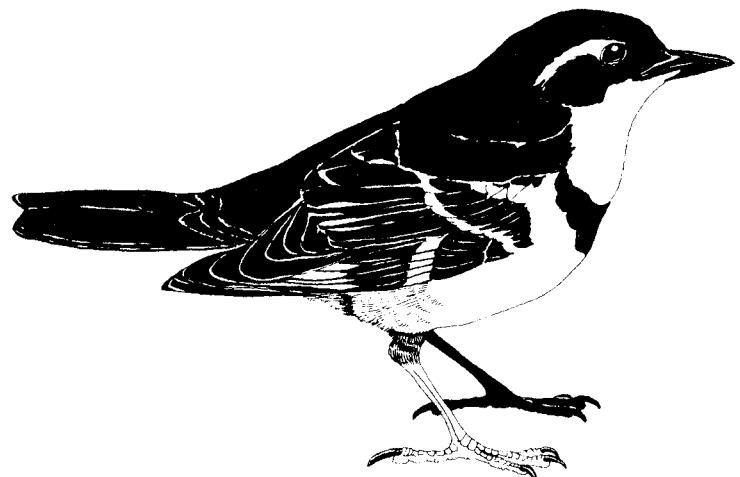# DISTRIBUTION OF BIRDS IN THE INTERTIDAL PORTION OF THE FRASER RIVER DELTA, BRITISH COLUMBIA

Robert W. Butler
Richard J. Cannings

TECHNICAL REPORT SERIES No. 93

Pacific and Yukon Region 1989
Canadian Wildlife Service

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DISTRIBUTION OF BIRDS IN THE INTERTIDAL PORTION
OF THE FRASER RIVER DELTA, BRITISH COLUMBIA

Robert W. Butler[1]
Richard J. Cannings[2]

Technical Report Series No. 93
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ABSTRACT

Over 1.5 million birds were counted by members of the Vancouver Natural History Society between March 1988 and February 1989 in the intertidal portion of the Fraser River delta, British Columbia. One-hundred and fifty species were identified. About 250,000 birds were reported in each of October, November and December when seasonal populations were greatest. The lowest number occurred in June when about 11,000 birds were seen. The most often seen birds were shorebirds (38.9%) followed by dabbling ducks (27.1%) and diving ducks (20.6%). The most often seen species was the Dunlin (Calidris alpina).

Most birds occurred in Boundary Bay along the northwest corner of the bay, and near 112th Street at the eastern end of the bay. The estuarine marshes at the mouth of the Fraser River held about a quarter of all birds recorded. The largest numbers in those marshes occurred off Westham Island and Brunswick Point. The Harlequin Duck (Histrionicus histrionicus) was confined to Ocean Park in White Rock, and the Ruddy Duck (Oxyura jamaicensis) occurred mostly at Iona Island. The results indicate that the entire intertidal portion of the Fraser River delta is used by a large number of birds and several sites must be secured to retain the present variety of species.

SOMMAIRE

Les membres de la *Vancouver Natural History Society* ont relevé plus de 1,5 million d'oiseaux entre les mois de mars 1988 et de février 1989, dans la zone intertidale du delta du fleuve Fraser en Colombie-Britannique. Cent cinquante différentes espèces ont été identifiées. On a signalé 250 000 oiseaux environ par mois, en octobre, novembere et décembre, à l'époque où les peuplements de saison sont les plus fréquents. La période creuse a été le mois de juin puisque environ 11 000 oiseaux ont été recensés. Les plus courants étaient les oiseaux de rivage (38,9%), suivis des barbotteurs (27,1%) et des canards plongeurs (20,6%). L'espèce la plus communément recontrée était le Bécasseau variable (*Calidris alpina*).

La majorité des oiseaux ont été trouvés dans l'angle nord-ouest de la baie Boundary et près de la 112° rue à l'extrémité est de la baie. Environ un quart de l'ensemble des oiseaux recontrés se trouvaient dans les marais d'estuaire à l'embouchure du fleuve Fraser, la majorité au large de l'île Westham et de la pointe Brunswick. L'habitat du Canard arlequin (*Histrionicus histrionicus*) était limité à Ocean Park à White Rock tandis que l'on recontrait le Canard roux (*Oxyura jamaicensis*) principalement sur l'île Iona. Les résultats montrent que toute la zone intertidale du delta du fleuve Fraser attire un nombre considérable d'oiseaux et que plusieurs sites doivent être préservés afin de maintenir la variété actuelle des espèces.

1. INTRODUCTION

The Fraser River delta (49 10'N, 123 05'W) supports more birds than all other estuaries on the Pacific coast of Canada (Butler and Campbell 1987, Butler et al. 1989). Bird populations in the delta have been estimated for mostly large segments of the delta such as riverine marshes and Boundary Bay (e.g. Vermeer and Levings 1977, Campbell et al. 1972, McKelvey et al. 1985). Savard's (1985) study counted waterfowl at 19 sites around the delta in autumn and winter. However, there is no information on the numbers of all birds using the entire shoreline of the Fraser River delta around the year.

The purpose of this study was to compare the monthly use by all birds of small segments of the Fraser River delta seaward of the dykes throughout the year.

2. STUDY AREA AND METHODS

Study Area

The study area included the intertidal lands seaward of the dikes from Iona Island in the north to White Rock in the south (Fig. 1). Aquatic birds use two major ecosystems in the Fraser River delta (Butler and Campbell 1987). Those ecosystems include the estuarine marshes, mudflats and sandflats from Iona Island to Brunswick Point (stations 1-6) and the marine beaches from Tsawwassen, through Boundary Bay to White Rock (stations 7-17).

1

FIGURE 1

Boundaries of seventeen stations where birds were counted in the Fraser River delta.
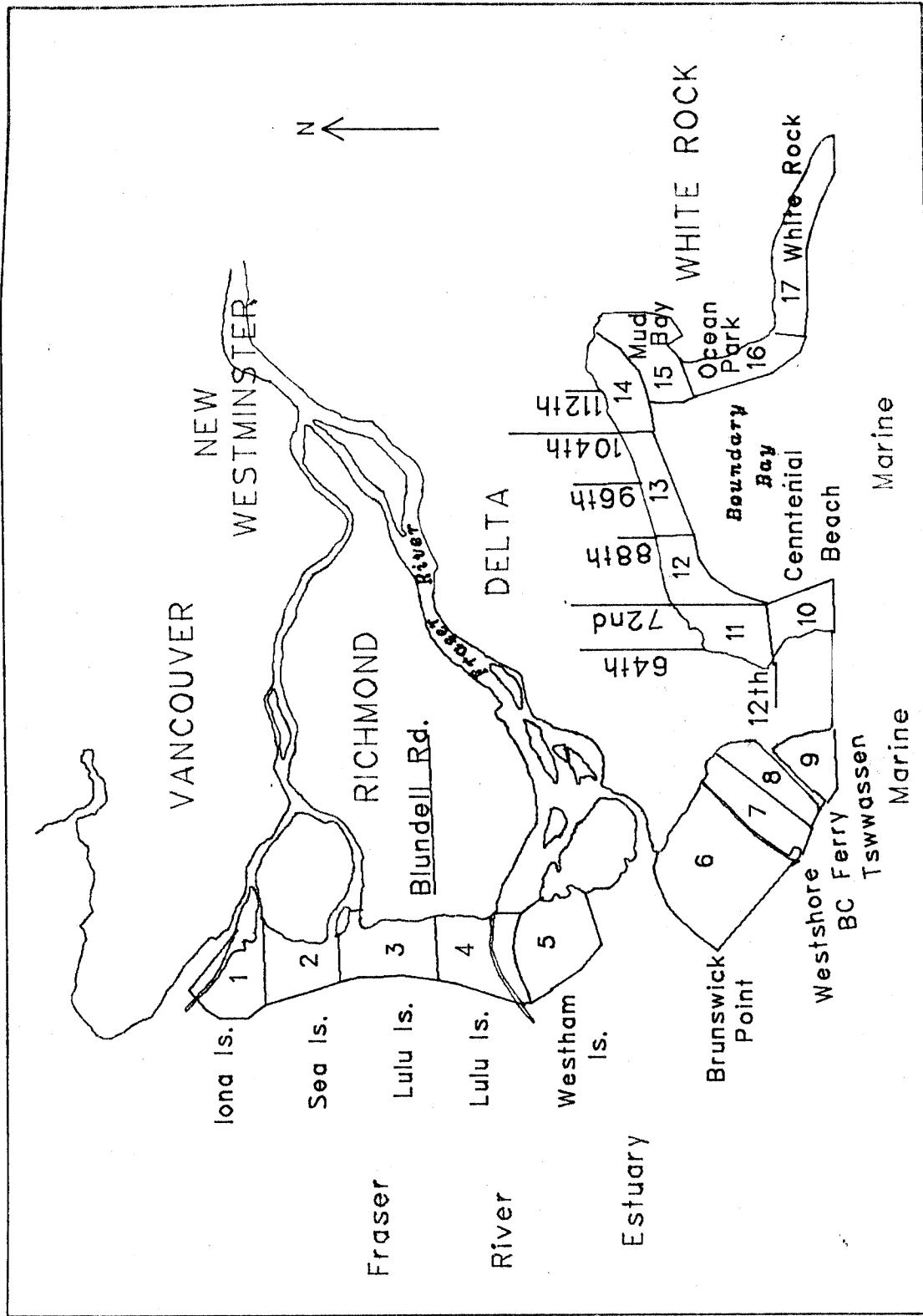
Methods

The study was divided into 17 stations in which two observers could count all the birds in 2-3 hours (Fig. 1). Birds were counted from March 1988 to February 1989. Counts were made within two hours of the high tide on one preselected Saturday or Sunday following the spring tide each month. Before each count, team leaders were mailed a recording sheet with a list of species, the date and time of the count and a postage-paid return envelope. Observers walked the dyke near the high tide line and recorded all species seen through binoculars and spotting telescope. When flocks were too far to be identified to species, the numbers of birds were recorded as generic groups, such as scaup species, or duck species.

Data analysis

The data provide a snapshot of the distribution of birds during high tides once each month. Species that rapidly migrate through the delta may be missed or counted when populations are low. On the other hand, birds which reside in the delta for longer periods may be counted repeatedly. To account for this we confined most analyses to within-month comparisons.

One or more counts were missed at eight out of 17 stations. We estimated how many birds might have been seen at these stations by assuming the same proportion counted between stations on the previous month also occurred on the month with the missing count. These methods were only used to estimate total numbers of all birds seen at each station and the numbers are identified in the tables. Stations 16 and 17 had too many missing counts and so were not included in these totals.

Data were analyzed by month for each of 17 stations and as a total of all birds seen each month. Counts from stations 7 and 8 were combined so that all stations were about equal in area. Scientific, vernacular and codes for vernacular names appear in Appendix 1. A summary of all birds counted at each station appears in Appendix 2.

3. RESULTS AND DISCUSSION

Seasonal comparisons

About 250,000 birds were seen in October, November and December when populations were greatest (Table 1). These huge populations were mostly migrant Dunlin and ducks. Many shorebirds and ducks move farther south but large populations spend the winter in the delta. Populations rise again during spring migration, especially when Dunlin and Western Sandpipers arrive. Most birds have departed by May and the delta populations remain low through September except when Western and Least sandpipers arrive on their southward migration in July (Table 1).

Species comparisons

Loons

Four species of loons were recorded. Red-throated Loons were recorded at 13 out of 17 stations (Table 2). In May, over 800 loons were seen off Westham Island. They were recorded as "Loon spp." in Table 2. The Red-throated Loon is the commonest species in the river (Butler and Campbell 1987). If these were indeed Red-throated Loons, then this species would account for over 90% of all loons seen in the estuary.

Table 1. Total number of major bird groups counted on one day each month in the Fraser River delta.

	Loons	Grebes	Cormorants	Herons	Swans	Geese	Dabblers	Diving Ducks	Raptors	Rails	Shorebirds	Gulls	Alcids	Owls	Passerines	Total	%
Jan	80	262	185	58	270	3744	66490	10059	107	18	93542	2942	0	15	5626	183498	11.8
Feb	108	378	165	60	142	50	13531	13484	231	18	14447	15302	22	3	2879	60820	3.9
Mar	147	339	196	170	23	13537	31018	54172	173	31	53709	12408	2	7	1590	167522	10.7
Apr	235	510	168	158	0	2691	21449	20863	41	117	126687	5723	5	7	1574	180228	11.6
May	845	1081	308	202	0	241	1054	3805	90	5	3584	3027	6	4	1503	15755	1.0
June	2	1	121	182	0	372	654	608	38	0	3088	3798	0	1	1948	10813	0.7
July	6	5	179	166	0	428	449	588	45	3	60456	2817	0	6	2850	67998	4.4
Aug	105	1122	255	293	0	1300	1310	10313	25	7	5817	15824	0	2	2811	39184	2.5
Sept	329	860	330	296	0	396	26987	13394	64	13	7748	11742	4	2	2907	65072	4.2
Oct	143	2346	444	135	19	12778	100087	17496	82	77	101834	5257	0	7	5430	246135	15.8
Nov	200	796	317	186	101	16071	76134	97754	72	124	81645	4761	7	12	4935	283115	18.1
Dec	113	203	245	107	60	11735	84021	79296	184	153	54575	5202	2	16	3159	239071	15.3
Max.no seen	845	2346	444	296	270	13537	100087	97754	231	153	126687	15824	22	16	5626	1559211	100.1
%	0.2	0.6	0.1	<0.1	<0.1	3.7	27.5	26.9	0.10	<0.1	34.8	4.4	<0.1	<0.1	1.6		

Table 2. Numbers of waterbirds counted per station. Station numbers are shown in Figure 1 and codes for species in Appendix I.

Species								Station										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. LOONS																	
RTLO	27	27	0	15	15	1	11	2	1	15	11	0	0	1	11	2	0
PALO	0	0	0	0	0	0	185	3	1	30	13	0	0	0	1	15	0
COLO	7	30	1	20	9	4	280	327	54	43	0	0	17	49	32	27	51
YBLO	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
LOON SPP.	36	57	1	36	938	6	487	332	56	88	24	0	17	64	44	45	51
2. GREBES																	
PBGR	5	0	0	0	23	1	15	0	2	4	0	0	0	0	0	0	0
HOGR	11	62	0	13	29	6	195	311	107	85	7	0	0	7	21	68	72
RNGR	6	93	0	3	0	1	98	43	20	6	4	0	3	1	34	34	36
EAGR	0	0	0	0	0	0	0	5	1	2	1	0	0	0	2	0	0
WEGR	751	599	0	48	521	131	211	2228	36	1039	27	0	7	23	113	1	1052
GREBE	2	0	0	0	0	0	0	2	0	0	5	0	0	0	0	2	0
3. CORMORANTS & HERONS																	
DCCO	62	52	9	113	402	34	912	178	386	107	9	3	51	46	60	12	20
BRCO	0	0	0	0	0	0	0	0	0	12	0	0	0	0	3	2	0
PECO	0	0	0	3	0	0	234	8	43	10	0	0	0	0	43	12	2
AMBI	0	1	1	4	10	2	0	0	0	0	0	0	0	0	0	0	0
GBHE	123	83	106	213	236	173	50	147	55	54	123	296	65	156	137	2	11

Table 2 continued

Station

4. WATERFOWL

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
TUSW	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0
TRSW	0	0	43	83	322	44	0	0	0	0	10	0	4	0	0	0	0
GWFG	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SNGO	50	7155	5501	10525	25089	9803	4	0	2	0	20	0	0	2	0	8	0
BRAN	0	0	0	0	0	18	404	739	500	157	72	0	211	0	80	6	0
CAGO	14	49	85	41	1630	491	0	265	0	68	1	0	13	16	332	0	0
WODU	0	0	0	5	2	0	0	0	0	0	0	0	0	0	3	0	0
GWTE	1836	4005	365	939	1890	3639	1369	303	100	1114	12962	89	1415	11374	527	0	90
MALL	608	1140	1103	224	7113	8234	7407	3673	317	1748	17978	5378	11186	4591	393	0	586
NOPI	493	1411	1930	425	318	3435	19879	3179	660	6616	33448	8729	22699	23999	240	0	0
BWTE	27	0	0	18	31	4	3	0	1	10	0	0	9	6	0	9	0
CITE	22	2	30	58	42	8	1	14	0	5	0	4	1	3	0	0	0
NOSL	0	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0
GADW	585	2001	0	322	519	4	2	7	0	12	4	22	135	3	0	1	0
EUWI	36	13	0	2	0	7	517	26	0	84	2	0	1	3	2	3	260
AMWI	18	5720	7664	726	13283	16622	15618	376	2443	9686	48286	16064	15820	12071	812	0	0
CANV	0	121	640	158	263	11	2	1454	362	0	0	0	0	15	39	112	0
RNDU	552	299	0	0	0	0	0	0	0	0	0	0	0	2	1	7	31
GRSC	160	0	0	0	130	52	1208	2138	87	1717	52	0	444	256	344	104	0
LESC	0	26	0	0	28	0	22	9	6	21	0	0	11	0	0	0	6
HADU	1	8	0	3	2	1	46	19	4	2	1	0	0	1	11	26	0
OLDS	43	400	0	0	1	5	50	19	14	8	0	0	2	0	56	59	268
BLSC	160	1	1006	0	6	1	763	3	7	86	109	0	23	2	2	38	872
SUSC	0	4	0	0	37	60	576	380	675	241	188	0	238	148	750	62	6
WWSC	1	0	3	3	5	2	77	361	165	836	0	0	1	20	16	49	0
COGO	7	137	0	0	0	2	24	90	141	367	1	2	0	2	101	65	40
BOGO	97	0	2	59	142	27	448	16	6	0	4	0	1	205	63	0	0
BUFF	0	0	0	0	3	0	14	1371	734	1375	0	0	0	8	93	72	0
HOMG	0	96	0	0	27	7	4	2	9	0	13	0	0	0	2	0	0
COMG	10	41	0	59	19	20	106	29	13	148	4	0	3	37	31	69	0
RBMG					29	0	0	0	0	37	0	0	0	57	10		
RUDU	1062														2		

