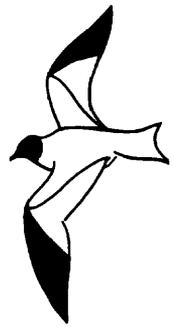


# WESTERN BIRDS



Volume 34, Number 2, 2003

## **THE OCCURRENCE AND SEASONAL DISTRIBUTION OF MIGRATORY BIRDS ON SOUTHEAST FARALLON ISLAND, 1968-1999**

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**ABSTRACT:** Daily monitoring of migrating birds at Southeast Farallon Island, initiated in 1968, has continued uninterrupted. The number of species recorded on this 44-hectare island reached 403 in 2002. Ten species of waterbird, in descending order of abundance, the Sooty Shearwater, Brown Pelican, Red and Red-necked Phalaropes, Pacific Loon, Buller's Shearwater, Bonaparte's Gull, Black-legged Kittiwake, and Heerman's and Glaucous-winged Gulls, averaged over 500 individuals recorded annually. Nine species of landbird, in descending order of abundance, the European Starling, White-crowned and Golden-crowned Sparrows, Yellow-rumped Warbler, Savannah Sparrow, Dark-eyed Junco, Ruby-crowned Kinglet, Wilson's Warbler, and American Pipit, averaged over 125 individuals annually. Since migrants on the island were last summarized through 1989, one notable change has been an increase in skuas, jaegers, Arctic and Elegant Terns, and Sabine's Gulls, perhaps reflecting an increase in Pacific Sardines in surrounding waters. Increases in the Brown Booby and Black-vented Shearwater may also be evidence of warmer late summer and fall water temperatures in the past 10 years. On the other hand, the occurrence of most species of ducks decreased dramatically during the 1990s, perhaps reflecting decreased population sizes and/or an increased wintering population of Peregrine Falcons at the Farallones. Preliminary analyses suggest that, over the 32-year monitoring period, mean spring arrival dates for many species of landbirds have become earlier and mean fall arrival dates have become later. Of species averaging at least 10 records per season, 10 of 11 species in spring and 28 of 38 species in fall showed this pattern when data from 1968-1989 are compared with those from 1968-1999.

The Point Reyes Bird Observatory (PRBO) has conducted standardized, daily censuses of all migrant bird species on Southeast Farallon Island, California, since 3 April 1968. Prior to this, back to the mid 19th century, ornithologists visited the island irregularly. DeSante and Ainley (1980) summarized the occurrence patterns of 331 species recorded on the island from 1854 to 2 April 1976. Pyle and Henderson (1991) noted 375 species

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recorded on the island through 31 December 1989 and summarized the occurrence patterns of 359 species, 20 intraspecific forms, and four interspecific hybrids recorded from 3 April 1968 through 31 December 1989. Here we update Pyle and Henderson's work, noting 400 species recorded on Southeast Farallon Island through 31 December 1999, as well as an additional three species recorded from 2000 through 2002, bringing the total number of species recorded on the island to 403. We have summarized the occurrence patterns of 385 migratory species, 13 intraspecific forms, 7 interspecific hybrids, 5 species pairs (e.g., Lesser Golden-Plover, *Pluvialis dominica/fulva*), and one species triplet (Solitary Vireo, *Vireo solitarius/cassinii/plumbeus*) recorded from 3 April 1968 through 31 December 1999. For each migratory species we provide seasonal arrival data for both spring and fall. We also summarize totals of winter arrivals and overwinter residents.

### STUDY AREA AND CENSUSING METHODS

The bird-monitoring program on Southeast Farallon Island (Figure 1) has been described by DeSante and Ainley (1980), DeSante (1983), and Pyle and Henderson (1991). Each day PRBO personnel census all migrants. Most landbirds congregate at four or five vegetated or prominent areas on the island, facilitating their detection, and we estimate a detection rate of over 95% for birds present on a given day. The environmental conditions and censusing procedures varied little over the 32-year period of data collection. The three Monterey Cypress (*Cupressus macrocarpa*) saplings planted in 1982 (see Pyle and Henderson 1991) have grown in height since 1991, but we assume that this growth has little or no effect on landbird



Figure 1. Southeast Farallon Island as viewed from the south. The Point Reyes Peninsula is visible in the background, 29 km to the north.

Photo by Pete Warzybok/PRBO

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arrival. Personnel attempted to band as many individuals as possible, alternating the location of bands (right leg versus left leg) daily. This banding, in combination with efforts to determine the age, sex, and in many cases, individual identity, of all landbirds in the field, aided the determination of turnover rates. Personnel censused shorebird roosts and freshwater seepages daily at high tide in all months except April through July, when coastal access was restricted to prevent disturbance to breeding seabirds. Conditions permitting, 5-minute counts of seabird passage were conducted each morning, which we used to calculate daily arrivals of migratory species. Also, if weather and visibility permitted, roosting Brown Pelicans (*Pelecanus occidentalis*) were counted each morning.

### TERMINOLOGY AND METHODS OF ANALYSIS

We summarize data for 385 migratory species recorded from 3 April 1968 to 31 December 1999 (Table 1) and append notes of interest following Pyle and Henderson (1991). We categorized the data (Table 1) in the manner of Pyle and Henderson (1991). Briefly, we list all migratory species identified with confidence on, from, or within 2 km of the island during the 32-year census period. Also included in Table 1 are additional subentries for 13 subspecific taxa, two subspecific intergrades, seven interspecific hybrids, five species pairs, and one species triplet for which a substantial portion of the individuals were identified to the pair or triplet but not to the species. Subentries for subspecific taxa are included only where subspecies have been identified throughout the full (1968–1999) period.

We did not include in the totals birds not confidently identified to species or species pair, rare species, or unseasonal records of birds that were not adequately described by the observer. For rare and vagrant species we follow the evaluations of the California Bird Records Committee (CBRC), whose reports are published annually in *Western Birds* (e.g., McKee and Erickson 2002). With the exception of a few individuals, listed in the notes, or records not reviewed by the CBRC since 1980, records not accepted by the CBRC are considered hypothetical by us and are not included in the table. Following the table, we list separately four hypothetical species and five escaped non-native species recorded during the 32-year period. Hypothetical species include those not endorsed by the CBRC but we believe very likely correctly identified. We have omitted two other species considered hypothetical by Pyle and Henderson (1991), the Red-necked Stint (*Calidris ruficollis*) and Thick-billed Kingbird (*Tyrannus crassirostris*), because we are now using a more conservative definition of "hypothetical." Other species in this category, for which records have been rejected by the CBRC, are the Common Ringed Plover (*Charadrius hiaticula*), Gray-tailed Tattler (*Heteroscelus brevipes*), Olive Warbler (*Peucedramus taeniatus*), and Eastern Meadowlark (*Sturnella magna*). See Patten et al. (in press) for more information on these records.

Fifteen of the 400 species recorded on the island through 1999 are not included in the table. Twelve are breeding seabirds, which are not censused daily (see Pyle and Henderson 1991 for a list of these). The remaining three species, the Short-tailed Albatross (*Phoebastria albatrus*), Black Rail

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(*Laterallus jamaicensis*), and Clapper Rail (*Rallus longirostris*), were recorded on the island before 1968, but not during the period for which we report. DeSante and Ainley (1980) provided details on these species and others reported from the island prior to 1968. Two new species were recorded in 2000 (Great-tailed Grackle, *Quiscalus mexicanus*, on 6 May, and Common Grackle, *Q. quiscula*, present from 19 November to 8 December), and one new species was recorded in 2002 (Little Bunting, *Emberiza pusilla*, 27–28 September). These additional species bring the total number of species recorded through January 2003 to 403.

Seasonal definitions follow DeSante and Ainley (1980) and Pyle and Henderson (1991): for most species, spring is 1 March–14 July, fall is 15 July–19 December, and winter is 20 December–28 (or 29) February. For shorebirds (suborder Charadrii), spring is 1 March–20 June and fall is 21 June–19 December. The data presented in Table 1 follow these seasonal definitions, with the exception of 47 records of 17 species that we reclassified after a careful examination of occurrence patterns (see DeSante and Ainley 1980:6, Pyle and Henderson 1991). The mean dates of arrival and the standard deviations (in days) around the means are presented for both spring and fall. We follow DeSante and Ainley (1980) and Pyle and Henderson (1991) in defining winter residents as individuals that remained on the island for >20 days, of which at least five days fell within the winter season.

DeSante and Ainley (1980), Desante (1983), Pyle et al. (1994), and Pyle and DeSante (1994) analyzed trends and arrival patterns of migrant waterbirds, raptors, and nocturnal migrants at Southeast Farallon Island, and Pyle et al. (1993) examined the effects of weather and lunar cycle on nocturnal migrants. Updates to some of these analyses are planned for the future.

## NOTES

*Red-necked Grebe*—The arrival pattern of this species is perhaps more accurately represented by a single over-winter peak (mean arrival 5 January  $\pm$  54 days).

*Eared Grebe*—The mean winter date of all records is 13 January  $\pm$  53 days.

*Black-footed Albatross*—This species' abundance peaking in the summer is best defined by the arrival of 259 individuals from 28 February through 30 August (mean arrival 25 April  $\pm$  42 days). The remaining 34 records are scattered widely between 3 September and 31 January.

*Northern Fulmar*—The arrival pattern of this species is best represented by a single over-winter peak (mean arrival 5 January  $\pm$  46 days).

*Sooty Shearwater*—The arrival pattern of this species is perhaps more accurately represented by a single over-summer peak (mean arrival 24 July  $\pm$  52 days).

*Manx Shearwater*—The table includes a record for 9 October 1997 not accepted by the CBRC.

*Brown Booby*—The table includes an individual present 3–7 October 1997, a record not reviewed by the CBRC. Note that our arrival calculations consider individuals returning in subsequent years to be new arrivals. Thus, the arrival on 16 August 1993 of a Brown Booby that first arrived in 1992 is counted twice in the totals.

**Table 1** Occurrence and Seasonal Distribution of Birds on Southeast Farallon Island

Species	Spring				Fall				Winter		
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
Red-throated Loon	115	32	7 Mar-11 Jul	21 Apr $\pm$ 36	4 30 Mar 69	72	1 Aug-19 Dec	2 Nov $\pm$ 27	6 1 Nov 75	11	0
<i>Gavia stellata</i>	53,790	8850	1 Mar-14 Jul	23 Apr $\pm$ 17	1853 24 Apr 81	39,022	17 Jul-19 Dec	11 Nov $\pm$ 11	4000 15 Nov 83	5918	59
Pacific Loon			2 Mar-13 Jul	10 May $\pm$ 19	100 8 May 84		3 Nov $\pm$ 3	200 5 Nov 83			
Common Loon	2049	238	1 Mar-13 Jul	10 May $\pm$ 19	100 8 May 84	1426	18 Jul-19 Dec	3 Nov $\pm$ 3	200 5 Nov 83	385	2
<i>G. immer</i>	1	0	—	—	0	1	16 Dec	16 Dec	1	0	0
Yellow-billed Loon <sup>a</sup>											
<i>G. adamsii</i>											
Pied-billed Grebe	13	1	14 Jul	14 Jul	1 14 Jul 86	12	26 Aug-28 Oct	27 Sep $\pm$ 21	2 29 Aug 89 <sup>b</sup>	0	0
<i>Podilymbus podiceps</i>											
Horned Grebe	92	12	1 Mar-24 Mar	17 Mar $\pm$ 15	4 5 Mar 77 <sup>b</sup>	58	16 Sep-16 Dec	26 Oct $\pm$ 22	6 2 Oct 96	22	7
<i>Podiceps auritus</i>											
Red-necked Grebe	154	30 <sup>c</sup>	1 Mar-29 May	27 Mar $\pm$ 24	3 10 Mar 85 <sup>c</sup>	71 <sup>c</sup>	12 Sep-19 Dec	19 Nov $\pm$ 25	6 19 Dec 87	53 <sup>c</sup>	12
<i>P. griseogena</i>											
Eared Grebe	14,367	3213 <sup>c</sup>	1 Mar-23 Jun	27 Mar $\pm$ 17	1100 10 Apr 77	5559 <sup>c</sup>	17 Jul-19 Dec	20 Nov $\pm$ 23	350 19 Dec 76	5595 <sup>c</sup>	7578
<i>P. nigricollis</i>											
Western Grebe	418	12	7 Mar-7 Jul	3 May $\pm$ 40	2 1 Jul 95 <sup>b</sup>	388	17 Jul-12 Dec	22 Oct $\pm$ 21	73 27 Oct 88	18	21
<i>Aechmophorus occidentalis</i>											
Clark's Grebe	47	11	19 Mar-27 Jun	28 May $\pm$ 34	3 15 Jul 77	35	23 Jul-29 Nov	18 Oct $\pm$ 33	4 24 Nov 99	1	0
<i>A. clarkii</i>											
Total W./Clark's Grebe	1039	124	1 Mar-10 Jul	7 May $\pm$ 33	8 24 Mar 74	864	17 Jul-19 Dec	22 Oct $\pm$ 23	74 27 Oct 88	51	32
<i>A. occidentalis/clarkii</i>											
Laysan Albatross	5	2	21 Mar-22 Mar	22 Mar $\pm$ 1	1 22 Mar 95 <sup>b</sup>	2	7 Dec	7 Dec	1	1	0
<i>Phoebastria immutabilis</i>											
Black-footed Albatross	294	243 <sup>c</sup>	1 Mar-5 Jul	19 Apr $\pm$ 34	32 22 Mar 95	43 <sup>c</sup>	19 Jul-18 Dec	24 Sep $\pm$ 50	5 9 Sep 99	8 <sup>c</sup>	0
<i>P. nigripes</i>											
Northern Fulmar	9536	1535 <sup>c</sup>	1 Mar-28 Jun	18 Mar $\pm$ 17	200 19 Apr 90	4254 <sup>c</sup>	28 Jul-19 Dec	23 Nov $\pm$ 20	990 2 Dec 90	3747 <sup>c</sup>	0
<i>Fulmarus glacialis</i>											



