowned Warbler	10	61	32	45	5	4	7	46	18	6	17	9	1	2	607	29				
	Yellow Warbler	34	24	1				2	2	5	11			2	1	6	250	24			
	Yellow-rumped Warbler	51	23	19	10	16	6	31	19	60	46	69	53	3	16		573	20			
	Townsend's Warbler			4												96	10				
	Blackpoll Warbler	9	6	4	29			9	7	18	20	35	9	13			221	19			
	Northern Waterthrush	6			1	1	4		26	9	13	17	22	11	6	1	171	16			
	Wilson's Warbler	24	54	12	79	1	3	9		3	11	2	1	83	39		567	23			
	Unid. Warbler										5						15	3			
	American Tree Sparrow	6				9		47				69	67			4	203	7			
	Savannah Sparrow	22	15		8			36	8	41	13	11	26	18	101	3	4	506	25		
	Fox Sparrow	18	48	38	19			3	13	10	10	27	23	38	42	14	2	4	13	562	29
	Song Sparrow				4			1										109	13		
	Lincoln's Sparrow	2	3	5	1			13		3	6	36	5					111	14		
	Golden-crowned Sparrow	36									19		10					233	12		
	White-crowned Sparrow	71	8	6	97	1	43	26	11	44	34	42	77	67	65	12	15	11	718	24	
	Dark-eyed Junco	58			31	13	14	8	26	27	69	27	64	64	8	50		729	24		
	Unid. Sparrow																	3	2		
	Lapland Longspur													1	7	8	4	5	345	8	
	Smith's Longspur													3				3	1		
	Red-winged Blackbird																	3	2		
	Rusty Blackbird	2			1				2	4		2	9					22	8		
	Rosy Finch																	5	1		
	Pine Grosbeak																	28	7		
	White-winged Crossbill				14							5						71	5		
	Common Redpoll	9	19	20	29		2	10	84	104	46	17	13	42	32	13	1	7	3	627	27
	Pine Siskin	7	8	1	3			8		18								199	14		
	Unid. Birds									1								19	5		
Total Individuals		585	503	331	620	57	82	261	400	374	818	473	719	637	620	461	266	33	371	259	
Total Societies		35	29	21	47	10	14	31	30	38	29	44	23	46	40	19	8	28	43		

Table 3. Summary of Breeding Bird Surveys conducted in Alaska, 1983. Total number of stops on which each species was observed. Replicate surveys are in alphabetic order by senior observer's last name or in chronological order.

Table 3. (cont'd)

Species	Section A (cont'd)	No. of Routes
Red-throated Loon	Red-throated Loon	1
Arctic Loon	Arctic Loon	1
Common Loon	Common Loon	2
Red-necked Grebe	Red-necked Grebe	2
Horned Grebe	Horned Grebe	2
Pelagic Cormorant	Pelagic Cormorant	1
Great Blue Heron	Great Blue Heron	1
Trumpeter Swan	Trumpeter Swan	1
Tundra Swan	Tundra Swan	1
Gr. White-fronted Goose	Gr. White-fronted Goose	1
Canada Goose	Canada Goose	1
Green-winged Teal	Green-winged Teal	2
Mallard	Mallard	3
Northern Pintail	Northern Pintail	1
Northern Shoveler	Northern Shoveler	1
American Wigeon	American Wigeon	1
Canvasback	Canvasback	1
Ring-necked Duck	Ring-necked Duck	1
Greater Scaup	Greater Scaup	1
Lesser Scaup	Lesser Scaup	1
Scaup (unid.)	Scaup (unid.)	1
Common Eider	Common Eider	1
Harlequin Duck	Harlequin Duck	1
Oldsquaw	Oldsquaw	5
Black Scoter	Black Scoter	4
Surf Scoter	Surf Scoter	1
White-winged Scoter	White-winged Scoter	1
Barrow's Goldeneye	Barrow's Goldeneye	1
Goldeneye (unid.)	Goldeneye (unid.)	3
Bufflehead	Bufflehead	1
Common Merganser	Common Merganser	1
Red-breasted Merganser	Red-breasted Merganser	1
Merganser (unid.)	Merganser (unid.)	1
Unid. Duck	Unid. Duck	1

Table 3. (cont'd).