Table 2 continued

Station

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
5. SHOREBIRDS																	
BBPL	0	159	0	0	43	419	210	46	0	470	5012	2768	2637	8062	179	0	0
SPPL	7	0	0	0	3	1	6	0	2	27	16	0	10	182	36	0	0
KILL	54	19	23	17	21	44	63	42	119	75	60	23	33	30	16	0	47
GRYE	33	4	0	4	178	0	1	0	0	11	5	5	1	20	48	0	14
LEYE	44	0	0	7	26	0	0	0	0	9	0	0	6	9	10	0	7
BLTU	0	0	0	0	0	0	25	183	0	13	0	0	2	3	0	0	0
SAND	906	60	0	360	0	400	0	3	0	574	334	886	55	214	140	0	2
SESA	57	0	0	0	2	0	0	0	0	1	0	0	1	500	0	0	0
WESA	813	85	50	102	67	10740	2142	475	0	1788	3631	542	11338	29785	120	0	1000
LESA	104	111	0	11	46	0	16	10	11	84	85	0	28	2021	1	0	8
PESA	84	19	0	8	29	0	0	0	0	57	76	0	24	60	0	0	0
DUNL	4535	4483	0	11250	9863	24405	6555	695	221	3809	138231	144040	62815	62416	400	200	0
SBDO	17	6	32	0	80	1	1	6	0	2	1	0	5	30	0	0	0
LBDO	340	19	0	0	42	1	1	0	0	51	0	0	13	62	0	0	0
COSN	2	2	15	15	21	1	0	0	0	5	1	0	0	0	0	0	0
6. GULLS & ALCIDS																	
BOGU	618	206	0	4	3	5	315	466	207	398	186	616	292	115	163	10	295
MEGU	570	58	50	565	228	75	475	841	557	2165	851	344	347	869	905	9	49
RBGU	89	4	0	9	220	3505	59	426	3	283	686	37	965	207	30	33	143
CAGU	70	2	0	1	0	0	304	4	0	39	4057	0	65	46	3	248	100
GWGU	506	277	8	437	226	245	1384	656	3464	2535	4767	9899	4483	5480	2315	0	278
CATE	7	0	0	2	5	36	37	25	1	6	17	5	12	21	2	0	29
COTE	7	21	0	0	0	0	12	91	3	0	0	0	30	18	311	0	255
COMU	0	1	0	0	0	0	73	2	2	0	0	0	0	0	0	0	0
PIGU	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3	0	0
MAMU	0	0	0	0	0	0	21	20	2	0	3	0	0	0	2	0	0

Pacific Loons were seen only in the more marine ecosystem of Boundary Bay and south Roberts Bank (Table 2). In contrast, Common Loons were seen throughout the study area with largest numbers reported between the B.C. Ferry and Westshore Terminal jetties (Table 2).

Grebes

Five species of grebes were seen. Pied-billed Grebes were most abundant near Westham Island and between the B.C. Ferry and Westshore Terminal jetties. Horned and Red-necked Grebes were widespread with concentrations off Sea Island, south Roberts Bank and White Rock (Table 2). Eared Grebes occurred mostly on south Roberts Bank, whereas Western Grebes were seen at nearly every station.

Cormorants and herons

Double-crested Cormorant and Great Blue Heron were widespread in the study area (Table 2). Double-crested cormorants concentrated off south Roberts Bank where they nest on river dolphins, whereas herons were most abundant in the marshes at the mouth of the Fraser River. Herons nest near the University of British Columbia, on Point Roberts and near Mud Bay. Brandt's and Pelagic cormorants were mostly seen along rocky coastlines near White Rock and near jetties on Roberts Bank.

Swans, geese and ducks

Two species of swan, four species of goose and 26 duck species were seen. Most (99.2%) swans were Trumpeters (Table 2). Swans mostly occurred near Brunswick Point and Westham Island. Snow Geese used the entire foreshore marshes of the Fraser, whereas Brant were confined to south Roberts Bank and Boundary Bay (Table 2). Canada Geese were more ubiquitous but were most often seen at Westham Island.

American Wigeon was the most abundant duck species. Large numbers occurred off Roberts Bank and especially in western Boundary Bay (Table 2). Northern Pintails were also widespread with large concentrations off south Roberts Bank, western Boundary Bay and near the mouth of Mud Bay (Table 2). Mallard were also widespread with a similar distribution to pintails. Exceptionally high concentrations occurred on Westham Island (Table 2). Green-winged Teal were most abundant in Boundary Bay.

Large numbers of diving ducks were seen near the limits of the observer's range. Of those identified to species, Greater Scaup predominated (Table 2). Most scaup were seen on south Roberts Bank. Harlequin Ducks were mostly restricted to Ocean Park. Surf Scoters were widespread but White-winged Scoters occurred mostly in Boundary Bay and south Roberts Bank. Ruddy Ducks were mostly abundant near Iona Island and Common Merganser were seen predominantly near the mouth of the Nicomekl River (Table 2).

Raptors

The Bald Eagle, Northern Harrier and Red-tailed Hawk were the most abundant raptors. All were widespread. Short-eared Owls were seen only near 88th Street at Boundary Bay and at Brunswick Point.

Shorebirds

Dunlin was the most often seen bird of the entire study. They were seen at nearly every station but particularly at the mouth of Mud Bay (Table 2). Western Sandpipers were also widespread. Black-bellied Plovers were concentrated in Boundary Bay, whereas Killdeer were widespread. Both species of yellowlegs predominated at Westham and Iona islands. Black Turnstones were most frequent on jetties on Roberts Bank and Common Snipe were mostly confined to marshes near the mouth of the Fraser River (Table 2).

Gulls and alcids

Most Glaucous-winged Gulls occurred on Boundary Bay beaches closest to the Delta garbage dump (Table 2). All species of gulls were widespread except the California Gull which was most often reported from Boundary Bay. Common Murres and Marbled Murrelets were sighted off the jetties on Roberts Bank, perhaps because the jetties provided observers access to deeper waters than other stations.

Passerines

European Starlings and Barn Swallows were the most abundant species and both were widespread (Table 2). Northwestern Crows were seen at most stations but were most numerous near wooded areas. Blackbirds were most abundant on Lulu and Westham islands.

High density areas

The number of birds counted or estimated at each station per month and the annual totals (Table 3 and Fig. 2). indicate that the northwest corner of Boundary Bay (stations 11 and 12) and the mouth of Mud Bay (station 4) were the most heavily used sites. Next was south Roberts Bank including the area between the B.C. Ferry Terminal jetties (stations 7 and 8) (6.8% of all birds), Brunswick Point (9.8%) and Westham Island (7.4%). This conclusion is based on the number of birds tallied per count (Table 3). It assumes that a single count each month closely reflects the relative use of each site by all birds. This is not entirely true since, for example, we know that large numbers of migrant sandpipers use Iona Island mudflats. The timing of our counts missed many of these. Moreover, our conclusions are based on incomplete counts. Stations 16 and 17 were counted eight and six times,

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Table 3.   Number of birds counted each month at each station. Station numbers correspond with sites in Figure 1. Numbers in bold are estimates (see Methods).

Station	J	F	M	A	M	J	J	A	S	O	N	D	Total
1	3310	1353	1814	3014	605	944	1419	921	1339	4517	2360	1366	22962
2	5098	1301	5348	3228	53	40	631	438	1888	7434	6557	3982	35958
3	3309	1227	3341	818	226	509	253	1249	812	6691	1340	5206	20300
4	1235	1543	4128	5632	395	474	1019	943	1848	6335	15017	5376	39817
5	16416	5443	21706	23598	2115	593	757	1749	7808	5181	14130	15639	115135
6	13498	9020	20998	1299	1517	1141	10893	17067	10450	9512	41358	16166	152919
7	2232	5860	2680	2591	1428	684	2243	982	4626	9078	15953	16651	65008
8	1341	2979	2632	2253	1028	372	1260	1333	3279	8430	6095	10220	41222
9	870	3395	9057	1603	1042	700	337	584	813	6066	3722	1761	29950
10	9069	1352	19330	7459	1208	340	2055	2004	3689	10838	31288	28666	117298
11	28267	2090	24478	58864	1490	482	2216	1492	11619	41781	64725	48045	285549
12	76221	3988	27846	32528	679	1282	597	4597	5937	49317	33594	36520	273106
13	6701	2627	15331	10955	1317	1925	10689	974	5329	45525	33141	17793	152307
14	14596	18313	17158	25258	782	814	31926	3871	14356	33982	13087	16326	190469
15	1268	370	1197	1258	836	368	176	472	1025	1223	797	1478	10468

1,561,317

a – Stations 16 (Ocean Park) and 17 (White Rock) had too few counts to be included in this comparison.

FIGURE 2

Percentage of all birds counted at each station throughout the year.
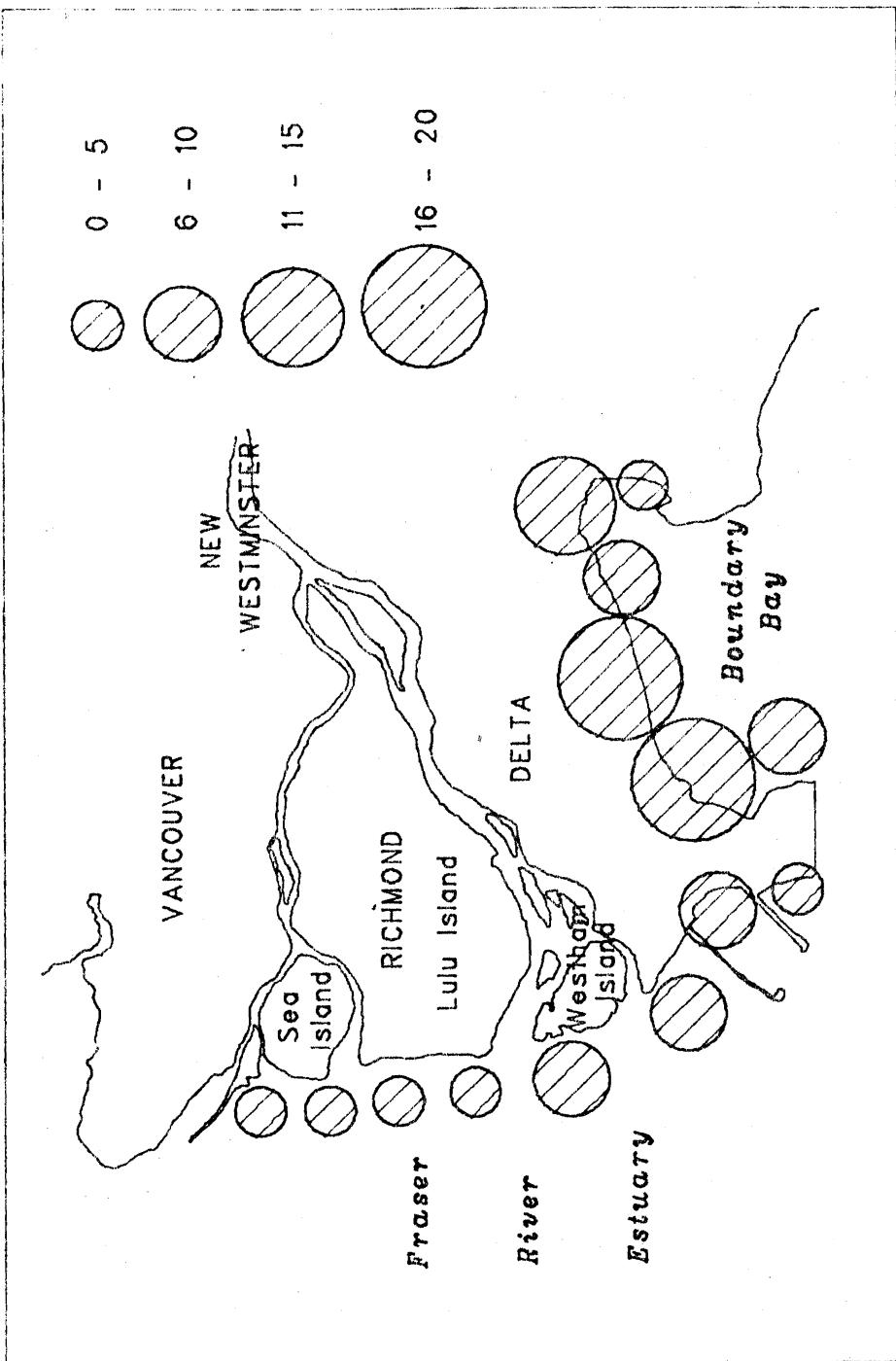
respectively. Station 16 (Ocean Park) is a rocky shoreline with generally lower numbers of birds than other stations. White Rock (station 17) is similar to beaches in Boundary Bay but is also used by many people. The significance of the size of bird populations at those two sites require further study.

Seasonal use

The northwest corner of Boundary Bay (stations 11 or 12 had the highest number of birds from September to April (Table 3). In May, birds were dispersed over south Roberts Bank and west Boundary Bay (stations 5-11 and 13). By June the largest numbers were noted in central Boundary Bay (station 13). During the southward shorebird migration in July and August, the greatest numbers were at the east end of Boundary Bay (station 14) and Brunswick Point (station 6), respectively.

Conservation of the birds in the delta

Over the last three decades conservation efforts have secured large portions of the estuarine marshes at the mouth of the Fraser River (Butler and Campbell 1987). These marshes are an important component in the preservation of many estuarine birds such as American Bittern, Trumpeter Swan and Snow Goose. However, only part of the most heavily used areas of the estuarine marshes along Roberts Bank are protected for wildlife. The George C. Reifel Migratory Bird Sanctuary and Alaksen National Wildlife Area on Roberts Bank and Reifel Island provide a variety of habitats and quiet resting areas and probably partly explain the high concentrations of birds in nearby areas.

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The greatest numbers of birds were seen in Boundary Bay where tiny fragments of habitat have been secured for wildlife. The entire bay is heavily used with especially large concentrations near the entrance of Mud Bay and the northwest corner of Boundary Bay. The significance of these stations and adjacent uplands to the maintenance of current populations needs to be assessed.

Some stations reported low overall populations of birds but were nonetheless important to one or a few species. For example, Ocean Park supported over 85% of all Harlequin Ducks (Tables 2 and 3) even though the counts were incomplete. Similarly, over 80% of the Ruddy Ducks were reported from Iona Island (Table 2). The protection of species, such as these, requires identifying their precise habitat needs in the delta and coordinated planning with land owners.

Other species were more widespread but nonetheless confined to discrete areas of the delta. For example, the Snow Goose and American Bittern were seen only in the estuarine marshes at the mouth of the Fraser River, and Pacific Loons were most abundant in marine areas (Table 2). The task at hand is to determine the relative importance of each habitat in supplying the needs of the birds in the Fraser River delta.

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6. APPENDICES

Appendix 1.   Scientific, vernacular and codes for vernacular names of birds used in the text.