**Table 1 (Continued)**

Species	Spring				Fall				Winter		
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
American Bittern	5	0	—	—	0	5	16 Sep–26 Oct	10 Oct $\pm$ 16	1	0	0
<i>Botaurus lentiginosus</i>									16 Sep 91 <sup>b</sup>		
Great Blue Heron	212	12 <sup>c</sup>	3 Mar–14 Jul	11 Jun $\pm$ 44	2	198 <sup>c</sup>	16 Jul–6 Dec	9 Sep $\pm$ 24	6	2 <sup>c</sup>	3
<i>Ardea herodias</i>									18 Sep 92		
Great Egret	58	2	13 Jun–14 Jun	14 Jun $\pm$ 1	1	55	24 Jul–19 Nov	24 Sep $\pm$ 31	4	1	0
<i>A. alba</i>									14 Sep 93		
Snowy Egret	45	7	27 Apr–13 Jul	16 Jun $\pm$ 31	1	38	18 Jul–19 Dec	20 Sep $\pm$ 40	7	0	1
<i>Egretta thula</i>									8 Oct 88		
Cattle Egret	104	1	18 May	18 May	1	95	16 Sep–19 Dec	22 Nov $\pm$ 17	21	8	6
<i>Bubulcus ibis</i>									23 Nov 84		
Green Heron	25	5	29 Apr–13 Jul	16 Jun $\pm$ 30	1	20	1 Aug–14 Oct	17 Sep $\pm$ 17	1	0	0
<i>Butorides virescens</i>									22 Sep 98 <sup>b</sup>		
Black-crowned Night-Heron	12	1	18 Mar	18 Mar	1	10	18 Aug–12 Nov	24 Sep $\pm$ 30	2	1	0
<i>Nycticorax nycticorax</i>									21 Oct 97 <sup>b</sup>		
White-faced Ibis	1	0	—	—	0	1	17 Sep	17 Sep	1	0	0
<i>Plegadis chihii</i>									18 Sep 99 <sup>b</sup>		
Turkey Vulture	2	2	22 May	22 May	2	0	—	—	0	0	0
<i>Cathartes aura</i>									—		
Greater White-fronted Goose	306	3	10 Mar–6 Jul	28 Mar $\pm$ 31	2	380	20 Sep–6 Nov	10 Oct $\pm$ 13	97	1	0
<i>Anser albifrons</i>									2 Oct 99		
Emperor Goose <sup>d</sup>	2	0	—	—	0	0	—	—	0	2	1
<i>Chen canagica</i>									—		
Snow Goose	146	0	—	—	0	146	15 Oct–1 Dec	5 Nov $\pm$ 3	128	0	1
<i>C. caerulescens</i>									6 Nov 90		
Ross' Goose	14	0	—	—	0	14	6 Nov–11 Dec	9 Nov $\pm$ 9	13	0	0
<i>C. rossii</i>									6 Nov 90		
Canada Goose	915	2	15 Mar–30 Apr	7 Apr $\pm$ 33	1	889	19 Sep–18 Dec	8 Nov $\pm$ 11	401	24	10
<i>Branta canadensis</i>									4 Nov 78		
Brant	16,413	1451	18 Mar–22 May	11 Apr $\pm$ 22	440	14,960	2 Oct–18 Dec	7 Nov $\pm$ 6	7200	2	1
<i>B. bernicla</i>									4 Nov 83		

Tundra Swan	11	0	—	—	0	11	11 Nov– 18 Dec ±11	14 Nov ±11	10	0
<i>Cygnus columbianus</i>									11 Nov 78	0
Wood Duck	2	0	—	—	0	2	21 Sep– 31 Oct ±20	11 Oct	1	0
<i>Aix sponsa</i>									31 Oct 95 <sup>b</sup>	0
Gadwall	8	0	—	—	0	8	14 Aug– 19 Dec ±45	10 Oct	3	0
<i>Anas strepera</i>									30 Oct 96	0
Eurasian Wigeon	1	0	—	—	0	1	1 Oct	1 Oct	1	0
<i>A. penelope</i>									1 Oct 98	0
American Wigeon	98	0	—	—	0	98	11 Sep– 24 Nov ±15	15 Oct	20	0
<i>A. americana</i>									18 Oct 99	0
Mallard	101	7	31 Mar– 30 Apr	13 Apr ±12	2	94	13 Aug– 8 Dec ±25	24 Oct	13	0
<i>A. platyrhynchos</i>									16 Oct 99	0
Blue-winged Teal	7	0	—	—	0	7	22 Sep– 13 Oct ±8	2 Oct	2	0
<i>A. discors</i>									5 Oct 90 <sup>b</sup>	0
Cinnamon Teal	115	10 <sup>c</sup>	1 Mar– 2 Mar	2 Mar ±0	7	88	5 Sep– 10 Nov ±12	24 Sep	17	17 <sup>c</sup>
<i>A. cyanoptera</i>									20 Sep 91	0
Northern Shoveler	56	1	27 Jun	27 Jun	1	55	14 Aug– 14 Nov ±20	5 Oct	12	0
<i>A. clypeata</i>									1 Oct 98	0
Northern Pintail	3554	5	12 Mar– 20 Mar	15 Mar ±3	3	3546	27 Jul– 8 Dec ±25	22 Sep	175	3
<i>A. acuta</i>									19 Oct 78	0
Green-winged Teal	381	0	—	—	0	380	14 Aug– 17 Dec ±25	13 Oct	39	1
<i>A. crecca</i>									13 Oct 87	0
Canvasback	2	0	—	—	0	2	24 Oct– 28 Nov ±25	11 Nov	1	0
<i>Aythya valisineria</i>									24 Oct 88 <sup>b</sup>	0
Ring-necked Duck	1	0	—	—	0	1	7 Oct	7 Oct	1	0
<i>A. collaris</i>									8 Oct 87 <sup>b</sup>	0
Greater Scaup	128	1	24 Apr	24 Apr	1	125	19 Sep– 11 Dec ±14	22 Oct	18	2
<i>A. marila</i>									27 Oct 88	0
Lesser Scaup	13	0	—	—	0	13	29 Sep– 8 Nov ±14	25 Oct	6	0
<i>A. affinis</i>									30 Oct 89	0
Harlequin Duck	23	3	25 Mar– 20 May	22 Apr ±28	2	11	23 Jul– 19 Dec ±52	6 Oct	2	5
<i>Histrionicus histrionicus</i>									2 Dec 78	0
Surf Scoter	5405	2245	2 Mar– 5 Jul	4 Apr ±21	200	2406 <sup>c</sup>	16 Jul– 19 Dec ±20	12 Nov	233	754
<i>Melanitta perspicillata</i>									13 Nov 89	474

(continued)

**Table 1 (Continued)**

Species	Spring				Fall				Winter		
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
White-winged Scoter	469	188	1 Mar-6 Jul	5 Apr $\pm$ 20	33 9 Apr 85	197	14 Sep-19 Dec	7 Nov $\pm$ 19	35 30 Oct 71	84	28
<i>M. fusca</i>											
Black Scoter	25	2	7 Mar-23 Mar	15 Mar $\pm$ 11	1 23 Mar 95 <sup>b</sup>	13	9 Oct-9 Dec	5 Nov $\pm$ 27	5 9 Oct 85	10	0
<i>M. nigra</i>											
Long-tailed Duck	31	5 <sup>c</sup>	2 Mar-10 Mar	8 Mar $\pm$ 3	2 10 Mar 81 <sup>b</sup>	14 <sup>c</sup>	16 Oct-11 Dec	16 Nov $\pm$ 24	3 20 Nov 80 <sup>b</sup>	12 <sup>c</sup>	0
<i>Clangula hyemalis</i>											
Bufflehead	8	6	2 Apr-7 Apr	6 Apr $\pm$ 2	5 7 Apr 82	2	13 Nov-17 Dec	30 Nov $\pm$ 24	1 13 Nov 89 <sup>b</sup>	0	0
<i>Bucephala albeola</i>											
Common Goldeneye <sup>d</sup>	19	5	12 Apr-6 Jun	7 May $\pm$ 22	2 15 May 70	2	7 Dec-17 Dec	12 Dec $\pm$ 7	2 17 Dec 78	12	2
<i>B. clangula</i>											
Barrow's Goldeneye <sup>d</sup>	1	0	—	—	0	0	—	—	0	1	0
<i>B. islandica</i>											
Red-breasted Merganser	388	53 <sup>c</sup>	4 Mar-17 May	28 Mar $\pm$ 19	6 18 Mar 86 <sup>b</sup>	193 <sup>c</sup>	16 Oct-27 Sep	24 Nov $\pm$ 14	10 23 Nov 73	142 <sup>c</sup>	112
<i>Mergus serrator</i>											
Ruddy Duck	29	1	11 Apr	11 Apr	1 11 Apr 97	26	7 Dec	25 Oct $\pm$ 18	15 25 Oct 70	2	0
<i>Oxyura jamaicensis</i>											
Osprey	51	7	29 Mar-31 May	6 May $\pm$ 23	1 27 Apr 92 <sup>b</sup>	44	23 Jul-11 Sep	19 Sep $\pm$ 22	2 24 Sep 89	0	0
<i>Pandion haliaetus</i>											
White-tailed Kite	23	0	—	—	0	23	8 Dec	12 Oct $\pm$ 20	2 19 Sep 99 <sup>b</sup>	0	0
<i>Elanus leucurus</i>											
Bald Eagle	7	0	—	—	0	5	1 Oct-22 Nov	30 Oct $\pm$ 24	1 10 Oct 98 <sup>b</sup>	2	0
<i>Haliaeetus leucocephalus</i>											
Northern Harrier	237	1	6 Apr	6 Apr	1 6 Apr 82	236	27 Jul-13 Dec	20 Oct $\pm$ 25	6 6 Oct 94 <sup>b</sup>	0	0
<i>Circus cyaneus</i>											
Sharp-shinned Hawk	333	0	—	—	0	331	11 Sep-29 Nov	8 Oct $\pm$ 19	13 18 Sep 88	2	0
<i>Accipiter striatus</i>											
Cooper's Hawk	28	0	—	—	0	28	12 Sep-22 Oct	1 Oct $\pm$ 8	3 29 Sep 74	0	0
<i>A. cooperii</i>											
Red-tailed Hawk	16	4	6 Apr-22 May	21 Apr $\pm$ 21	1 14 Apr 99 <sup>b</sup>	10	24 Sep-12 Dec	2 Nov $\pm$ 21	1 7 Nov 97 <sup>a</sup>	2	3
<i>Buteo jamaicensis</i>											

Rough-legged Hawk	49	0	—	—	0	47	28 Sep- 11 Dec	9 Nov ±17	12 27 Oct 73	2	4
<i>B. lagopus</i>							28 Oct	28 Oct	1	0	0
Golden Eagle	1	0	—	—	0	1	28 Oct	28 Oct	28 Oct 71	11	32
<i>Aquila chrysaetos</i>								8 Oct	1 Oct 98 <sup>b</sup>	0	0
American Kestrel <sup>f</sup>	475	4	8 Mar- 26 Jun	25 May ±52	2	460	24 Jul- 15 Dec	±26	30 Sep 98	0	0
<i>Falco sparverius</i>							7 Sep- 24 Nov	10 Oct ±18	7 Oct 97 <sup>b</sup>	28	103
Merlin	246	0	—	—	0	246	22 Jul- 18 Dec	±26	23 Sep	0	0
<i>F. columbarius</i>							23 Sep	—	23 Sep 80	0	0
Peregrine Falcon <sup>d</sup>	531	75	1 Mar- 29 Jun	20 Apr ±28	4	428	11 Aug- 21 Sep	30 Aug ±12	26 Aug 87	0	0
<i>F. peregrinus</i>							21 Jul- 15 Oct	11 Sep ±21	15 Oct 82	0	0
Prairie Falcon	1	0	—	—	0	1	—	—	—	0	0
<i>F. mexicanus</i>											
Virginia Rail	8	0	—	—	0	8	11 Aug- 21 Sep	30 Aug ±12	26 Aug 87	0	0
<i>Rallus limicola</i>							21 Jul- 15 Oct	11 Sep ±21	15 Oct 82	0	0
Sora	24	3	28 Mar- 30 Jun	18 May ±48	1	21	—	—	—	0	0
<i>Porzana carolina</i>											
Common Moorhen	3	2	13 May- 6 Jun	25 May ±17	1	1	—	—	—	0	0
<i>Gallinula chloropus</i>											
American Coot	18	2	11 May- 12 May	12 May ±1	1	16	11 Aug- 27 Oct	30 Sep ±17	29 Sep 96 <sup>b</sup>	0	0
<i>Fulica americana</i>							17 Jul- 15 Dec	25 Sep ±35	26 Oct 81	26	365
Black-bellied Plover	1156	62	1 Mar- 11 May	30 Mar ±16	11	1068	5 Sep- 17 Sep	13 Sep ±5	17 Sep 91 <sup>b</sup>	0	0
<i>Pliuialtis squatarola</i>							17 Sep- 2 Dec	11 Oct ±18	5 Oct 91	0	1
American Golden-Plover <sup>e</sup>	5	0	—	—	0	5	—	—	—	0	0
<i>P. dominica</i>											
Pacific Golden-Plover <sup>e</sup>	32	0	—	—	0	32	17 Sep- 2 Dec	11 Oct ±18	5 Oct 91	0	1
<i>P. fulva</i>											
Total Lesser Golden-Plover <sup>e</sup>	161	3	28 Apr- 28 May	8 May ±17	1	157	8 Aug- 9 Dec	7 Oct ±23	17 Oct 89	1	1
<i>P. dominica/fulva</i>							27 Aug- 5 Oct	17 Sep ±16	22 Sep 91 <sup>b</sup>	0	0
Snowy Plover	4	0	—	—	0	4	—	—	—	0	0
<i>Charadrius alexandrinus</i>											
Semipalmated Plover	300	0	—	—	0	300	21 Jul- 28 Oct	31 Aug ±14	26 Aug 75	0	0
<i>C. semipalmatus</i>							12 Jul- 19 Dec	19 Oct ±30	26 Oct 88	72	23
Killdeer <sup>d</sup>	578	18	16 Mar- 16 Jun	14 May ±26	2	488	—	—	—	0	0
<i>C. vociferus</i>											

**Table 1 (Continued)**

Species	Spring				Fall				Winter		
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
Eurasian Dotterel <sup>b</sup>	2	0	—	—	0	2	12 Sep–15 Sep	14 Sep $\pm$ 2	1	0	0
<i>C. morinellus</i>	4	0	—	—	0	2	23 Jun	23 Jun $\pm$ 0	2	2	0
Black-necked Stilt	6	0	—	—	0	5	28 Jul–29 Nov	19 Aug $\pm$ 73	2	1	0
<i>Himantopus mexicanus</i>	87	1	29 Apr	29 Apr	1	86	5 Jul–2 Dec	22 Sep $\pm$ 25	5	0	0
American Avocet	63	1	3 May	3 May	1	62	10 July–21 Aug	10 July–21 Aug $\pm$ 19	6	0	0
<i>Recurvirostra americana</i>	1	0	—	—	0	1	27 Sep	7 Sep	1	0	0
Greater Yellowlegs	934	31	22 Mar–20 Jun	9 May $\pm$ 25	23	896	7 Sep	—	7 Sep 89	7	528
Lesser Yellowlegs	1744	336	2 Mar–2 May	1 May $\pm$ 20	6 Mar 83	1393	15 Dec–23 Jun	21 Jun–2 Sep $\pm$ 37	27	15	375
<i>T. flaviipes</i>	158	12	20 Apr–14 Jun	14 May $\pm$ 14	25 Mar 94 <sup>b</sup>	146	10 Dec–15 Nov	1 Sep $\pm$ 33	56	0	2
Solitary Sandpiper	2	0	—	—	0	2	22 Aug–27 Aug	6 Sep $\pm$ 20	4	0	0
<i>T. solitaria</i>	1437	276	7 Mar–19 Jun	13 May $\pm$ 16	90	1153	24 Jun–18 Dec	25 Aug $\pm$ 4	1	8	345
Willlet	7	0	—	—	0	7	23 Jun–23 Nov	29 Aug $\pm$ 29	131	0	0
<i>Catoptrophorus semipalmatus</i>	1	0	—	—	0	1	11 Sep	20 Aug $\pm$ 52	27 Aug 83	0	0
Wandering Tattler	560	9	16 Mar–1 Jun	3 May $\pm$ 28	2	551	28 Jun–27 Nov	11 Sep	1	0	0
<i>Heteroscelus incanus</i>	438	49	13 Mar–5 Jun	2 May $\pm$ 21	6 Mar 87	373	19 Dec	—	11 Sep 99	0	0
Spotted Sandpiper	1	0	—	—	0	1	28 Jun–27 Nov	4 Sep	27	0	0
<i>Actitis macularia</i>	1	0	—	—	0	1	27 Nov	4 Sep	14 Aug 75	0	0
Upland Sandpiper <sup>b</sup>	1	0	—	—	0	1	19 Dec	25 Aug	16 Aug 87	16	90
<i>Bartramia longicauda</i>											
Whimbrel											
<i>Numenius phaeopus</i>											
Long-billed Curlew											
<i>N. americanus</i>											
Bar-tailed Godwit <sup>b</sup>											
<i>Limosa lapponica</i>											
Marbled Godwit											
<i>Limosa fedoa</i>											
Ruddy Turnstone											
<i>Arenaria interpres</i>											