Table 3. (cont'd)

Species	Section B (cont'd)	No. of Routes
Bald Eagle	Kenny Lake	Thompson Pass
Northern Harrier	Valdez	Sheep Mountain
Red-tailed Hawk		Stuckagatin-1
Golden Eagle		Stuckagatin-2
Gyrfalcon		Elmendorf
Blue Grouse		Matanuska
Willow Ptarmigan		Wasilla
Rock Ptarmigan		Hatcher Pass
Sandhill Crane		Milelow
Lesser Golden Plover		Sourdough
Semipalmated Plover		Monahan
Am. Black Oystercatcher		Toklat
Greater Yellowlegs		Cheena H.S. Road
Lesser Yellowlegs		Pinehill Mtn.
Yellowlegs (unid.)		Kotzebue
Solitary Sandpiper		Noatak
Wandering Tattler		Total No. Species
Spotted Sandpiper		No. of Routes
Upland Sandpiper		
Whimbrel		
Hudsonian Godwit		
Bar-tailed Godwit		
Black Turnstone		
Surfbird		
Semipalmated Sandpiper		
Western Sandpiper		
Least Sandpiper		
Rock Sandpiper		
Dunlin		
Short-billed Dowitcher		
Unid. Dowitcher		
Common Snipe		
Red-necked Phalarope		
Unid. Shorebird		

Table 3. (cont'd)

Section C	Species	Craig	Kodiak-1	Kodiak-2	Dillingham	Cordova	Hope	Kennai Lake	Moose Pass-1	Moose Pass-2	Moose Pass-3	Seward	Skilak Lake	Swan Lake Rd.	Bethel	McLaren Slough	Lake 3
	Pomarine Jaeger																
	Parasitic Jaeger																
	Long-tailed Jaeger																
	Bonaparte's Gull																
	New Gull		13	9	8	12			2	1	2						10
	Herring Gull																
	Glaucous-winged Gull		1	1	5	12	9	10	7	8		1	1	4			
	Glaucous Gull									2							
	Black-legged Kittiwake																
	Unid. Gull	3	6			2						1	1	3	4		
	Arctic Tern			1			3	1				1	1	1	1	1	2
	Aleutian Tern				1		2	2									
	Pigeon Guillemot				2												
	Marbled Murrelet		2														
	Ancient Murrelet				1												
	Tufted Puffin			1													
	Horned Puffin			1													
	Rock Dove																
	Great Horned Owl																1
	Northern Hawk-Owl																
	Short-eared Owl																
	Rufous Hummingbird		1	1													
	Belted Kingfisher	4	1	2			2	2		2			1	1	1		
	Red-breasted Sapsucker	6	1	1	5												
	Dowty Woodpecker																
	Hairy Woodpecker	4	2	2							3						
	Three-toed Woodpecker																2
	Northern Flicker											1					8
	Unid. Woodpecker										3	1					8
	Olive-sided Flycatcher												1				1
	Western Wood Pewee												1				
	Alder Flycatcher											5	3	10	7	19	41
	Western Flycatcher	12															
	Unid. Flycatcher																1

Table 3. (cont'd)