Code	Vernacular	Scientific
PALO	Pacific Loon	*Gavia pacifica*
RTLO	Red-throated Loon	*Gavia stellata*
COLO	Common Loon	*Gavia immer*
YBLO	Yellow-billed Loon	*Gavia adamsii*
PBGR	Pied-billed Grebe	*Podilymbus podiceps*
HOGR	Horned Grebe	*Podiceps auritus*
RNGR	Red-necked Grebe	*Podiceps grisegena*
EAGR	Eared Grebe	*Podiceps nigricollis*
WEGR	Western Grebe	*Aechmophorus occidentalis*
DCCO	Double-crested Cormorant	*Phalacrocorax auritus*
BRCO	Brandt's Cormorant	*Phalacrocorax penicillatus*
PECO	Pelagic Cormorant	*Phalacrocorax pelagicus*
AMBI	American Bittern	*Botaurus lentiginosus*
GBHE	Great Blue Heron	*Ardea herodias*
TUSW	Tundra Swan	*Cygnus columbianus*
TRUS	Trumpeter Swan	*Cygnus buccinator*
GWFG	Greater White-fronted Goose	*Anser albifrons*
SNGO	Snow Goose	*Chen caerulescens*
BRAN	Brant	*Branta bernicla*
CAGO	Canada Goose	*Branta canadensis*
WODU	Wood Duck	*Aix sponsa*
GWTE	Green-winged Teal	*Anas crecca*
MALL	Mallard	*Anas platyrhynchos*
NOPI	Northern Pintail	*Anas acuta*
BWTE	Blue-winged Teal	*Anas discors*
CITE	Cinnamon Teal	*Anas cyanoptera*
NOSL	Northern Shoveler	*Anas clypeata*
GADW	Gadwall	*Anas strepera*
EUWI	Eurasian Wigeon	*Anas penelope*
AMWI	American Wigeon	*Anas americana*
CANV	Canvasback	*Aythya valisineria*
RNDU	Ring-necked Duck	*Aythya collaris*
GRSC	Greater Scaup	*Aythya marila*
LESC	Lesser Scaup	*Aythya affinis*
HADU	Harlequin Duck	*Histrionicus histrionicus*
OLDS	Oldsquaw	*Clangula hyemalis*
BLSC	Black Scoter	*Melanitta nigra*
SUSC	Surf Scoter	*Melanitta perspicillata*
WWSC	White-winged Scoter	*Melanitta fusca*
COGO	Common Goldeneye	*Bucephala clangula*
BAGO	Barrow's Goldeneye	*Bucephala islandica*
BUFF	Bufflehead	*Bucephala albeola*
HOME	Hooded Merganser	*Lophodytes cucullatus*
COME	Common Merganser	*Mergus merganser*
RBME	Red-breasted Merganser	*Mergus serrator*
RUDU	Ruddy Duck	*Oxyura jamaicensis*
OSPR	Osprey	*Pandion haliaetus*
BAEA	Bald Eagle	*Haliaeetus leucocephalus*
NOHA	Northern Harrier	*Circus cyaneus*
SSHA	Sharp-shinned Hawk	*Accipiter striatus*
COHA	Cooper's Hawk	*Accipiter cooperii*
NOGO	Northern Goshawk	*Accipiter gentilis*
RTHA	Red-tailed Hawk	*Buteo jamaicensis*
RLHA	Rough-legged Hawk	*Bueto lagopus*
AMKE	American Kestrel	*Falco sparverius*
MERL	Merlin	*Falco columbarius*

PEFA	Peregrine Falcon	Falco peregrinus
RNPH	Ring-necked Pheasant	Phasianus colchicus
VIRA	Virginia Rail	Rallus limicola
AMCO	American Coot	Fulica americana
BBPL	Black-bellied Plover	Pluvialis squatarola
LGPL	Lesser Golden Plover	Pluvialis dominica
SEPL	Semipalmated Plover	Charadrius semipalmatus
KILL	Killdeer	Characrius vociferus
BLOY	Black Oystercatcher	Haematopus bachmani
GRYE	Greater Yellowlegs	Tringa melanoleuca
LEYE	Lesser Yellowlegs	Tringa flavipes
SDSA	Spotted Sandpiper	Actitis macularia
WHIM	Whimbrel	Numenius phaeopus
RUTU	Ruddy Turnstone	Arenaria interpres
BLTU	Black Turnstone	Arenaria melanocephala
SAND	Sanderling	Calidris alba
SESA	Semipalmated Sandpiper	Calidris pusilla
WESA	Western Sandpiper	Calidris mauri
LESA	Least Sandpiper	Calidris minutilla
BASA	Baird's Sandpiper	Calidris bairdii
PESA	Pectoral Sandpiper	Calidris melanotos
SHSA	Sharp-tailed Sandpiper	Calidris acuminata
DUNL	Dunlin	Calidris alpina
STSA	Stilt Sandpiper	Calidris himantopus
SBDO	Short-billed Dowitcher	Limnodromus griseus
LBDO	Long-billed Dowitcher	Limnodromus scolopaceus
COSN	Common Snipe	Gallinago gallinago
PAJA	Parasitic Jaeger	Stercorarius parasiticus
BOGU	Bonaparte's Gull	Larus philadelphia
HMGU	Heerman's Gull	Laurs heermanni
MEGU	Mew Gull	Larus canus
RBGU	Ring-billed Gull	Larus delawarensis
CAGU	California Gull	Larus californicus
HEGU	Herring Gull	Larus argentatus
THGU	Thayer's Gull	Larus thayeri
WEGU	Western Gull	Larus occidentalis
GWGU	Glaucous-winged Gull	Larus glaucescens
GLGU	Glaucous Gull	Larus hyperboreus
CATE	Caspian Tern	Sterna caspia
COTE	Common Tern	Sterna hirundo
COMU	Common Murre	Uria aalge
PIGU	Pigeon Guillemot	Cepphus columba
MAMU	Marbled Murrelett	Brachyramphus marmoratus
ANMU	Ancient Murrele	Synthliboramphus anitquus
RODO	Rock Dove	Columba livia
BTPI	Band-tailed Pigeon	Columba fasciata
MODO	Mourning Dove	Zenaida macroura
CBOW	Common Barn-Owl	Tyto alba
GHOW	Great Horned Owl	Bubo virginianus
SNOW	Snowy Owl	Nyctea scandiaca
SEOW	Short-eared Owl	Asio flammeus
BLSW	Black Swift	Cypseloides niger
VASW	Vaux's Swift	Chaetura vauxi
BEKI	Belted Kingfisher	Ceryle alcyon
TRSW	Tree Swallow	Tachycineta bicolor
VGSW	Violet-green Swallow	Tachycineta thalassina
NRWS	Northern Rough-winged Swallow	Stelgidopteryx serripennis
BKSW	Bank Swallow	Riparia riparia

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CLSW	Cliff Swallow	_Hirundo pyrrhonota_
BASW	Barn Swallow	_Hirundo rustica_
STJA	Steller's Jay	_Cyanocitta stelleri_
NOCR	Northwestern Crow	_Corvus caurinus_
CORA	Common Raven	_Corvus corax_
BCCH	Black-capped Chickadee	_Parus atricapillus_
BUSH	Bushtit	_Psaltriparus minimum_
BEWR	Bewick's Wren	_Thryomanes bewickii_
WIWR	Winter Wren	_Troglodytes troglodytes_
MAWR	Marsh Wren	_Cistothorus palustris_
GCKI	Golden-crowned Kinglet	_Regulus satrapa_
RCKI	Ruby-crowned Kinglet	_Regulus calendula_
AMRO	American Robin	_Turdus migratorius_
WAPI	Water Pipit	_Anthus spinoletta_
CEWA	Cedar Waxwing	_Bombycilla cedrorum_
NOSH	Northern Shrike	_Lanius excubitor_
EUST	European Starling	_Sturnus vulgaris_
COYE	Common Yellowthroat	_Geothlypis trichas_
BHGR	Black-headed Grosbeak	_Pheucticus melanocephalus_
RSTO	Rufous-sided Towhee	_Pipilo erythrophthalmus_
SAVS	Savannah Sparrow	_Passerculus sandwichensis_
FOSP	Fox Sparrow	_Passerella iliaca_
SOSP	Song Sparrow	_Melospiza melodia_
WTSP	White-throated Sparrow	_Zonotrichia albicollis_
GCSP	Golden-crowned Sparrow	_Zonotrichia atricapilla_
WCSP	White-crowned Sparrow	_Zonotrichia leucophrys_
DEJU	Dark-eyed Junco	_Junco hyemalis_
LALO	Lapland Longspur	_Calcarius lapponicus_
SNBU	Snow Bunting	_Plectrophenax nivalis_
RWBL	Red-winged Blackbird	_Agelaius phoeniceus_
YHBL	Yellow-headed Blackbird	_Xanthocephalus xanthocephalus_
BHCO	Brown-headed Cowbird	_Molothrus ater_
HOFI	House Finch	_Carpodacus mexicanus_
PISI	Pine Siskin	_Carduelis pinus_
AMGO	American Goldfinch	_Carduelis tristis_
HOSP	House Sparrow	_Passer domesticus_

Appendix 2. Number of birds counted on all surveys.

				1988							1989		
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	147	235	845	2	6	105	329	143	200	113	80	108	2313
LOON	0	100	800	0	0	0	1	1	18	17	3	2	942
RTLO	14	7	1	0	0	4	0	14	37	19	24	22	142
PALO	53	81	10	0	0	0	15	1	69	16	0	11	256
COLO	80	56	34	2	6	101	313	127	76	60	53	72	971
YELO	0	0	0	0	0	0	0	0	0	1	0	1	2
#GRE	339	510	1081	1	5	1122	860	2346	796	203	362	378	8003
GREB	0	2	0	0	0	7	0	2	0	0	0	0	11
PBGR	2	28	2	0	1	7	5	8	3	4	1	1	50
HOGR	148	106	2	0	1	40	149	152	130	92	52	116	984
RNGR	85	29	8	0	0	15	73	75	64	17	25	19	405
EAGR	2	4	1	0	0	1	0	0	2	0	0	1	11
WEGR	102	363	1068	1	3	1052	633	2109	597	90	284	241	6542
#COR	196	168	308	121	179	255	330	444	317	245	185	165	2913
CORM	0	0	0	1	1	1	1	12	0	20	9	13	58
DCCO	131	99	270	109	173	231	294	396	284	196	149	127	2459
BRCO	12	2	0	0	0	0	0	0	2	1	0	0	17
PECO	53	67	38	11	5	23	35	36	31	28	27	25	379
#HER	170	158	202	182	166	293	296	135	186	107	58	60	2013
AMBI	0	2	3	1	2	0	1	2	1	2	2	2	18
GBHE	170	156	199	181	164	293	295	133	129	105	56	58	2019
#SWA	23	0	0	0	0	0	0	19	101	60	270	142	615
SWAN	6	0	0	0	0	0	0	4	25	40	22	51	148
TUSW	0	0	0	0	0	0	0	2	2	0	0	0	4
TRUS	17	0	0	0	0	0	0	13	74	20	248	91	463
#GEE	13537	2691	241	372	428	1300	396	12778	16071	11735	3744	50	63343
GWFG	0	1	0	0	0	0	0	0	0	0	0	0	1
SNGO	13420	723	0	0	0	0	25	12766	16006	11620	3591	0	58151
BRAN	45	1902	110	2	1	0	0	0	1	52	67	0	2180
CAGO	72	65	131	370	427	1300	371	12	64	63	86	50	3011
#DAB	31040	21859	1158	665	450	1443	27037	100128	76196	84071	68588	13577	426212
WODU	0	3	2	3	0	0	0	1	1	0	0	0	10
GWTE	5706	5088	88	24	1	155	3350	9903	6657	4534	4971	1248	41725
MALL	3579	620	211	266	89	287	1541	8833	12306	20950	16876	5089	71747
NOPI	10186	2432	223	8	31	429	11510	30399	22412	29172	18264	3143	128209
BWTE	16	1	55	15	8	1	13	0	0	0	0	0	109
CITE	0	61	60	24	14	12	4	0	0	0	1	0	176
NOSL	50	410	104	11	1	133	50	41	62	50	2098	46	3056
GADW	554	677	215	301	290	180	413	338	400	72	106	72	3618
EUWI	522	4	0	0	0	0	73	3	14	19	15	9	659
AMWI	10427	8143	200	13	16	246	10083	50610	34144	29274	26257	3970	172403
#DIV	54172	20863	3805	608	588	10313	13394	17496	97754	79296	10059	13484	321832
RNDU	0	0	3	0	0	0	0	0	0	0	0	0	3
CANV	105	803	33	0	0	1	2	382	617	655	436	49	3083
SCAU	62	502	990	8	0	0	2041	1588	15511	6505	742	383	28332
GRSC	2057	932	484	89	23	29	39	1756	515	725	262	615	7526
LESC	51	18	0	31	9	11	20	2	6	147	20	0	315
HADU	2	49	0	7	15	0	24	19	37	29	25	17	226
OLDS	47	3	0	3	2	0	0	34	18	38	26	16	184

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SCOT	0	0	50	0	0	55	200	0	0	0	0	0	305
COSC	40	39	9	0	1	4	14	37	8	16	35	43	239
SUSC	652	1374	214	8	41	38	489	678	399	374	277	335	4820
WWSC	188	614	961	15	325	257	410	151	154	104	177	156	3493
GOLD	0	0	0	0	2	0	0	0	0	0	0	0	2
COGO	403	18	27	4	2	0	0	48	93	95	69	120	877
BOGO	14	21	33	0	0	0	0	12	40	28	20	26	194
BUFF	1331	723	107	6	2	4	1	731	742	282	214	416	4549
HOMG	0	2	0	0	0	5	0	0	0	1	13	0	21
COMG	5	0	25	1	5	11	1	16	16	0	0	21	101
RBMG	43	2554	21	7	0	0	0	87	150	131	57	50	3083
RUDU	112	115	98	6	0	3	19	315	313	216	63	37	1297
DUCK	49060	13475	800	423	161	9895	10334	11640	85335	69950	7623	11200	269896
#RAP	173	41	90	38	45	25	64	82	72	184	107	231	1152
OSPR	0	0	0	0	1	0	3	0	0	0	0	0	4
BAEA	144	15	67	21	27	0	0	3	11	8	51	157	504
NOHA	17	16	14	12	14	20	38	47	29	138	41	40	426
SSHA	0	1	0	0	0	0	2	2	3	3	2	3	16
COHA	0	0	0	0	0	0	2	0	0	0	0	1	3
NOGO	0	0	0	0	0	0	0	3	0	0	0	0	3
RTHA	8	7	6	4	2	4	8	14	15	25	10	22	125
RLHA	3	0	0	1	0	0	0	3	7	3	2	5	24
AMKE	0	0	0	0	0	0	2	0	1	0	0	0	3
MERL	0	1	0	0	1	1	6	6	3	3	0	2	23
PEFA	1	1	3	0	0	0	3	4	3	4	1	1	21
RNPH	5	25	16	21	23	9	7	12	8	6	4	1	137
#RAI	31	117	5	0	3	7	13	77	124	153	18	18	566
VIRA	0	0	0	0	0	3	5	2	0	2	0	0	12
AMCO	31	117	5	0	3	4	8	75	124	151	18	18	554
#SHO	53709	126687	3584	3088	60456	5817	7748	101834	81645	54575	93542	14447	607132
BBPL	1927	4547	415	896	692	2984	4286	592	3541	1272	369	84	21505
LGPL	0	0	1	0	0	0	9	0	0	0	0	0	10
SPPL	0	0	47	4	23	70	44	0	100	0	0	0	288
KILL	59	42	68	104	58	82	94	11	3	8	4	40	573
ABOY	0	0	0	0	0	1	0	0	0	0	0	0	1
GRYE	4	146	22	10	41	43	26	6	6	14	5	1	324
LEYE	0	1	0	0	1	74	42	0	0	0	0	0	118
SPOT	0	0	3	3	3	1	0	0	0	0	0	0	10
WHIM	0	2	41	0	3	11	3	0	0	0	0	0	60
RUTU	0	0	1	0	2	0	0	0	0	0	0	0	3
BLTU	0	9	0	0	0	29	43	106	14	6	55	83	345
SAND	150	714	245	85	958	564	294	220	193	254	217	40	3934
SESA	0	0	1	2	553	0	5	0	0	0	0	0	561
WESA	0	1281	1693	1967	55818	1532	325	0	202	0	60	0	62878
LESA	0	1	41	2	2244	178	38	0	10	0	0	22	2536
BASA	0	1	0	0	1	38	6	0	0	0	0	0	46
PESA	0	0	0	0	0	6	344	7	0	0	0	0	357
SHSA	0	0	0	0	0	0	1	0	0	0	0	0	1
DUNL	51568	126285	959	0	0	146	112	97481	76398	53017	92805	14167	512938
STIL	0	0	0	0	0	1	0	0	0	0	0	0	1
DOWI	0	319	46	15	0	4	1	42	0	0	0	0	427
SBDO	0	208	0	0	56	33	9	73	0	0	0	0	379
LBDO	1	28	1	0	3	18	185	281	1	0	10	1	529
COSN	0	2	0	0	0	2	11	12	6	3	17	9	62
SHOR	0	22001	0	0	0	0	1870	3003	12771	1	0	0	39646