Black Turnstone	3851	139	1 Mar— 10 Jun	18 Apr ±29	71 5 Mar 85	3459	21 Jun— 15 Dec	17 Sep +35	106 25 Sep 75	253	1824
<i>A. melanocephala</i>											
Surfbird	261	21	21 Mar— 2 May	20 Apr ±9	5 21 Apr 90 <sup>b</sup>	226	17 Jul— 19 Dec	2 Sep +30	19 8 Aug 68	14	19
<i>Aphriza virgata</i>											
Red Knot	6	0	—	—	0	6	7 Sep— 3 Oct	17 Sep +10	1 15 Sep 91 <sup>b</sup>	0	0
<i>Calidris canutus</i>											
Sanderling	195	3	23 Mar— 29 Mar	25 Mar ±3	2 23 Mar 90	189	6 Jul— 14 Dec	12 Sep +31	14 17 Sep 75	3	0
<i>C. alba</i>											
Semipalmated Sandpiper <sup>e</sup>	12	0	—	—	0	12	3 Aug— 16 Sep	18 Aug +10	2 20 Aug 77	0	0
<i>C. pusilla</i>											
Western Sandpiper	976	0	—	—	0	970	5 Jul— 14 Dec	31 Aug +18	96 17 Aug 89	6	0
<i>C. mauri</i>											
Least Sandpiper	508	9	6 Mar— 10 May	31 Mar +18	6 31 Mar 90	496	10 Jul— 15 Dec	2 Sep +21	24 16 Aug 97	3	0
<i>C. minutilla</i>											
Baird's Sandpiper	286	1	11 May	11 May	1	285	10 Jul— 11 Oct	26 Aug +14	16 16 Aug 87	0	0
<i>C. bairdii</i>											
Pectoral Sandpiper	362	1	4 May	4 May	1	361	27 Jul— 23 Oct	20 Sep +12	60 20 Sep 91	0	0
<i>C. melanotos</i>											
Sharp-tailed Sandpiper <sup>e</sup>	6	0	—	—	0	6	2 Sep— 7 Nov	29 Sep +27	1 17 Sep 96 <sup>b</sup>	0	0
<i>C. acuminata</i>											
Rock Sandpiper	18	0	—	—	2	16	19 Oct— 5 Dec	10 Nov +14	2 18 Dec 79 <sup>b</sup>	2	12
<i>C. pilocnemis</i>											
Dunlin	174	1	20 May	20 May	1	172	14 Sep— 9 Dec	13 Oct +11	70 14 Oct 87	1	2
<i>C. alpina</i>											
Buff-breasted Sandpiper	7	0	—	—	0	7	15 Aug— 8 Sep	30 Aug +8	2 29 Aug 78	0	0
<i>Tryngites subruficollis</i>											
Ruff	1	0	—	—	0	1	15 Oct	15 Oct	1 15 Oct 93	0	0
<i>Philomachus pugnax</i>											
Short-billed Dowitcher	1002	13	6 Apr— 13 Jun	3 Jun +24	11 13 Jun 93	989	2 Jul— 19 Oct	24 Aug +20	0 4 Sep 85	0	0
<i>Limnodromus griseus</i>											
Long-billed Dowitcher	367	2	11 May— 15 May	13 May ±3	1 15 May 90 <sup>b</sup>	364	18 Jul— 10 Dec	1 Oct +25	41 22 Sep 86	1	0
<i>L. scolopaceus</i>											
Wilson's Snipe	148	6	3 Apr— 28 May	6 May ±19	1 9 May 89 <sup>b</sup>	141	18 Jul— 12 Dec	11 Oct +27	4 27 Oct 88	1	0
<i>Gallinago delicata</i>											

(continued)

**Table 1 (Continued)**

Species	Spring				Fall				Winter		
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
Wilson's Phalarope	3	0	--	--	0	3	20 Jul--17 Aug	1 Aug $\pm$ 14	1	0	0
<i>Phalaropus tricolor</i>							17 Aug	17 Aug 88 <sup>b</sup>			
Red-necked Phalarope	179,227	31,174	12 Apr--12 Jun	9 May $\pm$ 12	6300	148,053	19 Jul--28 Nov	1 Sep $\pm$ 18	19,500	0	0
<i>P. lobatus</i>					30 Apr 82		14 Jul--19 Dec	18 Sep $\pm$ 33	22 Aug 68		
Red Phalarope	262,901	21,682	5 Mar--12 Jun	15 May $\pm$ 13	3500	240,734	26 Aug--31 Oct	4 Sep 94	30,000	485	0
<i>P. fulvicarius</i>					8 May 96		3 Aug	7 Oct	4 Sep 94		
South Polar Skua	24	0	--	--	0	24	3 Aug--10 Dec	8 Oct $\pm$ 20	3 Oct 99	0	0
<i>Stercorarius maccommicki</i>						764	20 Aug--22 Nov	7 Sep $\pm$ 19	26	2	0
Pomarine Jaeger	773	7	1 Mar--27 Apr	25 Mar $\pm$ 29	2	227	23 Oct	3 Aug	5 Nov 97		
<i>S. pomarinus</i>					1 Mar 90		3 Aug	3 Aug	2 Oct 97	1	0
Parasitic Jaeger	229	1	9 Jun	9 Jun	1	13	24 Aug--23 Oct	7 Sep $\pm$ 41	11 Oct 99 <sup>b</sup>	0	0
<i>S. parasiticus</i>					9 Jun 95		3 Aug	3 Aug	3 Aug 77	0	0
Long-tailed Jaeger	14	1	29 Apr	29 Apr	1	1	4 Sep	4 Sep	4 Sep 83	0	0
<i>S. longicaudus</i>					29 Apr 71		4 Sep	4 Sep	4 Sep 83	0	0
Laughing Gull	2	1	2 Jun	2 Jun	1	1	28 Sep--19 Dec	6 Nov $\pm$ 9	27 Oct 91	26	0
<i>Larus atricilla</i>					3 Jun 88 <sup>b</sup>		15 Jul--19 Dec	2 Oct $\pm$ 30	820	252	42
Franklin's Gull	2	1	19 May	19 May	1	725	31 Aug--19 Dec	8 Nov $\pm$ 19	9 Aug 83	200	18
<i>L. pipixcan</i>					19 May 91		30 Jul--30 Oct	18 Oct $\pm$ 31	14 Oct 70		
Bonaparte's Gull	40,139	37,516	2 Mar--28 May	24 Apr $\pm$ 6	30,000	2597	28 Sep--19 Dec	6 Nov $\pm$ 9	475	26	0
<i>L. philadelphia</i>					26 Apr 70		15 Jul--19 Dec	2 Oct $\pm$ 30	27 Oct 91		
Heerman's Gull	17,789	288	2 Mar--14 Jul	15 Apr $\pm$ 65	40	17,249	31 Aug--19 Dec	8 Nov $\pm$ 19	820	252	42
<i>L. heermanni</i>					20 Jun 97		31 Aug--19 Dec	18 Oct $\pm$ 31	9 Aug 83		
Mew Gull	968	43	1 Mar--9 May	17 Mar $\pm$ 14	3	127	15 Dec--16 Jul	26 Oct $\pm$ 31	50	200	18
<i>L. canus</i>					24 Mar 85 <sup>b</sup>		16 Jul--19 Dec	7 Nov 97	14 Oct 70		
Ring-billed Gull	160	20	3 Mar--14 Jul	22 Apr $\pm$ 49	1	51,376	15 Dec--16 Jul	26 Oct $\pm$ 31	6	13	0
<i>L. delawarensis</i>					18 Apr 93 <sup>b</sup>		19 Dec	26 Oct	5 Oct 68 <sup>b</sup>		
California Gull	53,725	1189	1 Mar--14 Jul	2 Apr $\pm$ 25	250	1160	19 Dec	26 Oct	2500	1160	3
<i>L. californicus</i>					27 Mar 90				7 Nov 97		

Herring Gull	9763	2187 <sup>c,f</sup>	1 Mar- 12 Jul	19 Mar ±14	125 4 Mar 77	3171 <sup>c</sup>	19 Aug- 19 Dec	21 Nov ±20	120 7 Dec 96	4405 <sup>c</sup>	563
<i>L. argentatus</i>											
Thayer's Gull	470	90 <sup>c</sup>	1 Mar- 30 May	19 Mar ±15	8 10 Mar 91	222 <sup>c</sup>	2 Jul- 19 Dec	18 Nov ±20	8 31 Oct 85	158 <sup>c</sup>	2
<i>L. thayeri</i>											
Glaucous-winged Gull	17,395	4012 <sup>c,f</sup>	1 Mar- 4 Jul	18 Mar ±14	350 13 Mar 94	4670 <sup>c</sup>	20 Jul- 19 Dec	30 Nov ±23	440 18 Dec 79	8713 <sup>c</sup>	1796
<i>L. glaucescens</i>											
Glaucous Gull	59	18 <sup>c</sup>	2 Mar- 6 May	20 Mar ±18	3 8 Mar 97 <sup>b</sup>	10 <sup>c</sup>	24 Oct- 15 Dec	20 Nov ±17	1 21 Nov 98 <sup>b</sup>	31 <sup>c</sup>	4
<i>L. hyperboreus</i>											
Sabine's Gull	1939	16	26 Mar- 16 Jun	14 May ±18	10 18 May 77	1923	20 Aug- 11 Nov	13 Sep ±12	600 22 Sep 96	0	0
<i>Xema sabini</i>											
Black-legged Kittiwake	28,168	22,903	1 Mar- 1 Jun	16 Mar ±11	4000 4 Mar 76	1315	16 Aug- 19 Dec	12 Nov ±12	450 19 Nov 70	3950	0
<i>Rissa tridactyla</i>											
Caspian Tern	33	8	26 May- 9 Jul	16 Jun ±16	2 13 Jun 89 <sup>b</sup>	25	15 Jul- 10 Oct	27 Aug ±26	3 17 Jul 83 <sup>b</sup>	0	0
<i>Sterna caspia</i>											
Elegant Tern	2933	0	—	—	0	2933	2 Aug- 14 Nov	27 Sep ±16	671 28 Sep 97	0	0
<i>S. elegans</i>											
Common Tern	12	0	—	—	0	12	31 Aug- 28 Sep	13 Sep ±9	1 5 Sep 99 <sup>b</sup>	0	0
<i>S. hirundo</i>											
Arctic Tern	13,978	1	24 May	24 May	1	13,977	23 Aug- 9 Oct	6 Sep ±9	7500 31 Aug 93	0	0
<i>S. paradisaea</i>											
Forster's Tern	1	0	—	—	0	1	28 Oct	28 Oct	1	0	0
<i>S. forsteri</i>											
Thick-billed Murre <sup>a</sup>	2	0	—	—	0	2	31 Oct	1 Nov	1	0	0
<i>Uria lomvia</i>											
Marbled Murrelet	3	0	—	—	0	3	11 Oct- 24 Nov	9 Nov ±25	2 24 Nov 99	0	0
<i>Brachyramphus marmoratus</i>											
Xantus's Murrelet	22	5	7 Mar- 12 May	18 Apr ±31	2 12 May 91	17	17 Jul- 16 Dec	31 Aug ±42	2 20 Jul 99 <sup>b</sup>	0	0
<i>Synthliboramphus hypoleucus</i>											
Craver's Murrelet	26	0	—	—	0	26	7 Sep- 15 Nov	13 Oct ±15	10 13 Oct 98	0	0
<i>S. craveri</i>											
Ancient Murrelet	692	59 <sup>c</sup>	1 Mar- 10 Jun	27 Mar ±25	10 2 Mar 96	241 <sup>c</sup>	16 Jul- 19 Dec	22 Nov ±30	30 11 Dec 75	392 <sup>c</sup>	41
<i>S. antiquus</i>											
Horned Puffin <sup>a</sup>	27	16	7 Mar- 22 Jun	6 May ±40	4 29 Mar 90	7	26 Sep- 2 Nov	19 Oct ±19	2 25 Oct 75	4	0
<i>Fratrercula corniculata</i>											

(continued)

**Table 1 (Continued)**

Species	Spring				Fall				Winter		
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
Rock Dove	183	89	2 Mar-14 Jul	10 May $\pm$ 31	3 15 May 77 <sup>b</sup>	85	15 Jul-16 Dec	29 Sep $\pm$ 32	12 14 Sep 75	9	0
Columba livia											
Band-tailed Pigeon	373	157	24 Mar-14 Jul	27 May $\pm$ 29	6 7 Jul 70 <sup>b</sup>	214	15 Jul-11 Dec	17 Sep $\pm$ 37	4 21 Oct 72	2	0
C. fasciata											
White-winged Dove	19	0	—	—	0	19	20 Jul-24 Nov	29 Sep $\pm$ 28	1 7 Oct 98 <sup>b</sup>	0	0
Zenaidura asiatica											
Mourning Dove	871	192	29 Mar-14 Jul	17 May $\pm$ 21	14 29 Apr 68	675	17 Jul-8 Dec	16 Sep $\pm$ 23	20 3 Sep 72	4	0
Z. macroura											
Black-billed Cuckoo <sup>a</sup>	2	0	—	—	0	2	26 Aug-18 Oct	22 Sep $\pm$ 38	1 26 Aug 87 <sup>b</sup>	0	0
Coccyzus erythrophthalmus											
Yellow-billed Cuckoo	23	10	14 Jun-7 Jul	23 Jun $\pm$ 9	1 15 Jun 97 <sup>b</sup>	13	21 Jul-7 Nov	31 Aug $\pm$ 32	1 10 Oct 96 <sup>b</sup>	0	0
C. americanus											
Barn Owl	15	1	13 Jul	13 Jul	1 13 Jul 73	14	3 Aug-27 Oct	28 Sep $\pm$ 27	5 27 Oct 99	0	4
Tyto alba											
Great Horned Owl	1	0	—	—	0	1	21 Nov	21 Nov	1 21 Nov 70	0	0
Bubo virginianus											
Burrowing Owl	304	30	2 Mar-20 May	4 Apr $\pm$ 20	6 10 Mar 97	268	28 Aug-17 Dec	9 Oct $\pm$ 21	10 12 Oct 89 <sup>b</sup>	6	72
Athene cucularia											
Long-eared Owl	57	5 <sup>f</sup>	6 Mar-14 Jul	31 May $\pm$ 53	1 6 Mar 95 <sup>b</sup>	52	17 Jul-26 Nov	15 Sep $\pm$ 37	3 5 Aug 74 <sup>b</sup>	0	0
Asio otus											
Short-eared Owl	261	4	16 Apr-5 Jul	3 Jun $\pm$ 35	1 16 Apr 88 <sup>b</sup>	249	16 Jul-7 Dec	13 Oct $\pm$ 18	17 27 Oct 88	8	4
A. flammeus											
Northern Saw-whet Owl	20	0	—	—	0	18	20 Sep-21 Nov	27 Oct $\pm$ 16	2 19 Nov 87 <sup>b</sup>	2	0
Aegolius acadicus											
Lesser Nighthawk	52	44	18 May-14 Jul	14 Jun $\pm$ 17	2 30 Jun 80 <sup>b</sup>	8	19 Jul-9 Sep	10 Aug $\pm$ 20	1 24 Jul 91 <sup>b</sup>	0	0
Chordeiles acutipennis											
Common Nighthawk	4	2	2 Jun-16 Jun	9 Jun $\pm$ 10	1 2 Jun 99 <sup>b</sup>	2	8 Sep	8 Sep $\pm$ 0	1 8 Sep 87 <sup>b</sup>	0	0
C. minor											
Common Poorwill	8	0	—	—	0	8	9 Sep-31 Oct	11 Oct $\pm$ 18	1 29 Oct 93	0	0
Phalaenoptilus nuttallii											