Section C (cont'd)	Species	No. of Routes	Total No. Stops/Species
Kemny Lake	Pomarine Jaeger	2	2
	Parasitic Jaeger	2	3
	Long-tailed Jaeger	2	2
	Bonaparte's Gull	2	4
	New Gull	5	18
	Herring Gull	6	5
	Glaucous-winged Gull	6	4
	Black-legged Kittiwake	1	7
	Unid. Gull	2	1
	Arctic Tern	1	1
	Aleutian Tern	1	1
	Pigeon Guillemot	1	1
	Marbled Murrelet	1	1
	Ancient Murrelet	1	1
	Tufted Puffin	1	1
	Horned Puffin	1	1
	Rock Dove	1	1
	Great Horned Owl	1	1
	Northern Hawk-Owl	1	1
	Short-eared Owl	1	1
	Rufous Hummingbird	3	3
	Belted Kingfisher	1	15
	Red-breasted Sapsucker	1	7
	Downy Woodpecker	6	29
	Hairy Woodpecker	6	48
	Three-toed Woodpecker	6	13
	Northern Flicker	2	29
	Unid. Woodpecker	1	21
	Olive-sided Flycatcher	1	22
	Western Wood Pewee	6	15
	Alder Flycatcher	6	2
	Western Flycatcher	20	3
	Unid. Flycatcher	1	1

Table 3. (cont'd)

Table 3. (cont'd)

Species	Section D (cont'd)	No. of Routes
Say's Phoebe	Kenny Lake	1
Horned Lark	Thompson Pass	1
Tree Swallow	Valdes	1
Violet-green Swallow	Sheep Mountain	1
Bank Swallow	Stuckagatin-1	1
Cliff Swallow	Stuckagatin-2	1
Barn Swallow	Mt. Matanuska	1
Unid. Swallow	Matanuska	1
Gray Jay	Elmenndorf	1
Steller's Jay	Pinechuk	1
Black-billed Magpie	Wasilla	1
Northwestern Crow	Willow	1
Common Raven	Hatcher Pass	1
Black-capped Chickadee	Monahans	1
Boreal Chickadee	Toklat	1
Chestnut-backed Chickadee	Kotzebue	1
Unid. Chickadee	Pinehill Mt.	1
Red-breasted Nuthatch	Chena H.S. Road	1
Brown Creeper	Noatak	1
Winter Wren	Total No. Stops/No. Species	162
American Dipper	No. of Routes	21
Arctic Warbler		
Golden-crowned Kinglet		
Ruby-crowned Kinglet		
Northern Wheatear		
Townsend's Solitaire		
Gray-cheeked Thrush		
Swainson's Thrush		
Hermit Thrush		
American Robin		
Varied Thrush		
Unid. Thrush		
Yellow Wagtail		
Water Pipit		

Table 3. (cont'd)

Section E

Species	Craig	Wrangell	Sitka-1	Sitka-2	Juneau	Adak	Cold Bay	Kodiak-1	Kodiak-2	Vakutat	Ancient River	Dillingham	Hope	Kennai Lake	Moose Pass-1	Moose Pass-2	Moose Pass-3	Seward	Skilak Lake	Swan Lake Rd.	Bethel	Hill	MacLean	Heckel
Bohemian Waxwing																								
Northern Shrike					1																			
European Starling																								
Orange-crowned Warbler	8	5	4	4	21	22	17	41	14	20	2	1	37	29	6	7	14							
Yellow Warbler		1	4	4		32	31	1	1	9	15	1	19	6	1	7	2	9	4					
Yellow-rumped Warbler										16	11	6		13	10	17	29		1	38				
Townsend's Warbler	12		5	8	9					2		1	4	5	3	13	3	12						
Blackpoll Warbler										9	13	1	4	6	6	6	2	12	9					
Northern Waterthrush										22	1			4	5	1								
Wilson's Warbler	6	5	9			29	31	18	22	23	19	6	24	21	18	14								
Unid. Warbler	2	3														1	2							
American Tree Sparrow											1													
Savannah Sparrow			9		20	22	19		29	12	6	1	10	12	7	1	10	5	32	1				
Fox Sparrow	5	2	6	6	16		47	47	6	12	19	6	8	2			5							
Song Sparrow	1		2	13	1	10		1		2		15	2	11				8	8					
Lincoln's Sparrow	3				1				2		13	1												
Golden-crowned Sparrow						5	33	36	28	22	1	11	2	7	7	8	1							
White-crowned Sparrow									7	14			1	1			1	21	23	1				
Dark-eyed Junco	30		15	18	1				10	6	3	20	14	20	27	20	2	9	30					
Unid. Sparrow		1											1											
Lapland Longspur						37	25																	
Smith's Longspur																								
Red-winged Blackbird			1										2											
Rusty Blackbird											1									1				
Rosy Finch				3																				
Pine Grosbeak						1	1	4		7	3	4		2	3	1								
White-winged Crossbill									2		6						1							
Common Redpoll					6	7	6		9	11	8	2	1			8	8	10	29	2				
Pine Siskin	1								2	4	6	4	6	7	11	21								
Unid. Birds	6										2	2	1								1			