PAJA	0	0	0	0	0	3	4	0	0	0	0	0	7
AGUL	7008	5723	3027	3798	2817	15824	11742	5257	4761	5202	2942	15302	83403
GULL	6750	1615	480	248	76	8419	3567	284	551	1887	457	2590	26924
BOGU	0	277	58	971	322	1067	953	238	12	0	0	0	3898
HEEG	5	0	0	0	0	0	0	0	0	0	0	0	5
MEGU	2521	1289	19	27	6	597	710	524	539	1376	470	849	8927
RBGU	77	8	150	727	873	4309	525	5	2	9	14	0	6699
CAGU	0	2	7	124	162	325	4062	1	0	0	8	0	4691
HERG	0	6	2	0	2	1	3	0	7	7	3	2	33
THGU	57	9	50	0	132	0	232	5	20	18	34	14	566
WEGU	0	0	0	0	0	0	0	0	0	0	1	1	2
GWGU	2998	2547	2261	1701	1244	1106	1440	4200	3630	1905	1955	11846	36808
GLGU	0	0	0	0	0	0	250	0	0	0	0	0	250
CATE	0	0	62	99	37	5	2	0	0	0	0	0	205
COTE	0	0	39	2	0	110	597	0	0	0	0	0	748
AALC	55	7	10	0	1	0	7	8	25	4	1	22	140
COMU	53	0	2	0	0	0	3	7	10	2	1	0	78
PIGU	0	2	2	0	1	0	0	1	0	0	0	0	6
MAMU	2	5	6	0	0	0	4	0	7	2	0	22	48
ANMU	0	0	0	0	0	0	0	0	8	0	0	0	8
BTPI	0	0	1	0	2	1	2	0	0	0	0	0	6
RODO	4	102	54	75	129	13	228	42	71	222	105	106	1151
MODO	0	0	0	2	1	1	0	0	0	0	0	0	4
AOWL	7	7	4	1	6	2	2	7	12	16	15	3	82
CBOW	0	0	0	0	6	0	0	0	0	0	0	0	6
GHOW	0	0	4	0	0	0	0	0	0	1	0	0	5
SNOW	2	0	0	0	0	0	0	0	0	0	0	1	3
SEOW	5	7	0	1	0	2	2	7	12	15	15	2	68
BLSW	0	0	0	0	6	0	0	0	0	0	0	0	6
VASW	0	0	0	0	0	1	30	0	0	0	0	0	31
BEKI	1	1	3	3	5	4	8	6	7	3	3	0	44
APAS	1568	1164	1399	1937	2849	2678	2857	5389	4873	3109	3528	2844	34195
TRES	31	44	76	54	25	27	0	0	0	0	0	0	257
VGSW	4	0	63	52	30	0	0	0	0	0	0	0	149
NRWS	0	0	15	0	2	0	1	0	0	0	0	0	18
BKSW	0	0	0	0	0	6	0	0	0	0	0	0	6
CLSW	0	0	0	34	168	2	2	0	0	0	0	0	206
BNSW	0	0	257	269	435	1447	417	0	0	0	0	0	2825
STJA	0	3	0	0	2	0	0	0	0	5	2	0	9
NWCR	219	229	203	202	128	34	353	184	208	121	244	312	2437
CORA	2	3	1	0	1	2	3	9	5	1	2	0	29
BCCH	1	8	7	24	25	16	32	39	15	20	21	28	233
BUSH	0	11	15	0	35	80	52	49	14	35	24	20	330
BEWR	0	2	2	1	2	2	3	3	0	0	0	1	16
WIWR	2	0	0	0	0	0	0	11	1	5	1	4	24
MAWR	39	47	40	38	51	26	44	33	35	22	31	25	431
GCKI	0	0	0	0	0	0	0	26	0	1	1	0	28
RCKI	1	0	0	1	1	0	4	6	2	4	0	2	21
AMRO	30	70	51	68	70	25	84	107	27	21	40	46	639
WAPI	0	12	14	0	0	14	424	212	0	0	0	1	677
CEWA	0	0	0	0	2	2	0	0	0	0	0	0	4
EUST	914	348	351	718	1413	583	606	3913	4083	2231	2748	1880	19788
COYE	0	0	5	10	8	24	0	0	0	0	0	0	47
BHGR	0	0	0	0	1	0	0	0	0	0	0	0	1
RSTO	0	3	3	5	5	2	4	6	9	7	3	8	54

SAVS	1	52	74	129	79	140	254	3	1	0	0	0	733
FOSP	0	7	0	1	0	9	3	2	7	3	2	5	34
SOSP	59	32	9	28	20	19	55	168	127	127	97	146	882
GCSP	6	5	0	2	1	0	3	2	6	10	0	26	61
WCSP	33	14	12	19	19	26	60	12	58	49	34	63	397
DEJU	0	7	0	2	5	1	1	77	39	6	17	22	177
LALO	0	0	0	0	0	0	12	2	0	0	0	0	14
SNBU	0	0	0	0	0	0	0	0	0	0	0	1	1
RWBL	183	268	171	159	162	9	229	176	59	337	99	208	2060
YHBL	0	0	1	1	0	0	0	0	0	0	0	8	10
BHCO	0	0	0	0	2	12	9	0	0	0	0	1	24
HOFI	43	23	29	68	53	57	100	241	157	44	118	30	963
PISI	0	0	0	0	15	0	0	0	0	0	0	0	15
AMGO	0	0	20	28	56	88	98	77	20	57	24	21	489
HOSP	0	0	0	24	33	25	4	31	0	3	20	6	146
#TOT	162185	203740	15984	11015	68202	39331	66153	246203	300039	239304	183611	60938	1602105

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Appendix 3. Number of birds counted by month at station 1.

| | 1988 | | | | | | | | | | 1989 | | |
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	2	2	0	0	0	0	0	2	5	2	19	4	36
LOON	0	0	0	0	0	0	0	0	2	0	0	0	2
RTLO	2	0	0	0	0	0	0	0	2	1	18	4	27
COLO	0	2	0	0	0	0	0	2	1	1	1	0	7
#GRE	75	22	1	0	0	0	4	621	10	9	25	8	775
GREB	0	2	0	0	0	0	0	0	0	0	0	0	2
PBGR	1	0	1	0	0	0	0	1	0	1	1	0	5
HOGR	2	0	0	0	0	0	0	3	1	1	3	1	11
RNGR	2	0	0	0	0	0	0	0	0	0	0	4	6
WEGR	70	20	0	0	0	0	4	617	9	7	21	3	751
#COR	4	3	1	1	0	3	1	14	22	4	5	4	62
DCCO	4	3	1	1	0	3	1	14	22	4	5	4	62
#HER	29	6	15	16	12	4	10	10	8	2	6	5	123
GBHE	29	6	15	16	12	4	10	10	8	2	6	5	123
#GEE	0	62	2	0	0	0	0	0	0	0	0	0	64
SNGO	0	50	0	0	0	0	0	0	0	0	0	0	50
CAGO	0	12	2	0	0	0	0	0	0	0	0	0	14
#DAB	539	858	196	313	26	112	94	880	214	249	205	147	3833
GWTE	389	736	0	4	0	3	39	440	27	92	48	58	1836
MALL	116	20	13	17	3	5	7	165	85	64	52	61	608
NOPI	12	5	0	2	0	51	34	200	45	50	87	7	493
BWTE	0	0	8	2	6	0	11	0	0	0	0	0	27
CITE	0	2	16	4	0	0	0	0	0	0	0	0	22
NOSL	11	40	59	7	1	33	0	12	36	14	4	9	226
GADW	11	51	100	273	16	20	3	35	21	29	14	12	585
AMWI	0	4	0	4	0	0	0	28	0	0	0	0	36
#DIV	293	584	158	12	14	15	176	595	672	604	662	544	4329
CANV	0	10	1	0	0	1	1	1	1	1	2	0	18
SCAU	0	0	0	0	0	0	0	28	0	0	400	215	643
GRSC	161	114	44	8	0	0	8	0	37	180	0	0	552
LESC	0	0	0	0	9	11	20	0	0	120	0	0	160
OLDS	0	0	0	0	0	0	0	1	0	0	0	0	1
BLSC	0	0	0	0	0	0	0	2	1	0	7	33	43
SUSC	30	0	0	0	0	0	20	7	50	7	20	26	160
COGO	0	0	0	0	0	0	0	0	0	0	0	1	1
BOGO	2	0	0	0	0	0	0	0	2	0	0	3	7
BUFF	3	40	2	0	0	0	0	16	16	5	10	5	97
RBMG	2	0	0	0	0	0	0	0	0	0	0	8	10
RUDU	95	70	81	4	0	3	17	300	265	181	43	3	1062
DUCK	0	350	30	0	5	0	110	240	300	110	180	250	1575
#RAP	7	0	0	0	1	0	5	1	3	2	6	7	32
OSPR	0	0	0	0	0	0	1	0	0	0	0	0	1
BAEA	4	0	0	0	0	0	0	0	0	0	2	4	10
NOHA	1	0	0	0	0	0	2	0	1	0	1	3	8
SSHA	0	0	0	0	0	0	1	0	0	1	1	0	3
COHA	0	0	0	0	0	0	1	0	0	0	0	0	1
RTHA	1	0	0	0	0	0	0	1	2	1	1	0	6
MERL	0	0	0	0	1	0	0	0	0	0	0	0	1

PEFA	1	0	0	0	0	0	0	0	0	0	1	0	2
RNPH	1	5	4	4	4	0	0	2	0	1	1	0	22
#RAI	1	11	1	0	0	0	2	17	43	45	9	1	130
AMCO	1	11	1	0	0	0	2	17	43	45	9	1	130
#SHO	3	1160	104	343	601	235	226	1154	1013	241	2002	2	7084
SPPL	0	0	0	0	0	3	4	0	0	0	0	0	7
KILL	3	5	1	5	3	1	33	1	0	0	0	2	54
GRYE	0	10	1	0	2	17	3	0	0	0	0	0	33
LEYE	0	0	0	0	0	37	7	0	0	0	0	0	44
SPOT	0	0	2	1	0	0	0	0	0	0	0	0	3
SAND	0	650	100	85	44	0	25	0	0	0	2	0	906
SESA	0	0	0	2	53	0	2	0	0	0	0	0	57
WESA	0	0	0	250	463	94	4	0	2	0	0	0	813
LESA	0	0	0	0	35	62	7	0	0	0	0	0	104
BASA	0	0	0	0	1	0	0	0	0	0	0	0	1
PESA	0	0	0	0	0	0	80	4	0	0	0	0	84
DUNL	0	485	0	0	0	0	0	870	940	240	2000	0	4535
DOWI	0	10	0	0	0	0	0	0	0	0	0	0	10
SBDO	0	0	0	0	0	14	3	0	0	0	0	0	17
LBDO	0	0	0	0	0	7	57	275	1	0	0	0	340
COSN	0	0	0	0	0	0	1	1	0	0	0	0	2
SHOR	0	0	0	0	0	0	0	3	70	1	0	0	74
#GUL	487	203	50	170	180	392	282	235	80	56	164	313	2612
GULL	0	150	20	89	0	0	11	173	35	12	35	160	685
BOGU	0	30	0	65	51	310	157	5	0	0	0	0	618
MEGU	371	0	0	0	0	14	0	2	4	10	67	102	570
RBGU	0	0	0	0	39	50	0	0	0	0	0	0	89
CAGU	0	0	0	0	70	0	0	0	0	0	0	0	70
HERG	0	0	0	0	0	0	0	0	7	6	3	2	18
THGU	13	0	0	0	0	0	0	2	7	7	18	8	55
WEGU	0	0	0	0	0	0	0	0	0	0	1	0	1
GWGU	103	23	30	16	20	18	114	53	27	21	40	41	506
CATE	0	0	0	3	4	0	0	0	0	0	0	0	7
COTE	0	0	0	0	0	7	0	0	0	0	0	0	7
RODO	3	0	2	0	4	0	104	3	30	40	45	40	271
#OWL	0	0	0	0	0	0	0	0	1	0	0	0	1
SEOW	0	0	0	0	0	0	0	0	1	0	0	0	1
#PAS	370	98	71	82	573	153	435	983	259	111	161	278	3574
TRES	8	15	0	0	0	0	0	0	0	0	0	0	23
VGSW	0	0	1	0	1	0	0	0	0	0	0	0	2
NRWS	0	0	4	0	0	0	0	0	0	0	0	0	4
CLSW	0	0	0	11	12	0	0	0	0	0	0	0	23
BNSW	0	0	16	6	78	14	75	0	0	0	0	0	189
NWCR	38	34	17	15	19	6	168	35	28	12	52	24	448
CORA	0	0	0	0	1	0	0	2	2	0	0	0	5
BCCH	1	0	0	0	0	0	0	0	0	0	0	0	1
BUSH	0	0	0	0	1	0	0	0	0	0	0	0	1
MAWR	3	4	2	6	5	1	6	1	0	0	0	1	29
AMRO	13	5	2	2	1	0	0	0	0	0	0	0	23
WAPI	0	0	0	0	0	0	1	1	0	0	0	1	3
EUST	250	10	3	11	393	98	122	850	160	88	100	225	2310
COYE	0	0	0	1	2	1	0	0	0	0	0	0	4
SAVS	0	2	8	2	4	14	51	0	0	0	0	0	81
SOSP	0	0	0	0	0	1	6	11	26	6	5	6	61
GCSP	6	0	0	0	0	0	0	0	1	0	0	0	7

WCSP	13	0	0	0	2	10	1	1	16	0	2	6	51
RWBL	38	27	15	25	37	0	3	20	10	5	2	15	197
HOFI	0	1	3	3	3	7	0	62	16	0	0	0	95
AMGO	0	0	0	0	14	1	2	0	0	0	0	0	17
#TOT	1814	3014	605	944	1419	921	1339	4517	2360	1366	3310	1353	22962

Appendix 4. Number of birds counted by month at station 2.

	1988										1989		
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	6	3	0	nd	0	0	5	13	19	8	2	1	57
RTLO	2	0	0	"	0	0	0	4	15	4	1	1	27
COLO	4	3	0	"	0	0	5	9	4	4	1	0	30
#GRE	66	6	0	"	0	0	4	490	148	20	13	7	754
HOGR	43	2	0	"	0	0	0	8	2	3	2	2	62
RNGR	23	1	0	"	0	0	0	32	19	3	11	4	93
WEGR	0	3	0	"	0	0	4	450	127	14	0	1	599
#COR	2	4	0	"	10	5	9	13	4	3	2	0	52
DCCO	2	4	0	"	10	5	9	13	4	3	2	0	52
#HER	12	17	2	"	6	10	11	6	6	7	4	3	84
AMBI	0	0	0	"	1	0	0	0	0	0	0	0	1
GBHE	12	17	2	"	5	10	11	6	6	7	4	3	83
#GEE	1200	135	0	"	0	49	0	3200	1500	1120	0	0	7204
SNGO	1200	135	0	"	0	0	0	3200	1500	1120	0	0	7155
CAGO	0	0	0	"	0	49	0	0	0	0	0	0	49
#DAB	3482	1509	30	"	193	106	1471	2182	1996	1080	1803	476	14328
GWTE	1930	396	10	"	0	10	176	400	565	178	240	100	4005
MALL	60	112	10	"	0	10	15	535	154	27	151	66	1140
NOPI	511	103	0	"	0	22	75	376	140	123	35	26	1411
CITE	0	0	0	"	0	2	0	0	0	0	0	0	2
NOSL	0	10	0	"	0	2	0	19	0	0	5	0	36
GADW	379	352	10	"	193	60	240	290	367	22	81	7	2001
EUWI	0	1	0	"	0	0	0	0	2	5	4	1	13
AMWI	602	535	0	"	0	0	965	562	768	725	1287	276	5720
#DIV	340	323	6	"	0	2	22	59	207	42	38	306	1345
CANV	45	60	6	"	0	0	0	0	0	0	1	9	121
SCAU	0	212	0	"	0	0	0	0	0	0	0	0	212
GRSC	2	0	0	"	0	0	0	30	0	4	13	250	299
OLDS	10	0	0	"	0	0	0	1	7	3	2	3	26
BLSC	0	0	0	"	0	0	8	0	0	0	0	0	8
SUSC	230	0	0	"	0	2	14	17	80	18	8	31	400
WWSC	0	0	0	"	0	0	0	0	1	0	0	0	1
COGO	1	1	0	"	0	0	0	0	0	2	0	0	4
BUFF	49	10	0	"	0	0	0	8	41	8	10	11	137
RBMG	3	0	0	"	0	0	0	3	78	7	3	2	96
RUDU	0	40	0	"	0	0	0	0	0	0	1	0	41
#RAP	14	1	3	"	1	1	5	4	8	11	4	5	57
BAEA	12	0	2	"	1	0	0	0	1	0	2	0	18
NOHA	0	0	1	"	0	1	3	2	3	4	2	1	17
SSHA	0	0	0	"	0	0	0	0	1	1	0	1	3
COHA	0	0	0	"	0	0	0	0	0	0	0	1	1
RTHA	1	0	0	"	0	0	1	1	2	5	0	2	12
RLHA	1	0	0	"	0	0	0	1	1	1	0	0	4
MERL	0	1	0	"	0	0	1	0	0	0	0	0	2
RNPH	0	1	0	"	1	0	0	1	5	0	0	0	8
#RAI	0	0	0	"	0	0	1	2	2	0	0	0	5
VIRA	0	0	0	"	0	0	1	1	0	0	0	0	2