Black Swift	20	7	16 May– 8 Jul	11 Jun ±15	3 11 Jun 75	13	1 Aug– 9 Oct	3 Sep +21	2 9 Aug 89 <sup>b</sup>	0	0
<i>Cypseloides niger</i>											
Chimney Swift	24	11	26 May– 9 Jul	10 Jun ±11	4 11 Jun 75	13	8 Sep– 2 Oct	21 Sep ±8	2 16 Sep 99 <sup>b</sup>	0	0
<i>Chaetura pelagica</i>											
Vaux's Swift	1412	14	16 Apr– 7 Jul	25 May ±23	3 22 May 83 <sup>b</sup>	1398	21 Jul– 27 Oct	27 Sep ±8	102 23 Sep 85	0	0
<i>C. vauxi</i>											
White-throated Swift	19	14	6 Apr– 25 May	14 May ±19	10 25 May 99	5	15 Aug– 26 Oct	8 Oct ±30	1 26 Oct 97 <sup>b</sup>	0	0
<i>Aeronautes saxatalis</i>											
Ruby-throated Hummingbird <sup>a</sup>	4	0	—	—	0	4	21 Aug– 12 Sep	1 Sep ±10	1 7 Sep 94 <sup>b</sup>	0	0
<i>Archilochus colubris</i>											
Black-chinned Hummingbird	5	0	—	—	0	5	28 Aug– 27 Oct	16 Sep ±24	1 9 Sep 99 <sup>b</sup>	0	0
<i>A. alexandri</i>											
Anna's Hummingbird	582	45	1 Mar– 14 Jun	25 Apr ±30	2 24 Mar 74 <sup>b</sup>	518	21 Jul– 10 Dec	14 Oct ±22	7 9 Oct 89	19	0
<i>Calypte anna</i>											
Costa's Hummingbird	21	16	26 Mar– 13 Jul	12 May ±30	2 28 May 85	5	13 Aug– 11 Oct	16 Sep ±31	1 8 Oct 90 <sup>b</sup>	0	0
<i>C. costae</i>											
Calliope Hummingbird	10	8	5 Apr– 15 Feb– 4 Jun	23 Apr ±14	1 13 Apr 88 <sup>b</sup>	2	16 Sep– 5 Oct	26 Sep ±13	1 25 Sep 99 <sup>b</sup>	0	0
<i>Stellula calliope</i>											
Rufous Hummingbird	496	291 <sup>f</sup>	15 Feb– 11 Jul	11 Apr ±16	50 13 Apr 78 <sup>b</sup>	205 <sup>f</sup>	19 Jul– 11 Nov	26 Aug ±17	10 26 Aug 87 <sup>b</sup>	0	0
<i>Selasphorus rufus</i>											
Allen's Hummingbird	92	74 <sup>f</sup>	5 Feb– 11 Jul	3 May ±38	3 8 May 95 <sup>b</sup>	18 <sup>f</sup>	23 Jul– 12 Sep	7 Aug ±12	3 3 Aug 87	0	0
<i>S. sasin</i>											
Total Rufous/Allen's Hummingbird	681	407 <sup>f</sup>	5 Feb– 13 Jul	17 Apr ±25	51 13 Apr 78 <sup>b</sup>	274 <sup>f</sup>	19 Jul– 11 Nov	24 Aug ±17	10 26 Aug 87 <sup>b</sup>	0	0
<i>S. rufus/sasin</i>											
Belted Kingfisher	143	23	2 Mar– 11 Jul	4 May ±40	2 14 Apr 77	116	17 Jul– 1 Dec	9 Sep ±29	4 15 Sep 74	4	24
<i>Ceryle alcyon</i>											
Lewis' Woodpecker	8	5	29 Apr– 8 May	4 May ±5	2 8 May 77 <sup>b</sup>	3	6 Sep– 27 Sep	19 Sep ±9	1 12 Sep 95 <sup>b</sup>	0	0
<i>Melanerpes lewis</i>											
Acorn Woodpecker	14	0	—	—	0	13	24 Aug– 25 Nov	4 Oct ±28	2 12 Sep 89 <sup>b</sup>	1	0
<i>M. formicivorus</i>											
Yellow-bellied Sapsucker	2	0	—	—	0	2	18 Oct– 29 Oct	24 Oct ±8	1 29 Oct 95 <sup>b</sup>	0	0
<i>Sphyrapicus varius</i>											
Red-naped Sapsucker	5	1	18 Jun	18 Jun	1 20 Jun 74 <sup>b</sup>	4	13 Sep– 13 Oct	29 Sep ±12	1 13 Sep 94 <sup>b</sup>	0	0
<i>S. nuchalis</i>											

(continued)

**Table 1 (Continued)**

Species	Spring			Fall			Winter				
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
Red-breasted Sapsucker <i>S. ruber</i>	21	2	25 Mar-19 Apr	7 Apr $\pm$ 18	19 Apr 81 <sup>b</sup>	19	27 Sep-2 Nov	8 Oct $\pm$ 9	4	0	0
Northern Flicker <i>Colaptes auratus</i>	604	90	1 Mar-6 Jun	6 Apr $\pm$ 17	4 Apr 73	502	5 Aug-18 Dec	16 Oct $\pm$ 19	18	12	32
Yellow-shafted Flicker <i>C. a. luteus</i>	70	7	23 Mar-22 May	13 Apr $\pm$ 20	5 Apr 84	62	13 Sep-27 Nov	15 Oct $\pm$ 17	5	1	1
Yellow x Red-shafted Flicker intergrade	59	5	26 Mar-23 Apr	7 Apr $\pm$ 12	26 Mar 82	54	26 Sep-5 Dec	16 Oct $\pm$ 15	3	0	3
Red-shafted Flicker <i>C. a. cafer</i> subspecies group	371	65	8 Mar-6 Jun	7 Apr $\pm$ 17	4 Apr 73	297	5 Aug-18 Dec	17 Oct $\pm$ 20	14	9	28
Olive-sided Flycatcher <i>Contopus cooperi</i>	185	104	22 Apr-27 Jun	22 May $\pm$ 13	27 May 70 <sup>b</sup>	81	16 Jul-27 Oct	8 Sep $\pm$ 16	8	0	0
Western Wood-Pewee <i>C. sordidulus</i>	1695	1138	20 Apr-12 Jul	29 May $\pm$ 12	28 May 83	557	15 Jul-19 Nov	11 Sep $\pm$ 14	60	0	0
Eastern Wood-Pewee <sup>a</sup> <i>C. virens</i>	2	1	15 Jun	15 Jun	15 Jun 75	1	5 Sep	5 Sep	1	0	0
Yellow-bellied Flycatcher <sup>a</sup> <i>Empidonax flaviventris</i>	6	0	—	—	—	6	25 Aug-27 Sep	10 Sep $\pm$ 11	1	0	0
Alder Flycatcher <sup>a</sup> <i>E. alnorum</i>	2	0	—	—	—	2	27 Aug-2 Sep	30 Aug $\pm$ 4	1	0	0
Willow Flycatcher <i>E. trillii</i>	414	124	22 Apr-12 Jul	2 Jun $\pm$ 14	20	290	20 Jul-29 Oct	11 Sep $\pm$ 14	6	0	0
Least Flycatcher <sup>a</sup> <i>E. minimus</i>	116	7	17 May-8 Jul	5 Jun $\pm$ 16	5 Jun 69	109	17 Aug-22 Nov	23 Sep $\pm$ 17	4	0	0
Hammond's Flycatcher <i>E. hammondi</i>	158	116	25 Mar-17 Jun	8 May $\pm$ 15	17 May 85 <sup>b</sup>	42	1 Aug-28 Oct	25 Sep $\pm$ 16	3	0	0
Gray Flycatcher <i>E. wrightii</i>	99	84	18 Apr-26 May	4 May $\pm$ 10	9 May 77	15	24 Aug-14 Oct	13 Sep $\pm$ 14	2	0	0
Dusky Flycatcher <i>E. oberholseri</i>	110	80	14 Apr-9 Jul	9 May $\pm$ 15	21 Apr 77	30	1 Aug-21 Oct	17 Sep $\pm$ 17	1	0	0
					9 May 69				10 Sep 99 <sup>a</sup>		

Western Flycatcher	1277	305	19 Mar– 14 Jul	20 May ±24	50 5 Jun 69 <sup>b</sup>	972	15 Jul– 14 Nov	12 Sep +14	65 15 Sep 93	0	0
<i>E. difficilis/occidentalis</i>											
Black Phoebe	413	15	4 Mar– 17 May	2 Apr ±24	7 2 Mar 87 <sup>b</sup>	377	21 Jul– 18 Dec	10 Oct +22	10 31 Oct 96 <sup>b</sup>	21	68
<i>Sayornis nigricans</i>											
Eastern Phoebe	23	4	18 May– 6 Jun	29 May ±8	1 2 Jun 91 <sup>b</sup>	19	24 Sep– 21 Nov	3 Nov +15	1 29 Oct 99 <sup>b</sup>	0	0
<i>S. phoebe</i>											
Say's Phoebe	263	12 <sup>c</sup>	22 Feb– 14 May	1 Apr ±26	2 22 Feb 84	251	22 Jul– 3 Nov	24 Sep +13	10 29 Sep 68	0 <sup>d</sup>	4
<i>S. saya</i>											
Ash-throated Flycatcher	214	77	16 Apr– 10 Jul	2 Jun ±17	6 12 Jun 75	136	16 Jul– 20 Nov	31 Aug +25	7 16 Aug 87	1	0
<i>Mniarctus cinerascens</i>											
Great-crested Flycatcher <sup>d</sup>	10	0	—	—	0	10	5 Sep– 13 Oct	29 Sep +11	1 30 Sep 96 <sup>b</sup>	0	0
<i>M. crinitus</i>											
Brown-crested Flycatcher	1	0	—	—	0	1	17 Sep	—	1 18 Sep 83 <sup>b</sup>	0	0
<i>M. tyrannulus</i>											
Tropical Kingbird	14	1	6 Jun	6 Jun	1 7 Jun 91 <sup>b</sup>	13	7 Aug– 18 Nov	7 Oct +29	1 23 Sep 95 <sup>b</sup>	0	0
<i>Tyrannus melancholicus</i>											
Cassin's Kingbird	2	1	6 Jun	6 Jun	1 7 Jun 91 <sup>b</sup>	1	25 Aug	—	1 25 Aug 83	0	0
<i>T. vociferans</i>											
Western Kingbird	192	69	19 Mar– 14 Jul	5 May ±28	11 29 Mar 86	123	15 Jul– 20 Oct	6 Sep +21	5 19 Oct 69	0	0
<i>T. verticalis</i>											
Eastern Kingbird	42	14	12 May– 9 Jul	9 Jun ±17	2 22 May 92 <sup>b</sup>	28	19 Jul– 28 Sep	3 Sep +16	2 3 Sep 89	0	0
<i>T. tyrannus</i>											
Scissor-tailed Flycatcher <sup>d</sup>	3	2	18 May– 27 May	23 May ±6	1 30 May 99 <sup>b</sup>	1	30 Sep	30 Sep	1 30 Sep 85	0	0
<i>T. forficatus</i>											
Brown Shrike <sup>a</sup>	1	0	—	—	0	1	20 Sep	20 Sep	1 22 Sep 84 <sup>b</sup>	0	0
<i>Lanius cristatus</i>											
Loggerhead Shrike	14	6	3 Apr– 24 May	28 Apr ±17	1 6 May 90 <sup>b</sup>	8	26 Jul– 11 Sep	24 Aug +15	1 10 Sep 98 <sup>b</sup>	0	1
<i>L. ludovicianus</i>											
Northern Shrike	2	0	—	—	0	2	18 Oct– 29 Oct	24 Oct +8	1 21 Oct 93 <sup>b</sup>	0	0
<i>L. excubitor</i>											
White-eyed Vireo <sup>a</sup>	2	1	4 Jun	4 Jun	1 5 Jun 69 <sup>b</sup>	1	28 Oct	28 Oct	1 28 Oct 92	0	0
<i>Vireo griseus</i>											
Bell's Vireo <sup>d</sup>	2	0	—	—	0	2	15 Sep– 18 Sep	17 Sep +2	1 19 Sep 93 <sup>b</sup>	0	0
<i>V. bellii</i>											

(continued)

**Table 1 (Continued)**

Species	Spring				Fall				Winter		
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
Yellow-throated Vireo <sup>a</sup>	1	1	12 Jun	12 Jun	1	0	—	—	0	0	0
<i>V. flauifrons</i>					13 Jun 69 <sup>b</sup>						
Plumbeous Vireo	1	0	—	—	0	1	15 Sep	15 Sep	1	0	0
<i>V. plumbeus</i>									15 Sep 92		
Cassin's Vireo	180	57	19 Mar–5 Jul	22 Apr $\pm$ 22	5	123	4 Aug–22 Oct	8 Sep $\pm$ 18	7	0	0
<i>V. cassinii</i>					21 Apr 87				22 Aug 70		
Blue-headed Vireo <sup>a</sup>	31	0	—	—	0	31	9 Sep–2 Nov	30 Sep $\pm$ 15	2	0	0
<i>V. solitarius</i>									27 Sep 96 <sup>b</sup>		
Total Solitary Vireo	213	57	19 Mar–5 Jul	22 Apr $\pm$ 22	5	156	4 Aug–2 Nov	13 Sep $\pm$ 19	7	0	0
<i>V. solitarius/cassinii/plumbeus</i>					21 Apr 87				22 Aug 70		
Hutton's Vireo	55	14 <sup>f</sup>	23 Feb–20 May	19 Apr $\pm$ 23	2	41	18 Jul–8 Nov	23 Sep $\pm$ 28	2	0 <sup>f</sup>	0
<i>V. huttoni</i>					16 Apr 83				8 Nov 81		
Warbling Vireo	804	184	11 Mar–10 Jul	10 May $\pm$ 18	15	620	21 Jul–20 Nov	13 Sep $\pm$ 14	25	0	0
<i>V. gilvus</i>					9 May 90				11 Sep 77		
Philadelphia Vireo <sup>a</sup>	13	2	6 Jun–12 Jun	9 Jun $\pm$ 4	1	11	11 Sep–9 Nov	29 Sep $\pm$ 19	1	0	0
<i>V. philadelphicus</i>					6 Jun 89 <sup>b</sup>				19 Sep 95 <sup>b</sup>		
Red-eyed Vireo	89	55	5 May–2 Jul	9 Jun $\pm$ 10	3	34	18 Jul–6 Oct	12 Sep $\pm$ 17	2	0	0
<i>V. olivaceus</i>					14 Jun 98				12 Sep 95 <sup>b</sup>		
Yellow-green Vireo <sup>a</sup>	6	0	—	—	0	6	29 Sep–30 Oct	19 Oct $\pm$ 11	1	0	0
<i>V. flavoviridis</i>									17 Oct 94 <sup>b</sup>		
Clark's Nutcracker	4	0	—	—	0	4	28 Sep–27 Oct	10 Oct $\pm$ 12	1	0	0
<i>Nucifraga columbiana</i>									12 Oct 86 <sup>b</sup>		
Common Raven	2	1	18 Apr	18 Apr	1	1	4 Oct	4 Oct	1	0	0
<i>Corvus corax</i>					18 Apr 72				1 Oct 95		
Horned Lark	153	10	1 Mar–21 Jun	21 Apr $\pm$ 45	2	143	13 Sep–19 Dec	23 Oct $\pm$ 16	16	0	0
<i>Eremophila alpestris</i>					6 Mar 78 <sup>b</sup>				16 Oct 81		
Purple Martin	43	6	28 May–17 Jun	10 Jun $\pm$ 8	1	37	11 Aug–4 Oct	5 Sep $\pm$ 11	6	0	0
<i>Progne subis</i>					10 Jun 77 <sup>b</sup>				3 Sep 96 <sup>b</sup>		
Tree Swallow	164	94 <sup>f</sup>	8 Feb–8 Jul	4 Apr $\pm$ 32	11	70	20 Jul–8 Dec	6 Oct $\pm$ 30	7	0 <sup>f</sup>	0
<i>Tachycineta bicolor</i>					27 Mar 82 <sup>b</sup>				26 Oct 98		