Table 3. (cont'd)

Species	Section E (cont'd)	No. of Routes
Bohemian Waxwing	Kemny Lake	1
Northern Shrike	Thompson Pass	1
European Starling	Valdez	1
Orange-crowned Warbler	Sheep Mountain	1
Yellow Warbler	Stuckagatin-1	2
Yellow-rumped Warbler	Stuckagatin-2	3
Townsend's Warbler	Pinocchiole	2
Blackpoll Warbler	Elmendorf	8
Northern Waterthrush	Matanuska	4
Wilson's Warbler	Wasilla	6
Unid. Warbler	Hatcher Pass	3
American Tree Sparrow	Willow	4
Savannah Sparrow	Sourdough	11
Fox Sparrow	Monahan	2
Song Sparrow	Toklat	1
Lincoln's Sparrow	Chena H.S. Road	1
Golden-crowned Sparrow	Pimell Mt.	1
White-crowned Sparrow	Kotzebue	1
Dark-eyed Junco	Noatak	1
Unid. Sparrow	Total No. Species	12
Lapland Longspur	No. of Routes	7
Smith's Longspur		2
Red-winged Blackbird		1
Rusty Blackbird		1
Rosy Finch		1
Pine Grosbeak		1
White-winged Crossbill		1
Common Redpoll		1
Pine Siskin		1
Unid. Birds		1

populations as habitat is altered. Conducting annual BBS will help us determine whether bird populations are increasing or decreasing.

Because the number of survey routes increased substantially from 1982 to 1983 (25 to 36 routes), we are encouraged that the necessary data base will be established. Each route must be run annually for up to 10 years before sufficient data are collected to properly analyze them. When a route is run only periodically, important data and continuity are lost. We hope that observers will realize the importance of the job they are doing and continue to participate. The occasional tedium of doing a 25-mile transect may turn to enthusiasm if observers realize the significance of their work.

We were pleased to have 20 new routes completed in 1983. Coverage around the state was improved with these additions. It is also important that 16 of last year's 25 routes were repeated. Hopefully, the percentage of repeated surveys will rise even farther in the future. Several areas in the state not presently being surveyed have good road systems on which to conduct a count and are in localities where it would be beneficial to have surveys done. Examples of such areas are Ketchikan, Petersburg, Haines, Glennallen, Delta Junction, King Salmon, Nome and Barrow. We will continue to try to recruit experienced bird observers in these areas to conduct surveys and increase our coverage around the state.

The number of volunteers and participants in BBS increased over 1982. Many had participated in last year's surveys and are developing the necessary experience to accurately conduct such surveys. The best index is obtained if the same observers run the same routes each year. New people to the survey are equally important because we need a large corps of volunteer observers to make the BBS a success.

Weather in June 1983 was more favorable than in 1982 so more routes could be conducted in the specified time period (1-20 June). The four surveys done after the cutoff date possibly had fewer birds recorded because several bird species would be well into the nesting period and would have stopped singing. Likewise, those surveys that did not start on time ($\frac{1}{2}$ hour before sunrise) or finish in 4-5 hours may also have had erroneous results. Many studies have documented how quickly bird singing activity decreases after sunrise.