AMCO	0	0	0	"	0	0	0	1	2	0	0	0	3
#SHO	56	1127	2	"	200	13	82	16	561	842	1825	248	4972
BBPL	48	65	0	"	0	0	2	8	0	0	25	11	159
KILL	4	1	1	"	3	0	0	0	0	0	0	10	19
GRYE	0	4	0	"	0	0	0	0	0	0	0	0	4
SPOT	0	0	0	"	2	0	0	0	0	0	0	0	2
WHIM	0	0	0	"	0	1	0	0	0	0	0	0	1
SAND	0	0	0	"	0	10	50	0	0	0	0	0	60
WESA	0	0	0	"	85	0	0	0	0	0	0	0	85
LESA	0	0	1	"	110	0	0	0	0	0	0	0	111
BASA	0	1	0	"	0	0	0	0	0	0	0	0	1
PESA	0	0	0	"	0	2	17	0	0	0	0	0	19
DUNL	4	1050	0	"	0	0	0	0	560	842	1800	227	4483
SBDO	0	6	0	"	0	0	0	0	0	0	0	0	6
LBDO	0	0	0	"	0	0	13	6	0	0	0	0	19
COSN	0	0	0	"	0	0	0	2	0	0	0	0	2
SHOR	0	0	0	"	0	0	0	0	1	0	0	0	1
#GUL	15	50	0	"	2	224	30	68	62	274	79	22	826
GULL	0	0	0	"	0	0	0	0	0	265	0	0	265
BOGU	0	0	0	"	0	200	3	3	0	0	0	0	206
MEGU	7	0	0	"	0	0	2	0	1	0	40	8	58
RBGU	0	0	0	"	0	4	0	0	0	0	0	0	4
CAGU	0	0	0	"	0	0	2	0	0	0	0	0	2
THGU	0	0	0	"	0	0	0	0	2	0	12	0	14
GWGU	8	50	0	"	2	20	23	65	59	9	27	14	277
COTE	0	0	0	"	0	10	11	0	0	0	0	0	21
#ALC	0	0	0	"	0	0	0	0	0	0	1	0	1
COMU	0	0	0	"	0	0	0	0	0	0	1	0	1
RODO	1	0	0	"	0	0	0	0	0	0	0	0	1
#OWL	0	0	0	"	0	1	0	1	2	3	1	2	10
SEOW	0	0	0	"	0	1	0	1	2	3	1	2	10
#PAS	154	52	10	"	218	17	237	1379	2037	572	1326	231	6233
TRES	2	0	0	"	1	0	0	0	0	0	0	0	3
NRWS	0	0	0	"	0	0	1	0	0	0	0	0	1
CLSW	0	0	0	"	103	0	2	0	0	0	0	0	105
BNSW	0	0	2	"	29	0	95	0	0	0	0	0	126
NWCR	0	0	0	"	0	0	0	0	2	0	0	0	2
CORA	0	0	0	"	0	0	0	0	1	1	0	0	2
MAWR	18	6	0	"	10	5	9	17	8	3	15	4	95
RCKI	1	0	0	"	0	0	0	0	0	0	0	0	1
AMRO	2	0	1	"	2	0	0	0	0	0	0	0	5
WAPI	0	4	0	"	0	0	2	0	0	0	0	0	6
EUST	103	0	0	"	0	0	9	1236	2000	550	1300	212	5410
COYE	0	0	0	"	0	1	0	0	0	0	0	0	1
SAVS	0	8	0	"	12	11	73	0	0	0	0	0	104
SOSP	19	3	1	"	0	0	3	25	17	18	11	11	108
WCSP	0	1	0	"	0	0	2	3	0	0	0	0	6
LALO	0	0	0	"	0	0	11	2	0	0	0	0	13
RWBL	6	30	6	"	47	0	0	86	0	0	0	3	178
HOFI	3	0	0	"	14	0	20	10	9	0	0	0	56
AMGO	0	0	0	"	0	0	10	0	0	0	0	1	11
#TOT	5348	3228	53	"	631	438	1888	7434	6557	3982	5098	1301	35958

Appendix 5. Number of birds counted by month at station 3.

| | 1988 | | | | | | | | | | 1989 | | |
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	nd	0	0	0	0	0	0	0	0	1	0	0	1
COLO	"	0	0	0	0	0	0	0	0	1	0	0	1
#COR	"	0	0	0	0	0	1	0	0	8	0	0	9
CORM	"	0	0	0	0	0	1	0	0	8	0	0	9
#HER	"	12	18	19	15	7	8	6	0	15	5	2	107
AMBI	"	1	0	0	0	0	0	0	0	0	0	0	1
GBHE	"	11	18	19	15	7	8	6	0	15	5	2	106
#SWA	"	0	0	0	0	0	0	0	0	30	5	8	43
SWAN	"	0	0	0	0	0	0	0	0	30	5	8	43
#GEE	"	1	61	0	7	0	2	5500	0	0	0	15	5586
SNGO	"	1	0	0	0	0	0	5500	0	0	0	0	5501
CAGO	"	0	61	0	7	0	2	0	0	0	0	15	85
#DAB	"	105	27	9	16	0	578	1170	0	5024	3250	915	11094
GWTE	"	91	0	0	0	0	0	0	0	4	250	20	365
MALL	"	0	12	9	6	0	288	20	0	20	300	448	1103
NOPI	"	2	0	0	0	0	144	750	0	0	900	134	1930
CITE	"	12	8	0	10	0	0	0	0	0	0	0	30
NOSL	"	0	0	0	0	0	2	0	0	0	0	0	2
AMWI	"	0	7	0	0	0	144	400	0	5000	1800	313	7664
#DIV	"	640	0	400	0	1160	0	0	0	5	2	0	2207
CANV	"	640	0	0	0	0	0	0	0	0	0	0	640
SCAU	"	0	0	0	0	0	0	0	0	5	0	0	5
BUFF	"	0	0	0	0	0	0	0	0	0	2	0	2
DUCK	"	0	0	400	0	1160	0	0	0	0	0	0	1560
#RAP	"	1	0	1	1	2	2	3	0	7	2	3	22
BAEA	"	1	0	1	1	0	0	1	0	1	1	1	7
NOHA	"	0	0	0	0	2	1	2	0	6	1	2	14
RTHA	"	0	0	0	0	0	1	0	0	0	0	0	1
RNPH	"	2	4	6	1	0	0	6	0	0	0	0	19
#RAI	"	0	0	0	0	0	2	0	0	0	0	0	2
AMCO	"	0	0	0	0	0	2	0	0	0	0	0	2
#SHO	"	4	6	0	82	0	0	0	0	0	15	13	120
KILL	"	4	6	0	0	0	0	0	0	0	0	13	23
WESA	"	0	0	0	50	0	0	0	0	0	0	0	50
SBDO	"	0	0	0	32	0	0	0	0	0	0	0	32
COSN	"	0	0	0	0	0	0	0	0	0	15	0	15
#GUL	"	8	0	0	36	9	21	0	0	0	0	50	124
GULL	"	0	0	0	36	9	21	0	0	0	0	0	66
MEGU	"	0	0	0	0	0	0	0	0	0	0	50	50
GWGU	"	8	0	0	0	0	0	0	0	0	0	0	8
#PAS	"	45	110	74	95	71	198	6	0	116	30	221	966
VGSW	"	0	8	5	0	0	0	0	0	0	0	0	13
NRWS	"	0	6	0	0	0	0	0	0	0	0	0	6
CLSW	"	0	0	0	40	0	0	0	0	0	0	0	40
BNSW	"	0	11	19	22	50	0	0	0	0	0	0	102
BCCH	"	0	0	0	0	5	0	0	0	0	0	0	5
MAWR	"	3	3	3	11	0	8	0	0	3	1	7	39

AMRO	"	5	16	8	22	0	40	4	0	0	0	0	95
WAPI	"	0	0	0	0	14	0	0	0	0	0	0	14
EUST	"	5	37	12	0	2	150	0	0	100	25	200	531
COYE	"	0	0	1	0	0	0	0	0	0	0	0	1
RSTO	"	0	0	0	0	0	0	0	0	3	0	0	3
FOSP	"	0	0	0	0	0	0	0	0	1	0	0	1
SOSP	"	0	0	4	0	0	0	2	0	6	0	1	13
DEJU	"	0	0	0	0	0	0	0	0	3	0	0	3
RWBL	"	32	29	18	0	0	0	0	0	0	4	13	96
HOFI	"	0	0	4	0	0	0	0	0	0	0	0	4
#TOT	"	818	226	509	253	1249	812	6691	0	5206	3309	1227	20300

Appendix 6. Number of birds counted by month at station 4.

	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
				1988							1989		
#LOO	nd	1	0	0	0	0	0	3	0	1	1	30	36
RTLO	"	1	0	0	0	0	0	1	0	0	1	12	15
COLO	"	0	0	0	0	0	0	2	0	0	0	18	20
YBLO	"	0	0	0	0	0	0	0	0	1	0	0	1
#GRE	"	6	0	0	0	0	1	22	11	4	9	11	64
HOGR	"	0	0	0	0	0	0	2	0	2	3	6	13
RNGR	"	0	0	0	0	0	1	0	0	0	0	2	3
WEGR	"	6	0	0	0	0	0	20	11	2	6	3	48
#COR	"	8	2	1	0	5	20	37	14	7	3	19	116
DCCO	"	7	2	1	0	5	20	37	13	6	3	19	113
PECO	"	1	0	0	0	0	0	0	1	1	0	0	3
#HER	"	6	28	30	16	27	19	18	26	22	12	13	217
AMBI	"	0	0	0	0	0	0	1	0	0	2	1	4
GBHE	"	6	28	30	16	27	19	17	26	22	10	12	213
#SWA	"	0	0	0	0	0	0	8	56	2	21	43	130
SWAN	"	0	0	0	0	0	0	0	0	2	0	43	45
TUSW	"	0	0	0	0	0	0	0	2	0	0	0	2
TRUS	"	0	0	0	0	0	0	8	54	0	21	0	83
#GEE	"	35	6	0	0	25	0	4000	4000	2500	0	0	10566
SNGO	"	25	0	0	0	0	0	4000	4000	2500	0	0	10525
CAGO	"	10	6	0	0	25	0	0	0	0	0	0	41
#DAB	"	839	106	17	16	12	45	489	212	12	456	524	2728
WODU	"	3	0	0	0	0	0	1	1	0	0	0	5
GWTE	"	400	2	0	0	0	19	3	0	0	230	285	939
MALL	"	18	13	6	13	10	0	114	10	0	25	15	224
NOPI	"	110	12	0	0	2	24	21	6	0	100	150	425
BWTE	"	0	18	0	0	0	0	0	0	0	0	0	18
CITE	"	30	14	11	3	0	0	0	0	0	0	0	58
NOSL	"	0	0	0	0	0	2	0	4	0	0	3	9
GADW	"	225	44	0	0	0	0	0	4	0	0	49	322
EUWI	"	1	0	0	0	0	0	0	0	0	1	0	2
AMWI	"	52	3	0	0	0	0	350	187	12	100	22	726
#DIV	"	4018	4	0	0	400	325	509	29	1003	137	73	6498
CANV	"	2	0	0	0	0	0	0	26	0	130	0	158
SCAU	"	0	0	0	0	0	0	3	0	0	0	19	22
OLDS	"	0	0	0	0	0	0	0	0	0	0	3	3
SUSC	"	1000	0	0	0	0	0	0	0	0	0	6	1006
COGO	"	0	0	0	0	0	0	0	0	0	1	2	3
BUFF	"	16	0	0	0	0	0	6	3	3	6	25	59
RBMG	"	2500	4	0	0	0	0	0	0	0	0	18	2522
DUCK	"	500	0	0	0	400	325	500	0	1000	0	0	2725
#RAP	"	2	30	8	11	2	7	12	7	23	8	25	135
BAEA	"	1	29	6	8	0	0	0	2	0	3	17	66
NOHA	"	1	0	0	2	1	6	10	4	12	5	6	47
SSHA	"	0	0	0	0	0	0	0	0	1	0	0	1
RTHA	"	0	1	2	1	1	0	1	1	9	0	2	18
MERL	"	0	0	0	0	0	1	0	0	0	0	0	1
RNPH	"	8	3	0	12	0	0	0	1	0	2	1	27
PEFA	"	0	0	0	0	0	0	1	0	1	0	0	2

#RAI	"	80	1	0	0	0	0	44	24	1	0	2	152
AMCO	"	80	1	0	0	0	0	44	24	1	0	2	152
#SHO	"	302	3	8	425	8	1013	503	10000	603	0	209	13074
KILL	"	0	3	8	3	2	0	0	0	0	0	1	17
GRYE	"	2	0	0	0	2	0	0	0	0	0	0	4
LEYE	"	0	0	0	0	3	4	0	0	0	0	0	7
SAND	"	0	0	0	320	0	0	0	0	0	0	40	360
WESA	"	0	0	0	102	0	0	0	0	0	0	0	102
LESA	"	0	0	0	0	0	0	0	0	0	0	11	11
PESA	"	0	0	0	0	1	7	0	0	0	0	0	8
DUNL	"	0	0	0	0	0	0	500	10000	600	0	150	11250
DOWI	"	300	0	0	0	0	0	0	0	0	0	0	300
COSN	"	0	0	0	0	0	2	3	0	3	0	7	15
SHOR	"	0	0	0	0	0	1000	0	0	0	0	0	1000
#GUL	"	64	56	1	14	39	4	88	147	517	164	149	1243
GULL	"	0	0	0	0	15	0	11	36	90	75	0	227
BOGU	"	0	0	0	0	4	0	0	0	0	0	0	4
MEGU	"	52	0	1	0	18	1	1	85	229	84	94	565
RBGU	"	0	0	0	2	0	0	0	0	7	0	0	9
CAGU	"	0	0	0	0	0	0	1	0	0	0	0	1
GWGU	"	12	56	0	12	2	3	75	26	191	5	55	437
CATE	"	0	0	0	2	0	0	0	0	0	0	0	2
RODO	"	0	0	3	5	2	7	10	13	2	44	30	116
IOWL	"	0	0	0	0	0	0	3	1	2	0	0	6
SEOW	"	0	0	0	0	0	0	3	1	2	0	0	6
BEKI	"	0	0	0	0	0	1	1	1	0	0	0	3
#PAS	"	263	156	406	518	423	406	588	475	677	378	414	4704
TRES	"	25	0	5	0	0	0	0	0	0	0	0	30
VGSW	"	0	24	26	19	0	0	0	0	0	0	0	69
CLSW	"	0	0	10	2	0	0	0	0	0	0	0	12
BNSW	"	0	46	55	39	170	138	0	0	0	0	0	448
NWCR	"	3	5	6	6	0	2	3	0	0	15	27	67
CORA	"	1	0	0	0	0	0	0	0	0	0	0	1
BCCH	"	0	0	0	0	0	0	5	0	0	0	4	9
BUSH	"	6	0	0	0	70	20	25	0	20	0	20	161
BEWR	"	2	0	0	0	0	1	2	0	0	0	0	5
WIWR	"	0	0	0	0	0	0	10	0	4	0	0	14
MAWR	"	15	16	13	11	10	10	0	18	6	1	7	107
RCKI	"	0	0	0	0	0	0	2	2	0	0	0	4
AMRO	"	27	0	10	11	15	5	4	1	2	10	5	90
WAPI	"	1	0	0	0	0	0	2	0	0	0	0	3
EUST	"	110	35	255	373	100	112	453	400	550	166	150	2704
RSTO	"	1	0	0	0	1	0	1	2	0	1	3	9
SAVS	"	0	0	2	2	0	50	0	0	0	0	0	54
FOSP	"	1	0	0	0	9	1	1	6	2	0	0	20
SOSP	"	12	0	0	1	11	11	37	11	14	29	36	162
WCSP	"	0	0	0	0	0	18	0	0	0	0	1	19
DEJU	"	0	0	0	0	1	0	5	1	0	0	10	17
RWBL	"	50	30	20	18	6	20	1	15	74	55	130	419
BHCO	"	0	0	0	0	0	9	0	0	0	0	0	9
HOFI	"	9	0	4	0	5	5	11	19	2	61	21	137
AMGO	"	0	0	0	5	0	0	7	0	0	20	0	32
HOSP	"	0	0	0	31	25	4	19	0	3	20	0	102
#TOT	"	5632	395	474	1019	943	1848	6335	15017	5376	1235	1543	39817

Appendix 7. Number of birds counted by month at station 5.