Violet-green Swallow	1054	69 <sup>a,f</sup>	3 Feb- 11 Jul	13 Apr ±35	10 25 May 99	985	20 Jul- 18 Dec	7 Oct ±13	100 4 Oct 81	0
<i>T. thalassina</i>							19 Jul- 4 Oct	31 Aug ±14	15 8 Sep 72	0
Northern Rough-winged Swallow	282	27 <sup>f</sup>	9 Mar- 19 Jun	21 May ±25	4 12 Jun 74	255	17 Aug- 27 Oct	23 Sep ±26	12 19 Oct 98	0
<i>Stelgidopteryx serripennis</i>	48	14	3 May- 15 Jun	20 May ±12	2 17 May 84 <sup>b</sup>	34	17 Jul- 8 Nov	17 Sep ±24	10 14 Aug 97	0
<i>Riparia riparia</i>	163	23	14 Apr- 22 Jun	20 May ±20	3 9 May 76 <sup>b</sup>	140	21 Jul- 12 Nov	20 Sep ±18	49 28 Sep 98	0
<i>Petrochelidon pyrrhonota</i>	809	232	5 Apr- 8 Jul	18 May ±19	20 25 May 99	577	16 Jul- 6 Dec	26 Sep ±20	75 15 Sep 69	0
Barn Swallow	1103	34	12 Apr- 8 Jul	22 May ±21	3 7 May 78	1069	10 Oct	10 Oct	1	0
Red-breasted Nuthatch	2	1	15 May	15 May	1	1	6 Aug	6 Aug	1	0
<i>Sitta canadensis</i>										
White-breasted Nuthatch	2	1	15 May	15 May	1	1	6 Aug	6 Aug	1	0
<i>S. carolinensis</i>										
Pygmy Nuthatch	1	0	—	—	0	1	27 Sep- 24 Nov	26 Oct ±9	8 19 Oct 86 <sup>b</sup>	0
<i>S. pygmaea</i>							19 Aug- 26 Nov	2 Oct ±19	12 11 Nov 72 <sup>b</sup>	74
Brown Creeper	143	2	14 Apr- 13 Jun	14 May ±42	1 18 Apr 78 <sup>b</sup>	141	2 Oct ±16	13 Sep ±22	3 28 Sep 94 <sup>b</sup>	0
<i>Certhia americana</i>							2 Nov	16 Oct	1	0
Rock Wren <sup>d</sup>	263	29	4 Mar- 26 Jun	25 Apr ±29	9 13 Jun 71	233	15 Jul- 30 Oct	13 Sep ±22	3 21 Oct 72	0
<i>Salpinctes obsoletus</i>							15 Aug- 4 Nov	28 Sep ±19	40 3 Oct 96 <sup>b</sup>	0
Bewick's Wren	3	0	—	—	0	3	17 Sep- 14 Dec	16 Oct ±13	200 6 Oct 93 <sup>b</sup>	7
<i>Thryomanes bewickii</i>							26 Jul- 19 Dec	11 Oct ±14	30 Oct 91 <sup>b</sup>	0
House Wren	184	41	11 Mar- 13 Jul	2 May ±35	2 25 Mar 92	143	11 Sep	11 Sep	12 Sep 95 <sup>b</sup>	0
<i>Troglodytes aedon</i>										
Winter Wren	185	23	7 Mar- 20 Jun	14 Apr ±27	2 16 Apr 99	157	1 Dec	21 Oct 72	3	2
<i>T. troglodytes</i>							15 Aug- 4 Nov	28 Sep ±19	2 3 Oct 96 <sup>b</sup>	0
Marsh Wren	33	3	1 Apr- 8 Jun	16 May ±39	1 8 Jun 92 <sup>b</sup>	30	16 Oct	16 Oct	40	0
<i>Cistothorus palustris</i>							17 Sep- 14 Dec	13	6 Oct 93 <sup>b</sup>	0
Golden-crowned Kinglet	1192	101	27 Feb- 27 Jun	31 Mar ±19	18 16 Mar 74	1091	26 Jul- 19 Dec	11 Oct ±14	200 30 Oct 91 <sup>b</sup>	7
<i>Regulus satrapa</i>										
Ruby-crowned Kinglet	4422	1472	7 Mar- 30 Jun	13 Apr ±16	225 16 Apr 83	2939	11 Sep	11 Sep	12 Sep 95 <sup>b</sup>	0
<i>R. calendula</i>										
Lanceolated Warbler <sup>a,d</sup>	1	0	—	—	0	1	—	—	—	0
<i>Locustella lanceolata</i>										

(continued)

**Table 1 (Continued)**

Species	Spring			Fall			Winter				
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
Dusky Warbler <sup>a</sup>	2	0	—	—	0	2	27 Sep–14 Oct	6 Oct $\pm$ 10	1	0	0
<i>Phylloscopus fuscatus</i>							14 Oct		14 Oct 87 <sup>b</sup>		
Blue-gray Gnatcatcher	28	8	19 Mar–2 May	9 Apr $\pm$ 17	2	20	13 Aug–6 Nov	17 Sep $\pm$ 19	1	0	0
<i>Poliophtila caerulea</i>							6 Nov		5 Oct 99 <sup>b</sup>		
Red-flanked Bluetail <sup>a</sup>	1	0	—	—	0	1	1 Nov	1 Nov	1	0	0
<i>Tarsiger cyanurus</i>									1 Nov 89		
Northern Wheatear <sup>a</sup>	3	1	11 Jun	11 Jun	1	2	26 Sep–6 Nov	17 Oct $\pm$ 29	2	0	0
<i>Oenanthe oenanthe</i>							14 Oct		26 Sep 92 <sup>b</sup>		
Western Bluebird	2	1	1 Apr	1 Apr	1	1	14 Oct	14 Oct	1	0	0
<i>Sialia mexicana</i>									15 Oct 87 <sup>b</sup>		
Mountain Bluebird	20	4	3 Apr–16 Jun	30 Apr $\pm$ 33	1	15	12 Oct–26 Nov	2 Nov $\pm$ 12	3	1	0
<i>S. currucoides</i>							11 Sep–3 Nov	10 Oct $\pm$ 16	2	5	0
Townsend's Solitaire <sup>e</sup>	28	4	12 Apr–5 Jun	6 May $\pm$ 23	1	19	26 Sep–20 Oct	8 Oct $\pm$ 17	30 Sep 98 <sup>b</sup>	0	0
<i>Myadestes townsendi</i>							20 Oct		29 Sep 85 <sup>b</sup>		
Veery <sup>a</sup>	3	1	28 May	28 May	1	2	10 Sep–17 Oct	26 Sep $\pm$ 11	2	0	0
<i>Catherus fuscescens</i>							17 Oct		3 Oct 70		
Gray-cheeked Thrush <sup>a</sup>	13	2	28 May–11 Jun	4 Jun $\pm$ 10	1	11	26 Aug–29 Nov	24 Sep $\pm$ 11	60	0	0
<i>C. r. minimus</i>							26 Aug–29 Nov	24 Sep $\pm$ 11	22 Sep 93 <sup>b</sup>		
Swainson's Thrush	1752	198	17 Apr–12 Jul	24 May $\pm$ 13	35	1554	18 Dec–21 Jul	15 Nov $\pm$ 16	2 Oct 72	65	21
<i>C. ustulatus</i>							11 May 71 <sup>b</sup>		2 Oct 72		
Hermit Thrush	2694	480	1 Mar–2 Jul	25 Apr $\pm$ 20	25	2149	18 Dec–21 Jul	15 Nov $\pm$ 16	350	462	10
<i>C. guttatus</i>							4 Apr 73		23 Nov 96		
American Robin	1561	270	1 Mar–27 Jun	1 Apr $\pm$ 22	40	829 <sup>f</sup>	19 Dec–24 Sep	2 Nov $\pm$ 20	30	40	1
<i>Turdus migratorius</i>							4 Apr 73		20 Oct 72		
Varied Thrush	686	156	2 Mar–15 Jun	9 Apr $\pm$ 24	22	490	25 Sep–31 Oct	12 Oct $\pm$ 14	2	0	0
<i>Ixoreus naevius</i>							15 Jun		2 Oct 94		
Gray Catbird <sup>a</sup>	12	3	29 May–24 Jun	15 Jun $\pm$ 15	1	9	15 Jul–23 Nov	8 Sep $\pm$ 31	4	1	0
<i>Dumetella carolinensis</i>									10 Aug 74		
Northern Mockingbird	225	60	3 Apr–10 Jul	1 Jun $\pm$ 27	2	164					
<i>Mimus polyglottos</i>											

Sage Thrasher	70	11	19 Apr– 23 Jun	24 May ±20	10 May 94 <sup>b</sup>	1	58	12 Aug– 13 Nov	4 Oct ±19	3	1	0
<i>Oreoscoptes montanus</i>												
Brown Thrasher	23	9	1 May– 2 Jul	3 Jun ±19	3 Jun 98 <sup>b</sup>	1	14	22 Sep– 10 Nov	17 Oct ±14	2	0	1
<i>Toxostoma rufum</i>												
Bendire's Thrasher	6	4	17 Apr– 14 Jul	4 Jun ±40	6 Jul 92 <sup>b</sup>	1	2	21 Aug– 2 Sep	27 Aug ±8	1	0	0
<i>T. bendirei</i>												
European Starling <sup>d</sup>	59,577	178	1 Mar– 14 Jul	11 Apr ±43	8 Mar 76	140	56,134	15 Jul– 19 Dec	7 Nov ±19	3000	3265	3150
<i>Sturnus vulgaris</i>												
Yellow Wagtail <sup>e</sup>	2	0	—	—	—	0	2	12 Sep– 21 Sep	17 Sep ±6	1	0	0
<i>Motacilla flava</i>												
White Wagtail <sup>e</sup>	1	0	—	—	—	0	1	10 Oct	10 Oct	1	0	0
<i>M. alba</i>												
Olive-backed Pipit <sup>e,d</sup>	1	0	—	—	—	0	1	26 Sep	26 Sep	1	0	0
<i>Anthus hodgsoni</i>												
Red-throated Pipit <sup>e</sup>	31	0	—	—	—	0	31	20 Sep– 3 Nov	8 Oct ±12	3	0	0
<i>A. cervinus</i>												
American Pipit	4125	23 <sup>f</sup>	5 Mar– 3 Jul	28 Apr ±20	25 Apr 89 <sup>b</sup>	2	4098	6 Sep– 19 Dec	20 Oct ±16	110	4	0
<i>A. rubescens</i>												
Sprague's Pipit <sup>e</sup>	3	0	—	—	—	0	3	1 Oct– 16 Oct	9 Oct ±8	1	0	0
<i>A. spragueii</i>												
Bohemian Waxwing	1	0	—	—	—	0	1	28 Nov	28 Nov	1	0	0
<i>Bombicilla garrulus</i>												
Cedar Waxwing	1245	112	4 May– 20 Jun	28 May ±9	30 May 82	10	1120	16 Jul– 19 Dec	10 Oct ±23	75	13	0
<i>B. cedrorum</i>												
Phainopepla	5	0	—	—	—	0	5	1 Sep– 26 Sep	14 Sep ±10	1	0	0
<i>Phainopepla nitens</i>												
Blue-winged Warbler <sup>a</sup>	1	1	24 May	24 May	25 May 92 <sup>b</sup>	1	0	—	—	0	0	0
<i>Vermivora pinus</i>												
Golden-winged Warbler <sup>a</sup>	6	3	3 Jun– 5 Jul	19 Jun ±16	3 Jun 91 <sup>b</sup>	1	3	2 Sep– 29 Sep	15 Sep ±14	1	0	0
<i>V. chrysoptera</i>												
Brewster's Warbler <sup>a</sup>	1	1	6 Jun	6 Jun	6 Jun 91	1	0	—	—	0	0	0
<i>V. pinus</i> × <i>chrysoptera</i>												
Tennessee Warbler	346	151	22 Apr– 17 Jul	1 Jun ±23	26 May 82	10	195	18 Aug– 16 Dec	1 Oct ±23	7	0	0
<i>V. peregrina</i>												

(continued)