Several new types of surveys were attempted in 1983. The survey in Noatak was conducted by boat. If repeated, this survey could prove to provide interesting and worthwhile data. Two surveys were done on foot. One took about 12 hours to complete which may have affected results. However, the habitat along most of the route was alpine tundra, so most birds may have been visible even though not singing. Another route was done by motorcycle and likely would produce similar results to a survey done by car.

Table 4. Volunteers for Alaska Breeding Bird Surveys, 1983.

Jeff Allen	Dan Logan
Bob Armstrong	Rich MacIntosh
Paul Arneson	John Malloy
Ted Bailey	Patsy Martin
Betty Bair	Gail Mayo
Jerry Barringer	Richard McAvinchey
Mark Bertram	Ruth McHenry
Fred Broerman	Beverly Minn
Judy Bronson	Micheal Nunn
Mike Bronson	Dave Nysewander
John Burrows	Irma O'Brien
Lance Craighead	John Pitcher
Chris Dau	Mary Portner
Bruce Dinneford	Noble Proctor
Peter Erhardt	Kathy Quilliam
Ruth Fairall	Dan Rosenberg
William Fairall	Mark Ross
Frank Glass	Tony Route
Herman Griese	Kent Russell
Kent Hall	Buzz Scher
Clay Hardy	Robert Schulmeister
Donita Haynes	Oliver Scott
Andy Hoffman	Stacy Scott
Liz Hoffman	Holly Silva
Susan Howell	James Silva
Heather Isleib	Rick Sinnott
Barb Johnson	Leslie Slater
Lou Johnson	Gene Stagner
Steve Johnson	Gordon Tans
Julie Kelly	Marlys Tedin
<i>Junior Kerns</i>	Linda Terrell
Mark Kissel	John Trapp
Natasha Kline	Tesanna Trapp
Tom Kogut	Lolita Valcq
Ellen Kord	Marge Ward
David Krause	Matthew Weeks
Robert Kuntz II	Jack Whitman
Brian Lawhead	John Wright
Darrell Lee	Fred Zeillemaker

Additionally, for the first time a survey was conducted entirely in an urban setting (Stuckagain). Although the route was short (6 miles) it can still be a good means to monitor bird populations in an urban environment. It also provides a good opportunity for observers who otherwise would not be able to travel long distances to other established routes to contribute valuable data. The Elmendorf route was also unique in that it wound through the road system within a military reservation adjacent to an urban area.

This year, too, four routes were replicated. In Sitka and Kodiak, experienced observers simultaneously ran the survey. The variability between observers appeared to be due to both differences in ability to identify bird songs and by the hearing acuity of observers. In Moose Pass and Stuckagain, routes were repeated one or more times during the 3-week survey period. In the latter case, changes in the breeding status of the birds could be reflected in changes in bird numbers and species composition. Some birds that were singing in early June may have stopped singing by mid to late June. By having more observers replicate counts each year, we will be better able to interpret data when they are analyzed in the future.

Two years of data are insufficient to make meaningful comparisons, but bird abundance and distribution was very similar between 1982 and 1983. Each year the same bird species headed the lists for total numbers and number of routes on which they were found. The relative abundance index for number of stops per species was similar to that of the index for total individuals. This implies that the distribution of a given species within a route was uniform and not clumped. The one discrepancy was that the Common Redpoll, one of the most abundant birds, was higher on the "total numbers" table than on the "stops per species" table. Redpolls are frequently flocked in large numbers, and one would expect the stops per species would be lower and the total numbers higher.

The American Robin was found on the most routes in both years and was the most abundant bird in 1983. The number of species increased from 128 in 1982 to 150 in 1983. This was likely due to the increase in routes around the state that concomitantly included a greater variety of habitats.

The increase in number of participants (from 44 to 69) was encouraging. Many new observers were experienced bird watchers. If this trend continues, the quantity and quality of data we receive for analysis will improve, and we will develop the necessary data base with which to monitor Alaska's bird populations.