| | 1988 | | | | | | | | | | 1989 | | |
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	0	109	800	0	0	0	0	6	9	6	3	5	938
LOON	0	100	800	0	0	0	0	0	6	3	3	2	914
RTLO	0	3	0	0	0	0	0	5	2	2	0	3	15
COLO	0	6	0	0	0	0	0	1	1	1	0	0	9
#GRE	9	49	2	0	4	62	294	144	2	2	0	5	573
PBGR	1	1	1	0	1	7	4	4	2	2	0	0	23
HOGR	2	25	0	0	0	0	0	0	0	0	0	2	29
WEGR	6	23	1	0	3	55	290	140	0	0	0	3	521
#COR	60	40	30	10	15	12	25	113	20	2	45	30	402
DCCO	60	40	30	10	15	12	25	113	20	2	45	30	402
#HER	27	22	17	20	12	35	21	43	23	10	6	10	246
AMBI	0	1	2	0	1	0	1	1	1	2	0	1	10
GBHE	27	21	15	20	11	35	20	42	22	8	6	9	236
#SWA	7	0	0	0	0	0	0	2	20	28	225	50	332
SWAN	0	0	0	0	0	0	0	0	0	8	0	0	8
TUSW	0	0	0	0	0	0	0	2	0	0	0	0	2
TRUS	7	0	0	0	0	0	0	0	20	20	225	50	322
#GEE	10070	543	45	300	330	460	375	76	3014	8000	3501	6	26720
GWFG	0	1	0	0	0	0	0	0	0	0	0	0	1
SNGO	10000	500	0	0	0	0	25	64	3000	8000	3500	0	25089
CAGO	70	42	45	300	330	460	350	12	14	0	1	6	1630
#DAB	648	6863	274	147	131	226	544	1257	2454	1045	8323	1588	23500
WODU	0	0	2	0	0	0	0	0	0	0	0	0	2
GWTE	133	400	16	2	0	10	70	136	120	223	440	140	1890
MALL	129	300	56	100	32	40	40	220	800	270	4326	800	7113
NOPI	0	38	6	0	0	30	30	80	20	14	80	20	318
BWTE	16	0	9	4	1	1	0	0	0	0	0	0	31
CITE	0	14	8	4	1	10	4	0	0	0	1	0	42
NOSL	28	75	15	4	0	35	30	8	6	20	57	24	302
GADW	28	36	32	25	81	95	170	13	8	18	9	4	519
AMWI	114	600	130	8	16	5	200	800	1500	500	3410	600	7883
#DIV	10090	10340	273	1	5	403	6004	3028	8021	6013	107	3057	47342
CANV	42	90	26	0	0	0	1	0	0	4	80	20	263
SCAU	0	50	0	0	0	0	0	0	0	0	0	0	50
GRSC	0	130	0	0	0	0	0	0	0	0	0	0	130
LESC	7	5	0	0	0	0	0	2	6	4	4	0	28
OLDS	0	0	0	0	0	0	0	2	0	0	0	0	2
BLSC	0	0	1	0	0	0	0	0	0	0	0	0	1
SUSC	0	1	3	0	0	0	2	0	0	0	0	0	6
WWSC	0	0	37	0	0	0	0	0	0	0	0	0	37
COGO	3	0	0	0	0	0	0	0	1	1	0	0	5
BUFF	26	51	2	1	0	0	0	24	12	3	8	15	142
HOMG	0	0	0	0	0	3	0	0	0	0	0	0	3
COMG	0	0	0	0	5	0	0	0	2	0	0	20	27
RBMG	0	10	4	0	0	0	0	0	0	0	4	1	19
RUDU	12	3	0	0	0	0	1	0	0	1	11	1	29
DUCK	10000	10000	200	0	0	400	6000	3000	8000	6000	0	3000	46600
#RAP	11	6	12	8	16	3	9	9	10	8	16	12	120

BABA	7	4	12	8	15	0	0	0	2	0	7	8	63
NOHA	2	1	0	0	1	3	5	5	4	6	5	2	34
SSHA	0	0	0	0	0	0	0	1	0	0	0	0	1
COHA	0	0	0	0	0	0	1	0	0	0	0	0	1
NOGO	0	0	0	0	0	0	0	1	0	0	0	0	1
RTHA	2	1	0	0	0	0	3	2	3	2	4	2	19
PEFA	0	0	0	0	0	0	0	0	1	0	0	0	1
RNPH	2	6	3	4	4	4	2	3	2	3	1	0	34
#RAI	30	26	1	0	3	5	8	14	25	19	9	15	155
VIRA	0	0	0	0	0	3	4	1	0	2	0	0	10
AMCO	30	26	1	0	3	2	4	13	25	17	9	15	145
#SHO	311	5171	81	4	59	63	110	132	301	5	4020	209	10466
BBPL	4	30	0	0	0	0	0	0	0	0	9	0	43
SPPL	0	0	3	0	0	0	0	0	0	0	0	0	3
KILL	3	3	3	2	1	1	2	0	0	0	0	6	21
GRYE	3	125	4	0	39	5	0	1	0	0	0	1	178
LEYE	0	1	0	0	0	20	5	0	0	0	0	0	26
SPOT	0	0	0	2	0	0	0	0	0	0	0	0	2
SESA	0	0	0	0	0	0	2	0	0	0	0	0	2
WESA	0	1	15	0	11	0	40	0	0	0	0	0	67
LESA	0	0	8	0	1	22	15	0	0	0	0	0	46
PESA	0	0	0	0	0	3	26	0	0	0	0	0	29
DUNL	300	5000	6	0	0	0	0	52	300	5	4000	200	9863
DOWI	0	0	42	0	0	0	0	0	0	0	0	0	42
SBDO	0	0	0	0	7	0	0	73	0	0	0	0	80
LBDO	1	8	0	0	0	10	12	0	0	0	10	1	42
COSN	0	2	0	0	0	2	8	6	1	0	1	1	21
SHOR	0	1	0	0	0	0	0	0	0	0	0	0	1
#GUL	308	265	418	16	13	223	114	125	135	31	114	320	2082
GULL	300	100	400	0	0	0	100	100	120	0	85	200	1405
BOGU	0	0	0	0	0	3	0	0	0	0	0	0	3
MEGU	8	130	0	0	0	0	0	0	0	6	4	80	228
RBGU	0	0	0	6	6	200	8	0	0	0	0	0	220
GWGU	0	35	18	10	7	20	6	25	15	25	25	40	226
CATE	0	0	2	2	0	1	0	0	0	0	0	0	5
RODO	0	0	0	0	30	0	0	8	0	0	0	2	40
#OWL	0	0	4	0	0	0	0	0	0	1	0	0	5
GHOW	0	0	4	0	0	0	0	0	0	1	0	0	5
BEKI	0	0	0	0	0	1	0	1	1	0	0	0	3
#PAS	133	158	153	81	135	251	302	220	93	466	46	134	2172
TRES	20	4	60	15	11	0	0	0	0	0	0	0	110
VGSW	2	0	0	0	0	0	0	0	0	0	0	0	2
BKSW	0	0	0	0	0	6	0	0	0	0	0	0	6
CLSW	0	0	0	6	3	0	0	0	0	0	0	0	9
BNSW	0	0	30	15	50	150	50	0	0	0	0	0	295
NWCR	12	1	0	0	0	0	0	3	0	0	3	0	19
BCCH	0	0	0	0	6	5	2	6	2	0	12	6	39
BUSH	0	0	0	0	0	10	15	0	0	0	0	0	25
BEWR	0	0	0	0	0	1	1	0	0	0	0	0	2
MAWR	12	12	12	8	8	6	6	5	2	4	5	3	83
RCKI	0	0	0	0	0	0	0	0	0	1	0	0	1
AMRO	0	2	5	6	6	4	2	43	26	2	6	2	104
WAPI	0	2	0	0	0	0	2	5	0	0	0	0	9
EUST	20	5	0	0	15	60	0	13	8	200	0	100	421
COYE	0	0	1	1	1	1	0	0	0	0	0	0	4

RSTO	0	0	0	0	0	0	1	3	2	1	0	2	9
SAVS	0	0	1	0	2	0	0	0	0	0	0	0	3
FOSP	0	1	0	0	0	0	0	1	1	0	0	2	5
SOSP	0	4	4	0	8	6	6	20	8	8	13	8	85
GCSP	0	4	0	0	0	0	2	0	0	0	0	0	6
WCSP	0	0	0	0	0	0	6	0	0	0	0	0	6
DEJU	0	1	0	0	0	0	0	20	10	0	0	11	42
RWBL	67	120	40	30	19	0	200	25	30	250	4	0	785
HOFI	0	2	0	0	6	2	1	6	4	0	3	0	24
AMGO	0	0	0	0	0	0	8	70	0	0	0	0	78
#TOT	21706	23598	2115	593	757	1749	7808	5181	14130	15639	16416	5443	109735

Appendix 8. Number of birds counted by month at station 6.

| | 1988 | | | | | | | | | | 1989 | | |
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	2	1	0	0	0	0	nd	2	0	nd	0	1	6
RTLO	1	0	0	0	0	0	"	0	0	"	0	0	1
COLO	1	1	0	0	0	0	"	2	0	"	0	0	4
YBLO	0	0	0	0	0	0	"	0	0	"	0	1	1
#GRE	2	71	0	0	0	0	"	7	54	"	3	2	139
PBGR	0	0	0	0	0	0	"	0	0	"	0	1	1
HOGR	2	1	0	0	0	0	"	1	0	"	1	1	6
RNGR	0	0	0	0	0	0	"	0	1	"	0	0	1
WEGR	0	70	0	0	0	0	"	6	53	"	2	0	131
#COR	1	7	1	2	0	3	"	12	2	"	2	4	34
DCCO	1	7	1	2	0	3	"	12	2	"	2	4	34
#HER	6	18	54	18	26	5	"	17	20	"	3	8	175
AMBI	0	0	1	1	0	0	"	0	0	"	0	0	2
GBHE	6	18	53	17	26	5	"	17	20	"	3	8	173
#SWA	6	0	0	0	0	0	"	9	25	"	17	39	96
SWAN	6	0	0	0	0	0	"	4	25	"	17	0	52
TRUS	0	0	0	0	0	0	"	5	0	"	0	39	44
#GEE	2200	30	0	0	71	420	"	0	7500	"	91	0	10312
SNGO	2200	12	0	0	0	0	"	0	7500	"	91	0	9803
BRAN	0	18	0	0	0	0	"	0	0	"	0	0	18
CAGO	0	0	0	0	71	420	"	0	0	"	0	0	491
#DAB	2547	1172	23	24	11	3	"	4277	8485	"	12603	2808	31953
GWTE	1500	1100	0	0	0	2	"	250	15	"	500	272	3639
MALL	52	2	14	20	11	1	"	1464	170	"	4400	2100	8234
NOPI	830	69	0	0	0	0	"	203	1300	"	1000	33	3435
BWTE	0	0	4	0	0	0	"	0	0	"	0	0	4
CITE	0	1	3	4	0	0	"	0	0	"	0	0	8
GADW	2	1	0	0	0	0	"	0	0	"	2	0	5
EUWI	3	0	0	0	0	0	"	0	0	"	1	3	7
AMWI	160	980	2	0	0	0	"	2360	7000	"	6700	400	17602
#DIV	23	0	105	54	0	7400	"	4005	10004	"	117	71	21779
CANV	0	2	0	0	0	0	"	1	0	"	0	10	13
SCAU	0	0	40	8	0	0	"	0	0	"	100	23	171
GRSC	6	88	0	46	0	0	"	0	0	"	0	0	140
OLDS	1	0	0	0	0	0	"	0	0	"	0	0	1
BLSC	0	0	0	0	0	0	"	0	0	"	2	3	5
SUSC	0	0	0	0	0	0	"	0	0	"	0	1	1
WWSC	0	0	58	0	0	0	"	2	0	"	0	0	60
COGO	1	0	0	0	0	0	"	0	0	"	1	0	2
BOGO	2	0	0	0	0	0	"	0	0	"	0	0	2
BUFF	6	9	0	0	0	0	"	0	4	"	6	11	36
COMG	0	5	7	0	0	0	"	0	0	"	0	0	12
RBMG	7	3	0	0	0	0	"	2	0	"	8	3	23
DUCK	0	75	0	0	0	7400	"	4000	10000	"	0	20	21495
#RAP	13	0	6	0	2	6	"	7	2	"	18	11	65
BAEA	7	2	3	0	0	0	"	0	0	"	7	3	22
NOHA	6	3	3	0	2	6	"	6	2	"	9	2	39
SSHA	0	0	0	0	0	0	"	0	0	"	0	1	1

Appendix 8. continued

RTHA	0	0	0	0	0	0	"	1	0	"	2	4	7
RLHA	0	0	0	0	0	0	"	0	0	"	0	1	1
RNPH	0	1	1	0	0	0	"	0	0	"	0	0	2
#RAI	0	0	0	0	0	0	"	0	14	"	0	0	14
AMCO	0	0	0	0	0	0	"	0	14	"	0	0	14
#SHO	16008	0	990	376	10494	52	"	1051	14015	"	205	5520	48711
BBPL	0	32	9	79	140	0	"	0	175	"	0	16	451
SPPL	0	0	0	1	0	0	"	0	0	"	0	0	1
KILL	8	4	11	16	3	2	"	1	0	"	0	3	48
SAND	0	0	0	0	350	50	"	0	0	"	0	0	400
WESA	0	0	200	280	10000	0	"	0	200	"	60	0	10740
DUNL	16000	28500	770	0	0	0	"	1050	940	"	145	5500	52905
LBDO	0	0	0	0	1	0	"	0	0	"	0	0	1
COSN	0	0	0	0	0	0	"	0	0	"	0	1	1
SHOR	0	0	0	0	0	0	"	0	12700	"	0	0	12700
#GUL	142	0	240	535	184	8450	"	29	200	"	154	177	10111
GULL	0	0	0	150	0	5400	"	0	200	"	0	0	5750
BOGU	0	0	0	0	1	0	"	4	0	"	0	0	5
MEGU	2	0	0	0	0	0	"	0	0	"	70	3	75
RBGU	0	0	150	305	0	3050	"	0	0	"	0	0	3505
THGU	0	0	0	0	131	0	"	0	0	"	0	0	131
GWGU	140	80	90	80	52	0	"	25	0	"	84	174	725
CATE	0	0	12	24	0	0	"	0	0	"	0	0	36
RODO	0	0	0	0	14	0	"	0	0	"	0	0	14
#OWL	5	0	0	0	0	0	"	0	0	"	9	0	14
SEOW	5	0	0	0	0	0	"	0	0	"	9	0	14
BEKI	0	0	0	0	0	0	"	1	1	"	0	0	2
#PAS	43	0	85	108	91	728	"	95	1036	"	267	388	2841
TRES	1	18	10	6	0	0	"	0	0	"	0	0	35
CLSW	0	0	0	3	2	0	"	0	0	"	0	0	5
BNSW	0	0	44	24	26	670	"	0	0	"	0	0	764
NWCR	0	0	0	0	0	0	"	0	2	"	0	2	4
CORA	0	0	0	0	0	0	"	2	0	"	0	0	2
BCCH	0	0	0	0	0	0	"	1	0	"	0	3	4
WIWR	0	0	0	0	0	0	"	0	0	"	0	1	1
MAWR	1	4	2	3	3	2	"	4	1	"	7	0	27
GCKI	0	0	0	0	0	0	"	0	0	"	1	0	1
AMRO	0	11	0	8	5	0	"	22	0	"	13	5	64
WAPI	0	0	0	0	0	0	"	46	0	"	0	0	46
EUST	40	29	0	32	6	20	"	5	1000	"	200	335	1667
COYE	0	0	0	1	0	0	"	0	0	"	0	0	1
RSTO	0	0	0	0	0	0	"	0	0	"	1	1	2
SAVS	0	0	9	5	12	21	"	0	0	"	0	0	47
FOSP	0	3	0	0	0	0	"	0	0	"	2	0	2
SOSP	0	0	0	2	1	0	"	15	1	"	13	11	46
WCSP	0	1	0	0	1	0	"	0	10	"	27	21	60
DEJU	0	0	0	0	0	0	"	0	0	"	0	1	1
RWBL	1	10	20	23	21	0	"	0	1	"	1	2	79
HOFI	0	0	0	1	2	0	"	0	1	"	2	0	6
AMGO	0	0	0	0	12	15	"	0	20	"	0	0	47
HOSP	0	0	0	0	0	0	"	0	0	"	0	6	6
#TOT	20998	31159	1517	1141	10893	17067	"	9512	41358	"	13489	9029	156163

Appendix 9. Number of birds counted by month at station 7.