**Table 1 (Continued)**

Species	Spring				Fall				Winter		
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
Orange-crowned Warbler	1915	1228 <sup>f</sup>	19 Feb-7 Jul	28 Apr $\pm$ 18	175 30 Apr 71	687 <sup>f</sup>	16 Jul-23 Dec	21 Sep $\pm$ 23	18 2 Oct 84	0 <sup>f</sup>	3
<i>V. celata</i>											
Nashville Warbler	361	63	9 Apr-23 Jun	10 May $\pm$ 18	3 28 Apr 68	298	31 Jul-11 Dec	6 Oct $\pm$ 25	4 2 Oct 96 <sup>b</sup>	0	0
<i>V. ruficapilla</i>											
Virginia's Warbler	40	6	13 May-17 Jun	26 May $\pm$ 13	2 13 May 75	34	16 Aug-2 Nov	21 Sep $\pm$ 16	3 1 Oct 68	0	0
<i>V. virginiae</i>											
Lucy's Warbler	7	0	—	—	0	7	5 Sep-20 Nov	23 Oct $\pm$ 28	1 27 Nov 99 <sup>b</sup>	0	0
<i>V. luciae</i>											
Northern Parula <sup>e</sup>	41	34	29 Apr-6 Jul	3 Jun $\pm$ 16	3 12 Jun 85 <sup>b</sup>	7	9 Sep-6 Oct	22 Sep $\pm$ 12	1 10 Sep 88 <sup>b</sup>	0	0
<i>Parula americana</i>											
Yellow Warbler	2586	454	14 Apr-27 Jun	21 May $\pm$ 12	60 17 May 85	2132	16 Jul-13 Nov	12 Sep $\pm$ 14	46 10 Sep 95	0	0
<i>Dendroica petechia</i>											
Chestnut-sided Warbler <sup>e</sup>	224	42	1 May-7 Jul	8 Jun $\pm$ 12	3 24 May 92 <sup>b</sup>	182	2 Sep-3 Nov	22 Sep $\pm$ 11	7 24 Sep 76	0	0
<i>D. pensylvanica</i>											
Magnolia Warbler <sup>e</sup>	279	115	12 May-4 Jul	9 Jun $\pm$ 9	8 12 Jun 75 <sup>b</sup>	164	22 Aug-9 Nov	26 Sep $\pm$ 16	4 7 Sep 86	0	0
<i>D. magna</i>											
Cape May Warbler <sup>e</sup>	60	29	26 May-30 Jun	12 Jun $\pm$ 9	3 19 Jun 77 <sup>b</sup>	31	9 Sep-31 Oct	29 Sep $\pm$ 14	2 22 Sep 79 <sup>b</sup>	0	0
<i>D. tigrina</i>											
Black-throated Blue Warbler <sup>e</sup>	105	0	—	—	0	105	4 Sep-9 Nov	10 Oct $\pm$ 12	3 14 Oct 87 <sup>b</sup>	0	0
<i>D. caerulescens</i>											
Yellow-rumped Warbler	8071	1925 <sup>f</sup>	1 Mar-13 Jul	17 Apr $\pm$ 19	295 30 Apr 71	5709 <sup>f</sup>	15 Jul-19 Dec	19 Oct $\pm$ 18	185 30 Sep 98	437	77
<i>D. coronata</i>											
Audubon's Warbler	4547	1592	1 Mar-13 Jul	16 Apr $\pm$ 17	250 30 Apr 71	2810 <sup>f</sup>	15 Jul-19 Dec	14 Oct $\pm$ 18	175 30 Sep 98	145	26
<i>D. c. auduboni</i> subspecies group											
Audubon's x Myrtle intergrade	86	11	25 Mar-8 May	11 Apr $\pm$ 16	4 26 Mar 69	72	7 Sep-3 Dec	17 Oct $\pm$ 18	3 24 Oct 88	3	1
<i>D. c. coronata</i> subspecies group											
Myrtle Warbler	3106	267 <sup>f</sup>	1 Mar-18 Jul	30 Apr $\pm$ 23	45 30 Apr 71	2688	7 Sep-19 Dec	23 Oct $\pm$ 16	130 24 Oct 88	151	44
<i>D. c. coronata</i> subspecies group											
Black-throated Gray Warbler	487	56	22 Mar-3 Jun	21 May $\pm$ 17	6 21 Apr 82	431	26 Jul-30 Nov	20 Sep $\pm$ 19	12 18 Sep 94 <sup>b</sup>	0	1
<i>D. nigrescens</i>											



**Table 1 (Continued)**

Species	Spring				Fall				Winter		
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
Overbird <sup>d</sup>	337	200	9 May–21 Jul	12 Jun $\pm$ 12	6 16 Jun 88	137	19 Aug–8 Nov	22 Sep $\pm$ 14	4 17 Sep 99 <sup>b</sup>	0	0
<i>Seiurus aurocapillus</i>											
Northern Waterthrush	90	6	20 May–27 Jun	6 Jun $\pm$ 14	1 23 May 91 <sup>b</sup>	84	26 Jul–27 Oct	12 Sep $\pm$ 17	2 10 Sep 95 <sup>b</sup>	0	0
<i>S. noveboracensis</i>											
Louisiana Waterthrush <sup>e</sup>	1	0	—	—	0	1	2 Jun	2 Jun	1 3 Jun 91 <sup>b</sup>	0	0
<i>S. motacilla</i>											
Kentucky Warbler <sup>e</sup>	22	17 <sup>a,f</sup>	4 May–14 Jul	2 Jun $\pm$ 20	3 16 May 92 <sup>b</sup>	5	27 Jul–1 Oct	7 Sep $\pm$ 25	1 27 Jul 95 <sup>b</sup>	0	0
<i>Oporornis formosus</i>											
Connecticut Warbler <sup>e</sup>	47	3	16 Jun–19 Jun	18 Jun $\pm$ 2	1 16 Jun 90 <sup>b</sup>	44	1 Sep–18 Oct	22 Sep $\pm$ 11	3 23 Sep 74	0	0
<i>O. agilis</i>											
Mourning Warbler <sup>e</sup>	54	7	3 Jun–30 Jun	13 Jun $\pm$ 9	1 13 Jun 98 <sup>b</sup>	47	27 Aug–20 Oct	17 Sep $\pm$ 13	3 8 Sep 89 <sup>b</sup>	0	0
<i>O. philadelphia</i>											
MacGillivray's Warbler	432	91	6 Apr–23 Jun	16 May $\pm$ 12	10 9 May 69 <sup>b</sup>	341	23 Jul–20 Oct	5 Sep $\pm$ 16	6 10 Sep 95 <sup>d</sup>	0	0
<i>O. tolmiei</i>											
Common Yellowthroat	1373	536 <sup>f</sup>	27 Feb–14 Jul	17 May $\pm$ 29	16 19 Mar 92	837	15 Jul–17 Nov	22 Sep $\pm$ 15	16 25 Sep 94 <sup>b</sup>	0 <sup>f</sup>	0
<i>Geothlypis trichas</i>											
Hooded Warbler <sup>e</sup>	29	24	5 May–1 Jul	1 Jun $\pm$ 15	3 7 May 92	5	1 Sep–11 Oct	27 Sep $\pm$ 15	1 11 Oct 89 <sup>b</sup>	0	0
<i>Wilsonia citrina</i>											
Wilson's Warbler	4403	3226	18 Mar–28 Jun	13 May $\pm$ 11	500 8 May 69	1177	13 Jul–5 Nov	3 Sep $\pm$ 17	35 10 Sep 95	0	0
<i>W. pusilla</i>											
Canada Warbler <sup>e</sup>	51	15	24 May–29 Jun	11 Jun $\pm$ 9	1 12 Jun 98 <sup>b</sup>	36	8 Aug–26 Oct	17 Sep $\pm$ 18	2 12 Sep 99 <sup>b</sup>	0	0
<i>W. canadensis</i>											
Red-faced Warbler <sup>e</sup>	1	0	—	—	0	1	25 Aug	25 Aug	1 25 Aug 92	0	0
<i>Cardellina rubrifrons</i>											
Yellow-breasted Chat	90	34	14 Apr–22 Jun	12 May $\pm$ 14	2 20 May 76 <sup>b</sup>	56	12 Aug–25 Oct	13 Sep $\pm$ 16	3 26 Aug 97 <sup>b</sup>	0	0
<i>Icteria virens</i>											
Hepatic Tanager <sup>e</sup>	2	1	22 May	22 May	1 22 May 77	1	11 Nov	11 Nov	1 11 Nov 79	0	0
<i>Pranga flava</i>											
Summer Tanager	29	17	15 May–14 Jul	8 Jun $\pm$ 17	2 14 Jul 92	12	24 Sep–31 Oct	20 Oct $\pm$ 11	1 22 Oct 98 <sup>b</sup>	0	0
<i>P. rubra</i>											

Scarlet Tanager <sup>d</sup>	6	1	18 Jun	18 Jun	1	22 Jun 80 <sup>b</sup>	5	29 Sep– 26 Nov	27 Oct ±21	1	24 Oct 91 <sup>b</sup>	0
<i>P. olinacee</i>								26 Nov				0
Western Tanager	713	214	15 Apr– 8 Jul	18 May ±13	30	8 May 69	499	18 Jul– 25 Nov	10 Sep ±17	12	8 Sep 72	0
<i>P. ludovicianae</i>								24 Aug– 11 Nov	19 Sep ±20	1	8 Nov 99 <sup>b</sup>	0
Green-tailed Towhee	31	8	3 May– 26 Jun	23 May ±19	1	13 May 92 <sup>b</sup>	23	29 Aug– 20 Dec	6 Oct ±12	0 <sup>f</sup>	4 Oct 72 <sup>b</sup>	0
<i>Pipilo chlorurus</i>								13 Sep– 15 Oct	26 Sep ±11	2	30 Sep 85 <sup>b</sup>	0
Spotted Towhee	582	37 <sup>f</sup>	23 Feb– 13 Jun	15 Apr ±23	4	4 Apr 73	545	29 Nov		1		0
<i>P. maculatus</i>								29 Nov				0
Cassin's Sparrow <sup>d</sup>	11	4	2 Jun– 11 Jul	18 Jun ±17	1	6 Jul 82 <sup>b</sup>	7	13 Sep– 15 Oct	26 Sep ±11	2		0
<i>Aimophila cassinii</i>								29 Nov		1		0
Rufous-crowned Sparrow	1	0	—	—	0		1	29 Nov				0
<i>A. ruficeps</i>								28 Sep– 28 Nov	25 Oct ±16	3	21 Oct 83 <sup>b</sup>	1
American Tree Sparrow	76	17	28 Mar– 28 Jun	20 May ±27	2	24 May 77	58	15 Jul– 30 Nov	18 Sep ±21	50	2 Oct 72	0
<i>Spizella arborea</i>								13 Sep		1		0
Chipping Sparrow	1920	298	16 Mar– 13 Jul	10 May ±20	55	30 Apr 71	1621	13 Sep		1		0
<i>S. passerina</i>								26 Oct				0
Chipping × Clay-col. Sparrow <sup>d</sup>	1	0	—	—	0		1	26 Oct				0
<i>S. passerina</i> × <i>pallida</i>								15 Aug– 8 Dec	30 Sep ±19	10	28 Oct 88 <sup>b</sup>	0
Chipping × Brewer's Sparrow <sup>d</sup>	1	0	—	—	0		1	22 Jul– 15 Nov	18 Sep ±21	8	29 Sep 74 <sup>b</sup>	0
<i>S. passerina</i> × <i>breweri</i>								—		0		0
Clay-colored Sparrow <sup>e</sup>	547	43	29 Apr– 22 Jun	30 May ±13	3	31 May 75	504	30 Aug– 8 Dec	6 Sep ±10	1	13 Sep 93 <sup>b</sup>	0
<i>S. pallida</i>								21 Jul– 18 Nov	28 Sep ±16	7	6 Oct 72	0
Brewer's Sparrow	186	38	21 Apr– 10 Jul	26 May ±17	2	21 May 78	148	29 Jul– 13 Dec	15 Sep ±21	8	1 Oct 74	1
<i>S. breweri</i>								18 Aug– 10 Oct	14 Sep ±14	2	8 Sep 84	0
Field Sparrow <sup>e</sup>	1	1	17 Jun	17 Jun	1	9 Jul 69 <sup>b</sup>	0	—		0		0
<i>S. pusilla</i>								30 Aug– 13 Sep	6 Sep ±10	1		0
Black-chinned Sparrow	3	1	7 May	7 May	1	7 May 94	2	21 Jul– 18 Nov	28 Sep ±16	7		0
<i>S. atrogularis</i>								29 Jul– 13 Dec	15 Sep ±21	8		0
Vesper Sparrow	330	25	4 Apr– 23 Jun	23 May ±19	1	16 Jun 95 <sup>b</sup>	305	29 Jul– 13 Dec	15 Sep ±21	8		0
<i>Pooecetes gramineus</i>								18 Aug– 10 Oct	14 Sep ±14	2		0
Lark Sparrow	315	30	9 Mar– 28 Jun	23 Apr ±26	2	9 Apr 82 <sup>b</sup>	284	—		0		0
<i>Chondestes grammacus</i>								—				0
Black-throated Sparrow	32	8	17 Apr– 18 Jun	20 May ±19	2	22 May 77	24	—		2		0
<i>Amphispiza bilineata</i>												0

(continued)

**Table 1** (Continued)

Species	Total	Spring			Fall			Winter		
		Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total
Sage Sparrow	8	5	24 Mar- 22 Apr	9 Apr $\pm$ 11	1	18 Aug- 25 Oct	24 Sep $\pm$ 34	1	0	0
<i>A. belli</i>			22 Apr 24 May		22 Apr 82 <sup>b</sup> 1			1 Oct 81 <sup>b</sup> 3	0	0
Lark Bunting	72	1	24 May		24 May 77	71	5 Aug- 20 Oct	13 Sep $\pm$ 14	0	0
<i>Calamospiza melanocorys</i>			22 Feb- 19 Jun	—	15 4 Apr 73	7778 <sup>f</sup>	16 Jul- 23 Dec	29 Sep $\pm$ 14	0 <sup>f</sup>	1
Savannah Sparrow	7993	215 <sup>f</sup>	22 Feb- 27 May	22 Apr $\pm$ 25	1	119	20 Jul- 29 Nov	29 Sep $\pm$ 23	0	0
<i>Poerocercus sandwicensis</i>	145	26	25 Mar- 2 Jul	27 May $\pm$ 22	7 May 92 <sup>b</sup> 0	2	7 Sep- 28 Sep	6 Oct $\pm$ 15	0	0
Grasshopper Sparrow			—	—	—	8	11 Sep- 27 Oct	18 Sep $\pm$ 16	0	0
<i>Ammodramus sabannarum</i>	2	0	—	—	0	2	4 Oct- 27 Oct	1 Oct $\pm$ 16	0	0
Baird's Sparrow <sup>e</sup>			—	—	—	8	4 Oct- 27 Oct	7 Sep 91 <sup>b</sup> $\pm$ 15	0	0
<i>A. bairdii</i>	8	0	—	—	0	2	27 Oct- 4 Oct	1 Oct $\pm$ 16	0	0
<i>A. lecontei</i>	2	0	—	—	0	2	27 Oct- 4 Oct	27 Oct 95 <sup>b</sup> $\pm$ 16	0	0
Nelson's Sharp-tailed Sparrow			—	—	—	2	27 Oct- 4 Oct	27 Oct 95 <sup>b</sup> $\pm$ 16	0	0
<i>A. nelsoni</i>	2483	110	3 Mar- 26 May	18 Apr $\pm$ 16	6	2354	27 Oct- 5 Oct	1 225	0	58
Fox Sparrow			26 May 29 Feb		2 Mar 99 <sup>b</sup> 2		2 Sep- 17 Dec	5 Oct $\pm$ 17	19	19
<i>Passerella iliaca</i>			29 Feb- 23 Feb	18 Apr $\pm$ 28	1 Apr 90 40	58	7 Sep- 13 Dec	10 Oct $\pm$ 20	0 <sup>f</sup>	4
Song Sparrow	79	21 <sup>f</sup>	26 Jun	19 Apr $\pm$ 15	1	1773	2 Sep- 4 Dec	2 Oct 84 450	0 <sup>f</sup>	0
<i>Melospiza melodia</i>	2304	531 <sup>f</sup>	23 Feb- 16 Jun	19 Apr $\pm$ 15	21 Apr 87 1		2 Sep- 4 Dec	29 Sep $\pm$ 12	0 <sup>f</sup>	0
Lincoln's Sparrow			21 Apr- 25 Jun	22 May $\pm$ 29	2 Jun 86 <sup>b</sup> 1	89	20 Sep- 16 Nov	3 Oct 72 5	0	0
<i>M. lincolni</i>	95	6	21 Apr- 25 Jun	22 May $\pm$ 29	2 Jun 86 <sup>b</sup> 1	301	20 Sep- 16 Nov	17 Oct $\pm$ 12	0	0
Swamp Sparrow			22 Apr- 10 Jul	27 May $\pm$ 26	14 Jun 98 <sup>b</sup> 1		8 Sep- 17 Dec	15 Oct 87 7	0	0
<i>M. georgiana</i>	312	11	22 Apr- 10 Jul	27 May $\pm$ 26	14 Jun 98 <sup>b</sup> 1	19	17 Dec- 4 Dec	15 Oct 87 2	0	0
White-throated Sparrow			2 May- 16 May	9 May $\pm$ 10	2 May 73 <sup>b</sup> 75	9229	15 Jul- 19 Dec	5 Nov $\pm$ 14	0	26
<i>Zonotrichia albicollis</i>	21	2	2 May- 16 May	9 May $\pm$ 10	2 May 73 <sup>b</sup> 75		6 Oct $\pm$ 12	25 Oct 77 <sup>b</sup> 3000	0	24
Harris' Sparrow			4 Mar- 1 Jul	19 Apr $\pm$ 13	18 Apr 88			3 Oct 72	24	26
<i>Z. querula</i>	10,642	1389	4 Mar- 1 Jul	19 Apr $\pm$ 13	18 Apr 88			3 Oct 72		
White-crowned Sparrow <sup>d</sup>										
<i>Z. leucophrys</i>										

White-cr. × Golden-cr. Sparrow	2	0	—	—	—	0	2	2 Oct– 13 Oct	8 Oct ±8	1	0	0
<i>Z. leucophrys</i> × <i>atricapilla</i>										16 Oct 87 <sup>b</sup>	0	0
Golden-crowned Sparrow	10,599	495	7 Mar– 12 Jun	27 Apr ±12	1 May 71	65	10,081	11 Sep– 19 Dec	7 Oct ±12	3500	23	100
<i>Z. atricapilla</i>										2 Oct 72	40	3
Dark-eyed Junco <sup>d</sup>	4950	1356	2 Mar– 8 Jul	5 Apr ±16	4 Apr 73	420	3554	25 Jul– 19 Dec	15 Oct ±16	700	40	3
<i>Junco hyemalis</i>										3 Oct 72 <sup>b</sup>	40	3
Oregon Junco <sup>d</sup>	4825	1319*	2 Mar– 8 Jul	5 Apr ±16	4 Apr 73	420	3466	25 Jul– 19 Dec	15 Oct ±15	700	40	3
<i>J. h. oregonus</i> subspecies group										3 Oct 72 <sup>b</sup>	0	0
Slate-colored Junco	125	37	1 Mar– 14 Jun	1 May ±26	2 May 90 <sup>b</sup>	2	88	24 Sep– 18 Dec	24 Oct ±18	3	0	0
<i>J. h. hyemalis</i> subspecies group										15 Oct 87 <sup>b</sup>	0	0
Lapland Longspur	552	5	4 May– 24 Jun	31 May ±22	5 May 87 <sup>b</sup>	1	547	20 Jul– 9 Dec	16 Oct ±17	16	0	0
<i>Calcarius lapponicus</i>										28 Oct 91	0	0
Chestnut-collared Longspur <sup>e</sup>	61	3	18 May– 16 Jul	20 Jun ±30	18 May 80 <sup>b</sup>	1	58	20 Sep– 3 Dec	18 Oct ±14	7	0	0
<i>C. ornatus</i>										14 Oct 87	0	0
Snow Bunting <sup>g</sup>	25	0	—	—	—	0	25	22 Oct– 18 Nov	31 Oct ±8	4	0	0
<i>Plectrophenax nivalis</i>										28 Oct 91	0	0
Rose-breasted Grosbeak <sup>e</sup>	274	169	13 May– 14 Jul	8 Jun ±12	9 Jun 77 <sup>b</sup>	6	105	17 Jul– 13 Nov	20 Sep ±22	3	0	0
<i>Pheucticus ludovicianus</i>										19 Sep 93 <sup>b</sup>	0	0
Rose-br. × Black-hd. Grosbeak	4	1	8 Jun	8 Jun	8 Jun 70	1	3	18 Sep– 21 Oct	2 Oct ±17	1	0	0
<i>P. ludovicianus</i> × <i>melanocephalus</i>										21 Oct 88	0	0
Black-headed Grosbeak	315	137	2 Apr– 14 Jul	12 May ±18	9 May 69 <sup>b</sup>	10	178	16 Jul– 20 Nov	4 Sep ±20	4	0	0
<i>P. melanocephalus</i>										9 Sep 80	0	0
Blue Grosbeak	72	11	9 May– 18 Jun	27 May ±14	10 Jun 94 <sup>b</sup>	1	61	14 Aug– 6 Oct	7 Sep ±13	2	0	0
<i>Passerina caerulea</i>										21 Sep 99 <sup>b</sup>	0	0
Lazuli Bunting	369	78	6 Apr– 12 Jul	16 May ±19	9 May 90	5	291	22 Jul– 8 Nov	8 Sep ±16	20	0	0
<i>P. amoena</i>										18 Sep 71	0	0
Indigo Bunting <sup>g</sup>	141	93	7 May– 14 Jul	8 Jun ±15	20 Jun 82	6	48	18 Jul– 13 Dec	13 Sep ±42	2	0	0
<i>P. cyanea</i>										3 Sep 86	0	0
Painted Bunting <sup>g</sup>	8	0	—	—	—	0	8	10 Sep– 21 Oct	25 Sep ±13	1	0	0
<i>P. ciris</i>										21 Oct 97 <sup>b</sup>	0	0
Dickcissel	30	14	13 May– 7 Jul	4 Jun ±16	7 Jul 91 <sup>b</sup>	1	16	24 Aug– 14 Oct	17 Sep ±17	2	0	0
<i>Spiza americana</i>										3 Sep 88 <sup>b</sup>	0	0
Bobolink	216	13	24 May– 4 Jul	10 Jun ±14	30 Jun 95 <sup>b</sup>	1	203	16 Aug– 15 Nov	22 Sep ±13	6	0	0
<i>Dolichonyx oryzivorus</i>										24 Sep 74 <sup>b</sup>	0	0

(continued)

**Table 1 (Continued)**

Species	Spring			Fall			Winter				
	Total	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Seasonal Total	Date Range	Mean $\pm$ S.D.	High Count and Date	Total	Residents
Red-winged Blackbird	822	49	4 Mar-11 Jun	25 Apr $\pm$ 23	6 22 Apr 97 <sup>b</sup>	769	20 Jul-18 Dec	7 Oct $\pm$ 19	65 30 Sep 68	4	0
<i>Agelaius phoeniceus</i>											
Tricolored Blackbird	99	7	8 Mar-14 Jul	30 Apr $\pm$ 51	2 12 Jun 75 <sup>b</sup>	91	21 Sep-21 Nov	14 Oct $\pm$ 13	40 7 Oct 92	1	0
<i>A. tricolor</i>											
Western Meadowlark	2516	52	9 Mar-5 Jul	27 Apr $\pm$ 30	45 10 Mar 87 <sup>b</sup>	2447	23 Jul-16 Dec	14 Oct $\pm$ 17	125 4 Oct 72 <sup>b</sup>	17	224
<i>Sturnella neglecta</i>											
Yellow-headed Blackbird	100	25	27 Apr-12 Jun	12 May $\pm$ 9	3 13 May 75 <sup>b</sup>	75	27 Jul-21 Oct	12 Sep $\pm$ 20	2 11 Sep 98 <sup>b</sup>	0	0
<i>Xanthocephalus xanthocephalus</i>											
Rusty Blackbird <sup>a</sup>	11	3	15 Apr-22 Apr	20 Apr $\pm$ 4	1 15 Apr 85 <sup>b</sup>	8	17 Oct-19 Nov	29 Oct $\pm$ 11	1 31 Oct 91 <sup>b</sup>	0	0
<i>Euphagus carolinus</i>											
Brewer's Blackbird	1246	173	16 Mar-30 Jun	25 Apr $\pm$ 18	20 27 Apr 71	1060	17 Jul-18 Dec	14 Oct $\pm$ 17	63 19 Oct 96	13	1
<i>E. cyanocephalus</i>											
Brown-headed Cowbird	2802	554	26 Mar-14 Jul	5 May $\pm$ 14	20 7 May 78	2248	15 Jul-1 Dec	29 Aug $\pm$ 21	53 26 Aug 87 <sup>b</sup>	0	0
<i>Molothrus ater</i>											
Orchard Oriole <sup>a</sup>	53	2	11 Jun-9 Jul	25 Jun $\pm$ 20	1 11 Jun 88 <sup>b</sup>	51	14 Aug-25 Oct	18 Sep $\pm$ 15	5 11 Sep 99	0	0
<i>Icterus spurius</i>											
Hooded Oriole	18	1	16 Apr	16 Apr	1 18 Apr 90 <sup>b</sup>	17	20 Jul-19 Nov	3 Sep $\pm$ 29	3 21 Aug 87 <sup>b</sup>	0	0
<i>I. cucullatus</i>											
Bullock's Oriole	682	133	19 Mar-20 Jun	28 Apr $\pm$ 17	7 21 Apr 87	549	3 Jul-27 Nov	19 Aug $\pm$ 20	15 9 Aug 73	0	0
<i>I. bullocki</i>											
Bullock's x Baltimore Oriole	4	1	4 Jun	4 Jun	1 4 Jun 70	3	20 Sep-28 Sep	23 Sep $\pm$ 4	1 29 Sep 79 <sup>b</sup>	0	0
<i>I. bullocki</i> x <i>galbula</i>											
Baltimore Oriole	42	10	26 May-11 Jun	3 Jun $\pm$ 6	2 26 May 70	32	5 Sep-30 Nov	2 Oct $\pm$ 20	2 7 Sep 89 <sup>b</sup>	0	0
<i>I. galbula</i>											
Scott's Oriole <sup>a</sup>	3	0	—	—	0	3	12 Sep-10 Nov	17 Oct $\pm$ 31	1 10 Nov 93 <sup>b</sup>	0	0
<i>I. parisorum</i>											

Purple Finch	899	111	9 Mar- 31 May	20 Apr ±17	7 12 Apr 88	782	18 Aug- 14 Dec ±14	13 Oct ±14	250 4 Oct 72	6	1
<i>Carpodacus purpureus</i>											
Cassin's Finch	9	3	12 Apr- 14 Jun	6 May ±34	1 21 Apr 87 <sup>b</sup>	6	5 Oct- 11 Dec ±23	30 Oct ±23	2 27 Oct 96	0	0
<i>C. cassinii</i>											
House Finch	771	360	9 Mar- 1 Jul 18 Jun	20 Apr ±24 18 Jun	23 26 Apr 83 1	401	19 Jul- 19 Dec ±23	21 Oct ±23	18 16 Nov 90	10	0
<i>C. mexicanus</i>											
Red Crossbill	57	1 <sup>f</sup>	18 Jun	18 Jun	1	55 <sup>f</sup>	8 Sep- 6 Nov ±16	26 Oct ±16	12 4 Nov 87	1	0
<i>Loxia curvirostra</i>											
Pine Siskin	1984	46	7 Mar- 14 Jul	23 Apr ±36	8 17 Apr 74	1893	16 Jul- 19 Dec ±18	14 Oct ±18	400 3 Oct 72	45	1
<i>Carduelis pinus</i>											
Lesser Goldfinch	1414	49	29 Feb- 11 Jul	27 Apr ±37	6 9 Mar 79	1357	15 Jul- 19 Dec ±21	29 Sep ±21	70 17 Sep 99	8	0
<i>C. psaltria</i>											
Lawrence's Goldfinch	25	3	8 Apr- 26 May	4 May ±24	1 8 Apr 77	22	16 Sep- 31 Oct ±13	8 Oct ±13	6 1 Oct 74	0	0
<i>C. laurencei</i>											
American Goldfinch	379	30	16 Apr- 13 Jun	18 May ±15	5 15 May 75 <sup>b</sup>	349	21 Aug- 15 Nov ±15	13 Oct ±15	50 22 Oct 96	0	0
<i>C. tristis</i>											
Evening Grosbeak	4	1	27 May	27 May	1	3	20 Sep- 3 Oct ±9	30 Sep ±9	1 22 Sep 79 <sup>b</sup>	0	0
<i>Coccothraustes vespertinus</i>											
House Sparrow <sup>f</sup>	247	237	9 Mar- 1 Jul	23 Apr ±18	18 22 Apr 96	9	16 Jul- 10 Dec ±43	14 Sep ±43	15 19 Oct 97 <sup>b</sup>	1	2
<i>Passer domesticus</i>											
Total	6,570,133	2,446,727				4,068,051				55,809	18,525

<sup>a</sup>Species formerly or currently reviewed by the CBRC. Except as noted<sup>e</sup> here or in the annotations following this table, all records within the CBRC's review period for the species have been accepted by the CBRC or are under review. It is possible that some records presently under review will not be accepted.

<sup>b</sup>Seasonal high count duplicated on more than one date; the date given is the most recent.

<sup>c</sup>Patterns of arrival appear to overlap two or more seasons. See notes for reinterpretations of seasonal data.

<sup>d</sup>See notes following the table for information on race, unusual patterns of patterns of occurrence, or individual records of interest.

<sup>e</sup>The totals may include one or more record not reviewed by the CBRC during the period in which the species was on the CBRC review list.

<sup>f</sup>Small numbers of individuals were reclassified to season using our definitions, are anomalously late or early within season, or are known immature dispersants included in the spring totals. See notes for specification of these records and, in some cases, reinterpretations of seasonal data.

## MIGRATORY BIRDS ON SOUTHEAST FARALLON ISLAND

*Brown Pelican*—See Pyle and Henderson (1991) for the algorithm used to calculate arrivals for this species; reanalysis of data from 1968–1989 using this algorithm resulted in fewer arrivals than were calculated by those authors, a difference presumably due to an error in the original calculations. The occurrence of this species is best defined by a single long peak centered around 27 September ( $\pm 51$  days).

*Magnificent Frigatebird*—Excluding the record from 16 December 1988, this species' occurrence is best defined by a summer peak centered around 27 June ( $\pm 25$  days).

*Great Frigatebird*—See Figure 2.

*Great Blue Heron*—The occurrence of this species is better defined by 207 individuals that arrived between 17 June and 25 November (mean arrival 5 September  $\pm 27$  days). The remaining five arrivals were in December (3) and March (2).

*Emperor Goose*—Two on 25 and 26 January 1991 provided the high count; one of these remained to 25 March 1991.

*Cinnamon Teal*—This species' early spring arrival pattern is best defined by the 27 individuals arriving from 30 January to 2 March (mean arrival 21 February  $\pm 12$  days).

*Surf Scoter*—Three arrivals between 16 and 23 July 1978 and one on 7 July 1994 were anomalous summer visitants; with these excluded the earliest fall record was 3 September.

*Long-tailed Duck*—The mean winter date of all records is 30 December  $\pm 47$  days.

*Common Goldeneye*—Four on 4 February 1988 provided the high count.

*Barrow's Goldeneye*—The only record for the island is for 1 January 1977.

*Red-breasted Merganser*—The arrival pattern of this species is perhaps more accurately represented by a single over-winter peak (mean arrival 31 December  $\pm 46$  days).