| | 1988 | | | | | | | | | | 1989 | | |
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	49	87	26	2	0	74	19	54	93	31	11	41	487
LOON	0	0	0	0	0	0	1	0	10	0	0	0	11
RTLO	3	0	0	0	0	0	0	0	1	6	0	1	11
ARLO	22	80	8	0	0	0	0	0	57	8	0	10	185
COLO	24	7	18	2	0	74	18	54	25	17	11	30	280
#GRE	83	68	49	0	1	25	35	93	74	30	35	26	519
PBGR	0	15	0	0	0	0	0	0	0	0	0	0	15
HOGR	48	0	0	0	1	22	15	47	18	14	15	15	195
RNGR	28	6	4	0	0	3	1	18	16	9	8	5	98
WEGR	7	47	45	0	0	0	19	28	40	7	12	6	211
#COR	45	60	194	84	113	177	131	133	63	70	47	29	1146
DCCO	20	0	168	73	110	162	119	110	44	58	38	10	912
PECO	25	60	26	11	3	15	12	23	19	12	9	19	234
#HER	5	4	9	3	2	1	6	7	2	3	2	6	50
GBHE	5	4	9	3	2	1	6	7	2	3	2	6	50
#GEE	0	336	42	1	1	0	0	0	4	24	0	0	408
SNGO	0	0	0	0	0	0	0	0	4	0	0	0	4
BRAN	0	336	42	1	1	0	0	0	0	24	0	0	404
#DAB	1141	41	8	8	0	14	3649	4895	14422	15988	1794	2850	44810
GWTE	2	35	0	0	0	0	140	125	1002	0	7	58	1369
MALL	98	2	7	6	0	0	0	377	2087	4617	165	48	7407
NOPI	536	3	0	0	0	0	1009	1327	6672	6660	1172	2500	19879
BWTE	0	0	1	2	0	0	0	0	0	0	0	0	3
CITE	0	1	0	0	0	0	0	0	0	0	0	0	1
NOSL	0	0	0	0	0	14	0	0	0	0	0	0	14
GADW	2	0	0	0	0	0	0	0	0	0	0	0	2
EUWI	503	0	0	0	0	0	0	3	2	4	1	4	517
AMWI	0	0	0	0	0	0	2500	3063	4659	4707	449	240	15618
#DIV	541	488	586	11	7	35	55	854	405	303	162	518	3965
CANV	0	0	0	0	0	0	0	0	0	0	0	2	2
SCAU	16	0	425	0	0	0	0	27	157	0	0	0	625
GRSC	269	182	18	3	3	1	1	351	13	108	0	259	1208
LESC	22	0	0	0	0	0	0	0	0	0	0	0	22
OLDS	12	0	0	1	0	0	0	5	6	8	11	3	46
BLSC	12	15	3	0	0	4	4	9	0	0	3	0	50
SUSC	49	44	28	0	0	16	37	240	91	88	61	109	763
WWSC	39	178	49	0	1	12	12	69	34	52	52	78	576
COGO	9	0	3	2	1	0	0	0	24	7	9	22	77
BOGO	5	0	0	0	0	0	0	0	2	6	5	6	24
BUFF	103	66	58	5	2	0	1	110	45	23	0	35	448
HOMG	0	0	0	0	0	2	0	0	0	0	12	0	14
COMG	0	0	0	0	0	0	0	4	0	0	0	0	4
RBMG	5	3	2	0	0	0	0	39	33	11	9	4	106
#RAP	1	4	6	2	2	1	2	7	3	91	6	12	137
OSPR	0	0	0	0	1	0	0	0	0	0	0	0	1
BAEA	1	1	3	1	0	0	0	1	0	0	4	4	15
NOHA	0	3	2	1	1	1	1	4	1	91	2	4	111
SSHA	0	0	0	0	0	0	0	1	2	0	0	0	3
RTHA	0	0	0	0	0	0	0	0	0	0	0	3	3

AMKE	0	0	0	0	0	0	1	0	0	0	0	0	1
MERL	0	0	0	0	0	0	0	1	0	0	0	1	2
PEFA	0	0	1	0	0	0	0	0	0	0	0	0	1
#SHO	520	1157	304	95	1801	47	64	2704	708	0	0	1642	9042
BBPL	0	150	0	0	0	0	4	1	0	0	0	55	210
SPPL	0	0	1	0	0	1	4	0	0	0	0	0	6
KILL	8	6	14	19	9	3	3	0	0	0	0	1	63
GRYE	0	1	0	0	0	0	0	0	0	0	0	0	1
WHIM	0	0	0	0	0	3	0	0	0	0	0	0	3
BLTU	0	0	0	0	0	1	0	24	0	0	0	0	25
WESA	0	0	272	76	1792	2	0	0	0	0	0	0	2142
LESA	0	0	0	0	0	16	0	0	0	0	0	0	16
BASA	0	0	0	0	0	20	0	0	0	0	0	0	20
DUNL	512	1000	17	0	0	0	53	2679	708	0	0	1586	6555
LBDO	0	0	0	0	0	1	0	0	0	0	0	0	1
PAJA	0	0	0	0	0	0	2	0	0	0	0	0	2
#GUL	133	178	121	318	179	501	420	171	125	0	104	297	2547
GULL	0	0	0	0	0	0	0	0	10	0	0	0	10
BOGU	0	0	0	0	0	14	253	45	3	0	0	0	315
MEGU	84	41	0	1	2	212	18	33	24	0	3	57	475
RBGU	0	0	0	0	55	0	4	0	0	0	0	0	59
CAGU	0	0	1	90	1	208	4	0	0	0	0	0	304
GWGU	49	137	120	227	121	67	141	93	88	0	101	240	1384
CATE	0	0	3	20	11	2	1	0	0	0	0	0	37
COTE	0	0	0	0	0	0	12	0	0	0	0	0	12
#ALC	51	0	9	0	0	0	7	7	23	4	0	2	103
COMU	51	0	2	0	0	0	3	7	8	2	0	0	73
PIGU	0	0	1	0	0	0	0	0	0	0	0	0	1
MAMU	0	0	6	0	0	0	4	0	7	2	0	2	21
ANMU	0	0	0	0	0	0	0	0	8	0	0	0	8
RODO	0	55	0	0	1	0	0	0	0	0	0	0	56
BEKI	0	0	0	0	0	0	0	0	2	0	0	0	2
#PAS	111	113	71	140	125	105	223	153	29	107	71	437	1685
BNSW	0	0	21	28	28	56	0	0	0	0	0	0	133
NWCR	0	6	2	3	0	0	0	13	0	0	0	11	35
CORA	0	0	0	0	0	0	1	0	0	0	0	0	1
BCCH	0	0	0	0	0	0	2	0	2	0	0	0	4
BUSH	0	0	0	0	0	0	3	0	0	0	0	0	3
WIWR	1	0	0	0	0	0	0	0	0	0	0	0	1
AMRO	2	2	3	0	5	0	5	0	0	0	0	0	17
WAPI	0	0	0	0	0	0	153	116	0	0	0	0	269
EUST	104	91	29	93	74	22	9	18	3	44	60	376	923
SAVS	0	9	9	8	2	19	39	0	0	0	0	0	86
SOSP	4	1	0	0	0	0	5	4	9	30	3	20	76
GCSP	0	0	0	0	0	0	1	0	5	10	0	26	42
WCSP	0	3	0	0	1	0	3	0	10	23	0	0	40
DEJU	0	0	0	0	0	0	1	0	0	0	8	0	9
RWBL	0	1	4	2	2	0	0	0	0	0	0	4	13
BHCO	0	0	0	0	0	8	0	0	0	0	0	0	8
HOFI	0	0	3	6	11	0	0	2	0	0	0	0	22
AMGO	0	0	0	0	2	0	1	0	0	0	0	0	3
#TOT	2680	2591	1428	684	2243	982	4626	9078	15953	16651	2232	5860	65008

Appendix 10. Number of birds counted by month at station 8.

| | 1988 | | | | | | | | | | 1989 | | |
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	18	12	12	0	0	3	206	30	10	7	23	11	332
RTLO	0	0	0	0	0	0	0	0	0	1	1	0	2
ARLO	1	0	2	0	0	0	0	0	0	0	0	0	3
COLO	17	12	10	0	0	3	206	30	10	6	22	11	327
#GRE	315	233	1	0	0	2	287	873	309	66	242	261	2904
GREB	0	0	0	0	0	2	0	0	0	0	0	0	2
HOGR	58	55	0	0	0	0	57	65	21	16	5	34	311
RNGR	5	12	0	0	0	0	5	8	3	4	4	2	43
EAGR	0	4	0	0	0	0	0	0	0	0	0	1	5
WEGR	252	162	1	0	0	0	225	800	285	46	233	224	2228
#COR	9	6	34	11	25	12	18	31	10	9	8	13	186
DCCO	8	5	34	11	25	12	17	30	10	7	7	12	178
PECO	1	1	0	0	0	0	1	1	0	2	1	1	8
#HER	40	18	9	8	4	40	21	1	2	3	0	1	147
GBHE	40	18	9	8	4	40	21	1	2	3	0	1	147
#GEE	16	694	16	0	8	256	0	0	1	16	4	0	1011
SNGO	7	0	0	0	0	0	0	0	0	0	0	0	7
BRAN	9	693	16	0	0	0	0	0	1	16	4	0	739
CAGO	0	1	0	0	8	256	0	0	0	0	0	0	265
#DAB	1213	50	7	50	1	7	12	3020	4635	8855	2	1726	19578
GWTE	204	26	0	0	0	0	0	0	0	70	0	3	303
MALL	34	5	0	50	1	7	6	10	360	2000	0	1200	3673
NOPI	374	2	0	0	0	0	2	10	270	2500	1	20	3179
NOSL	1	11	0	0	0	0	0	0	0	0	0	2	14
GADW	0	0	7	0	0	0	0	0	0	0	0	0	7
EUWI	10	0	0	0	0	0	0	0	5	10	0	1	26
AMWI	590	6	0	0	0	0	4	3000	4000	4275	1	500	12376
#DIV	672	995	599	20	40	35	2013	4049	1031	1015	956	281	11715
CANV	0	1	0	0	0	0	0	350	352	650	100	1	1454
SCAU	0	0	200	0	0	0	420	500	0	0	60	0	1186
GRSC	135	413	321	0	0	0	0	500	400	200	75	95	2138
LESC	4	6	0	0	0	0	0	0	0	0	1	0	9
OLDS	6	0	0	0	0	0	0	1	1	6	1	4	19
BLSC	0	1	0	0	0	0	0	0	0	0	0	2	3
SUSC	72	22	58	0	40	0	77	40	3	25	15	28	380
WWSC	82	86	14	0	0	0	16	20	45	19	26	53	361
COGO	12	10	3	0	0	0	0	1	16	0	15	33	90
BOGO	0	2	0	0	0	0	0	0	0	14	0	0	16
BUFF	356	451	1	0	0	0	0	135	210	100	55	63	1371
HOMG	0	2	0	0	0	0	0	0	0	0	0	0	2
COMG	0	0	0	0	0	0	0	0	2	0	0	0	2
RBMG	11	1	2	0	0	0	0	2	2	1	8	2	29
DUCK	0	0	0	20	0	35	1500	2500	0	0	600	0	4655
#RAP	1	0	1	1	0	1	2	2	1	0	2	5	16
OSPR	0	0	0	0	0	0	1	0	0	0	0	0	1
BAEA	1	0	1	0	0	0	0	0	1	0	2	2	7
NOHA	0	0	0	0	0	0	0	1	0	0	0	2	3
RTHA	0	0	0	1	0	1	1	0	0	0	0	1	4
MERL	0	0	0	0	0	0	0	1	0	0	0	0	1

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#SHO	4	62	236	4	271	30	12	69	58	101	55	567	1469
BBPL	0	1	0	0	0	0	0	0	45	0	0	0	46
KILL	4	2	2	4	6	20	1	0	1	0	0	2	42
SPOT	0	0	1	0	0	0	0	0	0	0	0	0	1
BLTU	0	9	0	0	0	1	11	69	2	1	55	35	183
SAND	0	0	0	0	0	3	0	0	0	0	0	0	3
WESA	0	0	210	0	265	0	0	0	0	0	0	0	475
LESA	0	0	0	0	0	0	0	0	10	0	0	0	10
DUNL	0	50	23	0	0	0	0	0	0	100	0	530	695
SBDO	0	0	0	0	0	6	0	0	0	0	0	0	6
#GUL	164	130	44	202	380	938	591	248	38	145	36	77	2995
GULL	0	0	0	0	0	600	0	0	0	0	0	0	600
BOGU	0	6	0	0	9	147	278	23	3	0	0	0	466
MEGU	115	37	0	0	0	131	250	200	20	35	11	42	841
RBGU	0	0	0	131	255	10	30	0	0	0	0	0	426
CAGU	0	0	1	0	0	0	3	0	0	0	0	0	4
GWGU	49	87	43	71	116	50	30	25	15	110	25	35	656
CATE	0	0	10	8	6	0	1	0	0	0	0	0	25
COTE	0	0	0	0	0	0	91	0	0	0	0	0	91
#ALC	2	1	0	0	0	0	0	0	0	0	0	20	23
COMU	2	0	0	0	0	0	0	0	0	0	0	0	2
PIGU	0	1	0	0	0	0	0	0	0	0	0	0	1
MAMU	0	0	0	0	0	0	0	0	0	0	0	20	20
RODO	0	25	4	2	24	0	0	0	0	0	0	0	55
BEKI	0	0	0	0	2	0	1	0	0	0	0	0	3
#PAS	54	27	55	66	499	9	24	107	0	3	13	17	874
BNSW	0	0	4	11	58	0	0	0	0	0	0	0	73
NWCR	38	14	32	8	11	0	17	10	0	1	5	7	67
CORA	0	2	0	0	0	0	0	1	0	0	0	0	3
WIWR	0	0	0	0	0	0	0	0	0	0	0	0	0
AMRO	0	0	0	0	0	0	0	0	0	0	0	0	0
WAPI	0	3	0	0	0	0	0	1	0	0	0	0	4
EUST	12	5	10	45	420	6	4	95	0	2	8	10	617
SAVS	0	1	9	0	0	0	2	0	0	0	0	0	12
SOSP	4	0	0	0	1	0	0	0	0	0	0	0	5
WCSP	0	1	0	0	4	3	1	0	0	0	0	0	9
RWBL	0	1	0	2	1	0	0	0	0	0	0	0	4
AMGO	0	0	0	0	4	0	0	0	0	0	0	0	4
#TOT	2508	2253	1028	372	1260	1333	3279	8430	6095	10220	1341	2979	41098

Appendix 11. Number of birds counted by month at station 9.

	1988										1989		
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	nd	4	3	0	0	5	0	12	9	8	6	9	56
RTLO	"	0	0	0	0	0	0	0	1	0	0	0	1
ARLO	"	0	0	0	0	0	0	1	0	0	0	0	1
COLO	"	4	3	0	0	5	0	11	8	8	6	9	54
#GRE	"	11	0	0	0	1	8	43	37	9	11	46	166
PBGR	"	0	0	0	0	0	0	2	0	0	0	0	2
HOGR	"	11	0	0	0	1	3	8	24	8	7	45	107
RNGR	"	0	0	0	0	0	3	10	5	1	0	1	20
EAGR	"	0	0	0	0	0	0	0	1	0	0	0	1
WEGR	"	0	0	0	0	0	2	23	7	0	4	0	36
#COR	"	4	20	5	9	7	98	66	89	66	40	60	464
CORM	"	0	0	1	1	0	0	0	0	11	9	13	35
DCCO	"	2	20	4	8	7	78	57	85	51	31	43	386
PECO	"	2	0	0	0	0	20	9	4	4	0	4	43
#HER	"	21	11	2	4	0	5	7	1	2	0	2	55
GBHE	"	21	11	2	4	0	5	7	1	2	0	2	55
#GEE	"	500	0	0	0	0	0	0	2	0	0	0	502
SNGO	"	0	0	0	0	0	0	0	2	0	0	0	2
BRAN	"	500	0	0	0	0	0	0	0	0	0	0	500
#DAB	"	0	2	5	7	0	336	1340	76	120	39	1601	3526
GWTE	"	0	0	0	0	0	14	0	0	0	0	86	100
MALL	"	0	1	5	7	0	113	40	0	0	1	150	317
NOPI	"	0	0	0	0	0	197	300	4	100	38	21	660
BWTE	"	0	1	0	0	0	0	0	0	0	0	0	1
NOSL	"	0	0	0	0	0	0	0	0	0	0	5	5
AMWI	"	0	0	0	0	0	12	1000	72	20	0	1339	2443
#DIV	"	295	307	0	0	1	8	1367	3262	988	603	547	7378
CANV	"	0	0	0	0	0	0	7	230	0	120	5	362
SCAU	"	40	250	0	0	0	0	120	2502	0	110	126	3148
GRSC	"	0	24	0	0	0	0	0	0	8	55	0	87
LESC	"	6	0	0	0	0	0	0	0	0	0	0	6
HADU	"	0	0	0	0	0	0	0	0	2	2	0	4
OLDS	"	0	0	0	0	0	0	4	3	4	1	2	14
BLSC	"	0	0	0	0	0	0	0	0	6	1	0	7
SUSC	"	132	10	0	0	1	8	95	95	120	102	112	675
WWSC	"	63	21	0	0	0	0	30	16	9	11	15	165
COGO	"	4	2	0	0	0	0	2	33	48	18	34	141
BOGO	"	0	0	0	0	0	0	0	0	0	1	5	6
BUFF	"	46	0	0	0	0	0	100	380	90	75	43	734
COMG	"	0	0	0	0	0	0	9	0	0	0	0	9
RBMG	"	4	0	0	0	0	0	0	3	1	0	5	13
DUCK	"	0	0	0	0	0	0	1000	0	700	107	200	2007
#RAP	"	1	1	0	0	0	3	1	1	2	4	1	14
OSPR	"	0	0	0	0	0	1	0	0	0	0	0	1
BAEA	"	1	1	0	0	0	0	0	0	0	3	0	5
NOHA	"	0	0	0	0	0	0	0	0	0	0	1	1
RTHA	"	0	0	0	0	0	0	0	1	1	1	0	3
MERL	"	0	0	0	0	0	1	0	0	0	0	0	1