Figure 2. Adult female Great Frigatebird, Southeast Farallon Island, 14 March 1992. This was the first Great Frigatebird accepted for California and still one of only two.

Photo by Peter Pyle

## MIGRATORY BIRDS ON SOUTHEAST FARALLON ISLAND

*American Kestrel*—An arrival on 8 March 1991 was extremely early, the next earliest being on 14 June. Excluding the March record results in a mean spring arrival date of 20 June  $\pm$  6 days.

*Peregrine Falcon*—The occurrence patterns of the three subspecies by age and sex were detailed by Earnhart-Gold and Pyle (2001).

*Lesser Golden-Plovers*. After reevaluating records of the American Golden-Plover we have redesignated 16 of those listed by Pyle and Henderson (1991) as the Pacific Golden-Plover or as identified to the species pair only, on the basis of the documentation (or lack thereof) provided.

*Killdeer*—Twenty-eight birds on 31 December 1978 made the high count.

*Herring Gull*—One on 12 July 1977 was an anomalous summer arrival; the next latest spring record was 8 June. The mean winter date of all records is 16 January  $\pm$  48 days, with a high count of 200 birds on 28 February 1977.

*Thayer's Gull*—One on 30 May 1978 was late; the next latest spring record being from 29 April. The mean winter date of all records is 3 January  $\pm$  52 days, with a high count of 20 birds on 24 December 1976.

*Glaucous-winged Gull*—The mean winter date for all records is 22 January  $\pm$  42 days.

*Glaucous Gull*—The mean winter date for all records is 30 January  $\pm$  45 days, with a repeat high count of 3 birds on 9 March 1997.

*Thick-billed Murre*—The table includes a record from 29 October 1988 that was not accepted by the CBRC.

*Ancient Murrelet*—The mean winter date for all records is 5 January  $\pm$  44 days, with a repeat high count of 150 birds on 12 February 1996.

*Long-eared Owl*—One on 6 March 1993 was early, the next earliest spring record being for 21 May.

*Selasphorus* hummingbirds—Ten arrivals, of Allen's Hummingbirds on 5 February 1984 and 26 February 1980, Rufous Hummingbirds on 15 February 1977, 23 February 1976 and 1995, 25 February 1988, and (2 birds) 27 February 1995, and unidentified individuals of this species pair on 3 February 1976 and 27 February 1992, were considered early spring arrivals rather than winter visitors. The next earliest spring arrivals were from 2 March for the Rufous Hummingbird and 9 March for Allen's.

*Eastern Wood-Pewee*—The table includes a record from 5 September 1998 that was not accepted by the CBRC.

*Yellow-bellied Flycatcher*—The table includes a record from 25 August 1992 that was not accepted by the CBRC.

*Say's Phoebe*—We reclassified an individual from 22 February 1984 as an early spring migrant rather than a winter visitor. The next earliest spring arrival was 1 March. A bird present 22–24 July 1988 was an anomalous summer arrival, the next earliest fall individual arriving 30 August. Excluding the July record results in a mean fall arrival date of 24 September  $\pm$  12 days.

*Great Crested Flycatcher*—The table includes an individual arriving 30 September 1996 for which documentation has not been submitted to the CBRC.

*Tropical Kingbird*—One present 7–25 August 1973 was early. The next earliest fall individual arrived on 21 September. Excluding the August record results in a mean fall arrival date of 17 October  $\pm$  17 days.

## MIGRATORY BIRDS ON SOUTHEAST FARALLON ISLAND

*Brown Shrike*—The lone record of this species was of one on the island 20–22 September 1984, *contra* Dunn (1988) who listed it for 20 September only.

*Bell's Vireo*—See Figure 3.

*Blue-headed Vireo*—Records of this species prior to 1998 (28 in total) have not been reviewed by the CBRC.

*Hutton's Vireo*—We reclassified an arrival on 23 February 1985 as an early spring migrant rather than a winter visitant, although the next earliest spring migrant did not occur until 28 March. If it is considered a winter bird, the mean spring arrival date is 23 April  $\pm$  18 days.

*Tree Swallow*—We reclassified twelve individuals arriving between 8 and 26 February as early spring migrants rather than winter visitants. The next earliest spring migrant arrived on 2 March.

*Violet-green Swallow*—We reclassified eight individuals arriving between 3 and 27 February as early spring migrants rather than winter visitants. The next earliest spring record was for 1 March. The spring total includes at least two immature dispersants, which arrived on 24 June 1975 and 2 June 1989.

*Northern Rough-winged Swallow*—Individuals on 9 March 1979 and 27 March 1990 were exceptionally early, the next earliest spring arrival being on 28 April.

*Rock Wren*—DeSante and Ainley (1980) and Pyle and Henderson (1991) summarized the species' breeding status on the island through 1989. Breeding attempts by this species in 1990 and 1991 were unsuccessful, and there have been no subsequent attempts. The arrival totals do not include fledglings, although the spring high count of nine on 13 June 1971 includes five fledglings.

*Lanceolated Warbler*—See Hickey et al. (1996) for more information on this first California record.

*Townsend's Solitaire*—The high count was of three birds on 27 January 1984.

*Veery*—We include the single spring record from 28 May 1981 that was not accepted by the CBRC.

*Gray-cheeked Thrush*—The table includes two records not accepted by the CBRC: one of two birds on 3 October 1970 and a single bird on 18 September 1975.

*American Robin*—Individuals occurring on 21 July 1980, 25 July 1973, and 31 July 1980 were anomalous summer arrivals, the next earliest fall arrival being 19 September. The July birds excluded, the fall mean arrival date was 15 November  $\pm$  21 days.

*European Starling*—DeSante and Ainley (1980) and Pyle and Henderson (1991) summarized the breeding status of this species on the island through 1982, the last year in which it attempted to breed. The arrival totals do not include fledglings.

*Olive-backed Pipit*—See Capitolo et al. (2000) for more details of this first California record.

*American Pipit*—An individual recorded on 3 July 1974 represents an anomalous summer arrival, the next latest spring migrant arriving on 12 May. The July arrival excluded, the mean spring arrival date is 25 April  $\pm$  14 days. At least six pipits believed to be of the Asiatic subspecies *Anthus rubescens japonicus* occurred on Southeast Farallon Island during the 1990s. Four individuals arrived on dates spanning from 13 October to 5 November 1991. One occurred on 20 October 1995, and another was present from 12 to 15 November 1997.

*Orange-crowned Warbler*—We reclassified ten arrivals between 19 and 26 February and an eleventh on 23 December from winter visitants to early spring and late fall

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Figure 3. Bell's Vireo, Southeast Farallon Island, 18 September 1993. Two individuals of this species arrived within three days in 1992 and represent the only records of it for the island. This one appears too green to have been the California subspecies, the Least Bell's Vireo, *Vireo bellii pusillus*.

Photo by Joe Kaplan/PRBO



Figure 4. Song Sparrow, Southeast Farallon Island, 15 October 1995. This individual was identified by measurements and plumage as the subspecies *Melospiza melodia kenaiensis*, breeding in south-central Alaska. There are no published records of this subspecies as far south as California.

Photo by Peter Pyle

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migrants, respectively. The next earliest spring migrant arrived on 9 March, and the next latest fall migrant arrived on 13 December.

*Yellow-rumped Warbler*—A Myrtle Warbler on the island from 15 July to 10 August 1971 has been reclassified as a late spring migrant; the next latest spring arrival was 30 June. Audubon's Warblers arriving 15 July 1973, 16 July 1973 (2 birds), 28 July 1988, and 13 August 1987 were anomalous summer visitants; with these excluded the mean fall arrival date was 19 October  $\pm$  18 days for the Yellow-rumped Warbler as a whole and 15 October  $\pm$  18 days for Audubon's Warbler. The next earliest fall Audubon's Warbler arrived 6 September.

*Hermit Warbler*—A late fall migrant arrived on 20 November 1968; the next latest fall record was for 25 October.

*Yellow-throated Warbler*—The table includes two individuals not accepted by the CBRC, present 4 June 1978 and 2-7 May 1980.

*Pine Warbler*—We follow the CBRC in rejecting a previously accepted record from 21 September 1973. See McKee and Erickson (2002) for details.

*Palm Warbler*—Upon further examination of the evidence we do not consider the four records of the Yellow subspecies (*Dendroica palmarum hypochrysea*) mentioned by Pyle and Henderson (1991) to be acceptable. Remarkably, there are no documented records of this subspecies for the Farallones.

*Bay-breasted Warbler*—A female present from 22 to 25 July 1997 was an anomalous summer arrival. Excluding this record results in a mean fall arrival date of 27 September  $\pm$  11 days; the next earliest fall migrant arrived on 9 September.

*Blackpoll Warbler*—Molting adults present 22-25 July 1982, 1-16 August 1969, and 8-12 August 1973 were anomalous summer arrivals; excluding these results in a mean fall arrival date of 23 September  $\pm$  11 days. The next earliest fall date was 26 August.

*Worm-eating Warbler*—The table includes two individuals not accepted by the CBRC, present on 5 June 1973 and 28 May 1981.

*Mourning Warbler*—The table includes three individuals not accepted by the CBRC, present on 13 September 1981, 8 September 1984, and 13 June 1998. See Pyle and Henderson (1990) for a discussion of this species on the Farallones and its identification.

*Connecticut Warbler*—The table includes an individual not accepted by the CBRC present on 5 October 1978 and an individual for which documentation was not submitted on 4 October 1968.

*Kentucky Warbler*—Birds recorded on 2 June 1969 and 18 June 1976 have not been submitted to the CBRC but are included in the table.

*Common Yellowthroat*—We reclassified an individual banded on 27 February 1995 as an early spring migrant rather than a winter visitant. The next earliest spring arrival was 11 March.

*Spotted Towhee*—We reclassified an individual recorded on 23 February 1985 as an early spring migrant rather than a winter visitant. The next earliest spring migrant arrived 2 March.

*Chipping, Clay-colored, and Brewer's sparrow hybrids*—See Pyle and Howell (1996) for information on these hybrids and other records of *Spizella* sparrows.

*Savannah Sparrow*—We reclassified individuals arriving on 27 February 1992 and 22 February 1996 as early spring migrants. The next earliest spring arrival is 2 March.

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An individual from 23 December 1976 has been reclassified as a late fall migrant. The next latest fall migrant arrived on 17 December.

*Le Conte's Sparrow*—See Pyle and Sibley (1994) for information and photographs on records of this species.

*Song Sparrow*—We reclassified individuals arriving on 28 February 1987 and 28 February 1995 as early spring migrants rather than winter visitants, although the next earliest individual did not occur until 26 March. If these February birds are considered as winter arrivals the mean spring arrival date was 23 April  $\pm$  23 days. See also Figure 4.

*Lincoln's Sparrow*—Individuals arriving on 28 February 1984, 28 February 1985, and 23 February 1997 have been classified as early spring migrants rather than winter visitants. The next earliest spring birds occurred on 1 March.

*White-crowned Sparrow*—See Pyle and Henderson (1991) for a breakdown of records before 1990 by subspecies.

*Dark-eyed Junco*—The totals for the Oregon Junco include the Pink-sided Junco (*Junco hyemalis mearnsi*), of which quite a few have been identified during the fall (approximately one per year through the 1990s), plus several others that were possibly this subspecies. There have been no records of juncos identified as the White-winged (*J. h. aikeni*) or Gray-headed (*J. h. caniceps* subspecies group).

*Snow Bunting*—The table includes records for six birds that were not accepted by the CBRC, of single individuals on 26 October 1972, 11 November 1975, and 17 November 1975, and three individuals on 29 October 1975. The table also includes an individual recorded on 24 October 1981 which has not been submitted to the CBRC.

*Scott's Oriole*—See Figure 5.

*Red Crossbill*—An immature male arriving on 18 June 1998 was an anomalous spring dispersant. An early fall individual arrived on 9 August 1977. The next earliest fall record was 26 September. The August record excluded, the mean fall arrival date was 27 October  $\pm$  12 days.

*House Sparrow*—DeSante and Ainley (1980) and Pyle and Henderson (1991) summarized the breeding status of this species on the island through 1989. Subsequently, two or three pairs nested each year from 1996 to 1999 (none from 2000 to 2002), fledging two to nine young per year. The arrival totals do not include fledged young, although the high count of 15 on 19 October 1997 includes nine juveniles.

## HYPOTHETICAL SPECIES

*Cook's Petrel* (*Pterodroma cookii*). A bird observed from the island on 21 September 1970 was not accepted by the CBRC (Winter 1973). One observed on 15 October 1997 was thought to be this species.

*Dark-rumped Petrel* (*Pterodroma phaeopygia*). A record of one observed from the island on 20 May 1988 was not accepted by the CBRC (McCaskie and San Miguel 1999).

*Wood Sandpiper* (*Tringa glareola*). A bird observed on 20 August 1985 was not accepted by the CBRC (Dunn 1988).

*Greater Pewee* (*Contopus pertinax*). A bird identified to this species 1 June 1998 was not accepted by the CBRC (see Erickson and Hamilton 2001 for a photograph and comments).

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Figure 5. Scott's Oriole, Southeast Farallon Island, 10 November 1993. Two Scott's Orioles arrived on Southeast Farallon in 1993, representing the species' second and third island records.

*Photo by Peter Pyle*



Figure 6. Black Swan, Southeast Farallon Island, 21 September 1991. This individual, presumably an escapee from captivity, was very tame, accepting hand-offered food. It died on the island on 25 September.

*Photo by Peter Pyle*

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### ESCAPED NON-NATIVE SPECIES

Black Swan (*Cygnus atratus*). An individual was present from 21 to 25 September 1991 (Figure 6).

Ringed Turtle-Dove (*Streptopelia risoria*). An individual arrived on 15 October 1983, was captured and banded, and remained until the next day.

Black-headed Parakeet (*Nandayus nenday*). One arrived on 29 September 1980.

Cutthroat Weaver (*Amadina fasciata*). One arriving on 25 September 1988 was captured and photographed.

### ACKNOWLEDGMENTS

The research program on Southeast Farallon Island is conducted in cooperation with and with the support of the U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge Complex, Newark, California. The Farallon Patrol also provided logistic support. The monitoring program for migrant birds has been carried out by numerous PRBO biologists and volunteers over the 32 years of data collection. We again acknowledge those listed by DeSante and Ainley (1980) and Pyle and Henderson (1991), who contributed to the collection of data from 1968 through 1989. Subsequent biologists who helped run the station and oversee the collection of data during the fall were P. Ashman, C. Alexander, S. Anderson, G. Ballard, K. Carney, D. Christian, J. Clark, K. Convery, S. Earnheart-Gold, J. Ellis, L. Gilbert, B. D. Hardesty, K. Hansen, C. Hickey, S. N. G. Howell, J. Kaplan, A. King, J. King, G. Phillips, I. Samuels, J. Sutter, P. Vernon, B. Walker, C. Wise, R. Woodard, and G. Yanega. We also like to thank the many others who collected data year round, as supervised by Farallon biologists K. Hastings, R. P. Henderson, M. Hester, E. McLaren, J. Nusbaum, K. Mills, W. J. Sydeman, and J. Walsh. This manuscript was improved greatly by comments from Richard A. Erickson, Michael A. Patten, and Bruce Peterjohn. This is PRBO contribution 960.

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*Accepted 14 March 2003*