PEPA	"	0	0	0	0	0	1	1	0	1	0	0	3
#SHO	"	0	1	0	1	22	32	3000	12	5	0	281	3354
KILL	"	0	1	0	0	0	0	0	0	0	0	1	2
SPOT	"	0	0	0	1	0	0	0	0	0	0	0	1
BLTU	"	0	0	0	0	22	32	0	12	5	0	48	119
LESA	"	0	0	0	0	0	0	0	0	0	0	11	11
DUNL	"	0	0	0	0	0	0	0	0	0	0	221	221
SHOR	"	0	0	0	0	0	0	3000	0	0	0	0	3000
PAJA	"	0	0	0	0	1	0	0	0	0	0	0	1
#GUL	"	713	620	597	260	534	113	132	133	340	100	770	4312
GULL	"	0	0	0	0	0	0	0	0	0	50	30	80
BOGU	"	0	0	0	0	200	2	4	1	0	0	0	207
MEGU	"	28	0	3	0	34	12	43	22	100	6	309	557
RBGU	"	0	0	0	0	0	3	0	0	0	0	0	3
WEGU	"	0	0	0	0	0	0	0	0	0	0	1	1
GWGU	"	685	620	594	260	300	96	85	110	240	44	430	3464
CATE	"	0	0	0	1	0	0	0	0	0	0	0	1
COTE	"	0	0	0	0	0	3	0	0	0	0	0	3
#ALC	"	2	0	0	0	0	0	1	2	0	0	0	5
COMU	"	0	0	0	0	0	0	0	2	0	0	0	2
PIGU	"	0	0	0	0	0	0	1	0	0	0	0	1
MAMU	"	2	0	0	0	0	0	0	0	0	0	0	2
BTPI	"	0	0	0	0	0	2	0	0	0	0	0	2
RODO	"	12	24	37	23	0	101	0	28	180	16	27	448
BEKI	"	0	0	1	0	1	2	0	0	0	0	0	4
#PAS	"	40	53	53	32	12	102	97	70	41	51	51	602
TRES	"	0	1	0	0	0	0	0	0	0	0	0	1
VGSW	"	0	0	0	4	0	0	0	0	0	0	0	4
BNSW	"	0	2	4	0	0	0	0	0	0	0	0	6
NWCR	"	32	17	32	6	0	50	45	26	26	33	39	306
CORA	"	0	0	0	0	2	0	4	1	0	0	0	7
BCCH	"	0	0	0	0	0	4	8	0	1	0	2	15
BUSH	"	0	0	0	0	0	12	14	0	0	0	0	26
WIWR	"	0	0	0	0	0	0	1	1	0	0	1	3
RCKI	"	0	0	0	0	0	4	4	0	0	0	0	8
AMRO	"	0	1	0	0	0	0	0	0	0	1	0	2
EUST	"	6	31	12	15	5	0	2	20	8	17	5	121
RSTO	"	1	0	0	1	0	0	1	1	0	0	1	5
SAVS	"	0	0	1	0	0	0	0	0	0	0	0	1
SOSP	"	0	0	1	0	0	2	3	3	3	0	1	13
WCSP	"	0	0	0	2	0	0	0	0	0	0	0	2
DEJU	"	0	0	0	0	0	0	15	18	2	0	0	35
SNBU	"	0	0	0	0	0	0	0	0	0	0	1	1
RWBL	"	1	1	1	2	0	0	0	0	0	0	1	6
HOFI	"	0	0	2	0	5	0	0	0	1	0	0	8
AMGO	"	0	0	0	2	0	30	0	0	0	0	0	32
#TOT	"	1603	1042	700	337	584	813	6066	3722	1761	870	3395	20893

Appendix 12. Number of birds counted by month at station 10.

| | 1988 | | | | | | | | | | 1989 | | |
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	27	6	0	0	0	1	7	3	24	14	5	1	88
RTLO	2	1	0	0	0	1	0	0	7	1	3	0	15
PALO	9	0	0	0	0	0	0	0	12	8	0	1	30
COLO	16	5	0	0	0	0	7	3	5	5	2	0	43
#GRE	3	7	0	0	0	973	5	9	104	31	3	1	1136
PBGR	0	0	0	0	0	0	1	1	1	1	0	0	4
HOGR	1	4	0	0	0	1	3	2	43	29	2	0	85
RNGR	0	2	0	0	0	2	1	0	1	0	0	0	6
EAGR	2	0	0	0	0	0	0	0	0	0	0	0	2
WEGR	0	1	0	0	0	970	0	6	59	1	1	1	1039
#COR	27	26	1	2	1	1	12	17	30	18	4	2	141
CORM	0	0	0	0	0	0	0	12	0	0	0	0	12
DCCO	13	25	1	2	1	1	12	3	28	16	3	2	107
BRCO	12	0	0	0	0	0	0	0	0	0	0	0	12
PECO	2	1	0	0	0	0	0	2	2	2	1	0	10
#HER	18	7	4	2	3	2	2	3	0	6	4	3	54
GBHE	18	7	4	2	3	2	2	3	0	6	4	3	54
#GEE	39	46	0	0	5	0	0	0	0	34	88	13	225
BRAN	37	46	0	0	0	0	0	0	0	11	63	0	157
CAGO	2	0	0	0	5	0	0	0	0	23	25	13	68
#DAB	7098	1057	17	7	11	86	1294	7922	15	963	899	3	19372
GWTE	156	311	0	0	1	2	142	0	0	0	500	2	1114
MALL	772	47	6	3	8	72	343	420	0	77	0	0	1748
NOPI	2723	153	2	0	1	7	730	3000	0	0	0	0	6616
BWTE	0	1	2	4	1	0	2	0	0	0	0	0	10
CITE	0	0	5	0	0	0	0	0	0	0	0	0	5
NOSL	4	24	0	0	0	0	5	2	13	16	32	1	97
GADW	4	5	2	0	0	1	0	0	0	0	0	0	12
EUWI	3	0	0	0	0	0	72	0	2	0	7	0	84
AMWI	3436	516	0	0	0	4	0	4500	0	870	360	0	9686
#DIV	10639	1871	679	12	153	7	1667	1544	30058	27326	6772	0	80728
SCAU	0	0	20	0	0	0	1620	900	0	0	0	0	2540
GRSC	1200	43	0	5	0	0	0	250	0	118	101	0	1717
LESC	0	1	0	0	0	0	0	0	0	5	15	0	21
HADU	2	0	0	0	0	0	0	0	0	0	0	0	2
OLDS	0	0	0	1	1	0	0	0	0	6	0	0	8
COSC	22	16	5	0	0	0	0	24	0	7	12	0	86
SUSC	38	36	0	6	0	0	31	44	0	46	40	0	241
WWSC	13	231	450	0	2	7	16	23	0	22	72	0	836
COGO	356	0	1	0	0	0	0	0	0	5	5	0	367
BUFF	991	27	2	0	0	0	0	300	0	29	26	0	1375
RBMG	17	17	1	0	0	0	0	3	23	86	1	0	148
RUDU	0	0	0	0	0	0	0	0	35	2	0	0	37
DUCK	8000	1500	200	0	150	0	0	0	30000	27000	6500	2000	75350
#RAP	6	7	2	3	1	1	5	4	6	9	11	32	87
BAEA	4	2	1	0	0	0	0	0	2	3	7	26	45
NOHA	2	3	0	2	0	1	2	2	2	3	3	4	24
SSHA	0	1	0	0	0	0	1	0	0	0	0	1	3

NOGO	0	0	0	0	0	0	0	2	0	0	0	0	2
RTHA	0	1	1	1	1	0	1	0	2	1	1	1	10
RLHA	0	0	0	0	0	0	0	0	0	1	0	0	1
PEFA	0	0	0	0	0	0	1	0	0	1	0	0	2
RNPH	1	1	1	0	0	0	0	0	0	2	0	0	5
#SHO	3	2980	186	7	1608	343	348	706	324	27	488	11	7031
BBPL	0	220	0	0	0	250	0	0	0	0	0	0	470
SPPL	0	0	13	0	1	10	3	0	0	0	0	0	27
KILL	3	1	4	7	7	2	37	8	1	2	3	0	75
GRYE	0	0	0	0	0	0	2	3	0	1	5	0	11
LEYE	0	0	0	0	0	0	9	0	0	0	0	0	9
BLTU	0	0	0	0	0	0	0	13	0	0	0	0	13
SAND	0	50	0	0	0	0	160	130	138	24	72	0	574
SESA	0	0	0	0	0	0	1	0	0	0	0	0	1
WESA	0	0	150	0	1550	65	23	0	0	0	0	0	1788
LESA	0	0	17	0	50	15	2	0	0	0	0	0	84
BASA	0	0	0	0	0	1	1	0	0	0	0	0	2
PESA	0	0	0	0	0	0	57	0	0	0	0	0	57
DUNL	0	2700	0	0	0	0	0	510	180	0	408	11	3809
DOWI	0	9	2	0	0	0	0	42	0	0	0	0	53
SBDO	0	0	0	0	0	0	2	0	0	0	0	0	2
LBDO	0	0	0	0	0	0	51	0	0	0	0	0	51
COSN	0	0	0	0	0	0	0	0	5	0	0	0	5
PAJA	0	0	0	0	0	1	0	0	0	0	0	0	1
#GUL	1144	1327	118	163	189	386	226	356	297	82	147	1002	5437
BOGU	0	22	0	11	92	35	85	151	2	0	0	0	398
MEGU	870	660	0	0	0	132	82	147	215	26	31	2	2165
RBGU	2	4	0	64	35	156	17	0	2	2	1	0	283
CAGU	0	2	0	0	1	36	0	0	0	0	0	0	39
HERG	0	0	0	0	0	0	1	0	0	0	0	0	1
THGU	2	4	0	0	0	0	0	2	4	2	2	0	16
GWGU	270	635	118	88	61	27	41	56	74	52	113	200	1735
CATE	0	0	1	5	0	0	0	0	0	0	0	0	6
RODO	0	0	0	0	0	2	4	0	0	0	0	0	6
#OWL	0	0	0	0	0	0	0	1	0	0	0	0	1
SEOW	0	0	0	0	0	0	0	1	0	0	0	0	1
VASW	0	0	0	0	0	1	0	0	0	0	0	0	1
BEKI	1	1	1	0	0	0	1	1	1	1	1	0	8
#PAS	324	123	198	139	84	200	118	272	429	153	647	284	2971
TRES	0	0	5	12	2	0	0	0	0	0	0	0	19
VGSW	0	0	0	6	4	0	0	0	0	0	0	0	10
NRWS	0	0	4	0	0	0	0	0	0	0	0	0	4
CLSW	0	0	0	3	6	1	0	0	0	0	0	0	10
BNSW	0	0	16	12	22	152	6	0	0	0	0	0	208
NWCR	51	35	45	46	7	3	18	45	82	27	67	95	521
CORA	1	0	0	0	0	0	0	0	1	0	1	0	3
BCCH	0	2	0	0	0	2	2	2	1	3	3	4	19
BUSH	0	0	0	0	0	0	0	0	14	15	16	0	45
MAWR	5	4	5	4	3	0	0	4	2	4	2	3	36
RCKI	0	0	0	0	0	0	0	0	0	1	0	0	1
AMRO	0	1	10	0	0	0	0	5	0	6	7	3	32
WAPI	0	0	13	0	0	0	5	1	0	0	0	0	19
EUST	240	60	75	6	27	7	18	60	250	25	450	121	1339
RSTO	0	0	0	0	0	0	0	0	0	0	1	0	1
SAVS	0	1	8	9	5	4	6	0	0	0	0	0	33

Appendix 12. continued

SOSP	0	1	1	2	1	0	1	8	11	8	9	8	50
GCSP	0	0	0	0	0	0	0	2	0	0	0	0	2
WCSP	0	0	0	1	0	0	0	3	0	0	0	0	4
DEJU	0	6	0	0	0	0	0	2	0	0	4	3	15
RWBL	3	2	9	9	2	1	0	41	3	3	31	37	141
HOFI	24	11	7	8	4	30	47	90	65	26	52	10	374
AMGO	0	0	19	7	1	0	15	0	0	35	4	0	81
HOSP	0	0	10	14	0	0	0	12	0	0	0	0	36

#TOT	19330	7459	1237	340	2055	2004	3689	10838	31288	28666	9069	3352	116567

Appendix 13. Number of birds counted by month at station 11.

| | 1988 | | | | | | | | | | 1989 | | |
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#LOO	0	0	0	0	0	7	1	0	14	2	0	0	24
RTLO	0	0	0	0	0	0	0	0	9	2	0	0	11
COLO	0	0	0	0	0	7	1	0	5	0	0	0	13
#GRE	0	0	0	0	0	40	2	0	0	2	0	0	44
GREB	0	0	0	0	0	5	0	0	0	0	0	0	5
HOGR	0	0	0	0	0	4	1	0	0	2	0	0	7
RNGR	0	0	0	0	0	3	1	0	0	0	0	0	4
EAGR	0	0	0	0	0	1	0	0	0	0	0	0	1
WEGR	0	0	0	0	0	27	0	0	0	0	0	0	27
#COR	0	1	0	0	0	1	0	0	3	2	2	0	9
DCCO	0	1	0	0	0	1	0	0	3	2	2	0	9
#HER	11	5	5	9	4	56	22	0	4	3	1	3	123
GBHE	11	5	5	9	4	56	22	0	4	3	1	3	123
#SWA	10	0	0	0	0	0	0	0	0	0	0	0	10
TRUS	10	0	0	0	0	0	0	0	0	0	0	0	10
#GEE	20	19	53	0	0	0	0	0	0	1	0	0	93
SNGO	20	0	0	0	0	0	0	0	0	0	0	0	20
BRAN	0	19	52	0	0	0	0	0	0	1	0	0	72
CAGO	0	0	1	0	0	0	0	0	0	0	0	0	1
#DAB	3532	4610	30	2	0	19	4761	19400	29100	28800	24500	1	114755
GWTE	0	300	3	0	0	0	653	1940	4365	3200	2500	1	12962
MALL	25	30	10	1	0	7	200	1940	4365	6400	5000	0	17978
NOPI	500	33	3	0	0	0	1262	5820	8730	9600	7500	0	33448
NOSL	7	44	8	0	0	5	11	0	0	0	2000	0	2075
GADW	0	1	2	1	0	0	0	0	0	0	0	0	4
EUWI	0	2	0	0	0	0	0	0	0	0	0	0	2
AMWI	3000	4200	4	0	0	7	2635	9700	11640	9600	7500	0	48286
#DIV	6505	331	362	0	24	107	1001	20	68	0	1	201	8620
SCAU	0	0	52	0	0	0	1	0	17	0	0	0	70
GRSC	0	0	52	0	0	0	0	0	0	0	0	0	52
OLDS	0	0	0	0	1	0	0	0	0	0	0	0	1
SCOT	0	0	0	0	0	55	0	0	0	0	0	0	55
SUSC	0	20	45	0	0	9	0	20	15	0	0	0	109
WWSC	0	10	88	0	20	36	0	0	33	0	1	0	188
BOGO	0	0	1	0	0	0	0	0	0	0	0	0	1
BUFF	0	1	0	0	0	0	0	0	3	0	0	0	4
COMG	5	0	0	0	0	7	0	0	0	0	0	1	13
RBMG	0	0	4	0	0	0	0	0	0	0	0	0	4
DUCK	6500	300	120	0	3	0	1000	0	0	0	0	200	8123
#RAP	48	2	7	3	2	3	5	3	13	13	11	27	137
BAEA	40	1	2	1	0	0	0	0	0	1	5	20	70
NOHA	4	1	4	2	2	2	4	1	6	7	6	4	43
RTHA	2	0	1	0	0	0	0	0	0	3	0	1	7
RLHA	2	0	0	0	0	0	0	0	5	1	0	2	10
MERL	0	0	0	0	0	1	1	2	1	1	0	0	6
PEFA	0	0	0	0	0	0	0	0	1	0	0	0	1
RNPH	1	2	0	7	0	3	0	0	0	0	0	0	13
#SHO	13313	53512	425	52	2042	406	1028	21085	35087	18185	2341	1	147477 1

BBPL	1000	2500	48	0	0	278	650	411	35	90	0	0	5012
LGPL	0	0	0	0	0	0	6	0	0	0	0	0	6
SPPL	0	0	15	0	0	1	0	0	0	0	0	0	16
KILL	13	10	13	9	3	11	0	0	0	0	0	1	60
ABOY	0	0	0	0	0	1	0	0	0	0	0	0	1
GRYE	0	0	0	0	0	0	1	1	3	0	0	0	5
WHIM	0	0	12	0	0	0	0	0	0	0	0	0	12
SAND	0	0	0	0	0	0	50	0	49	95	140	0	334
WESA	0	1000	315	41	2000	82	193	0	0	0	0	0	3631
LESA	0	1	9	2	39	31	3	0	0	0	0	0	85
PESA	0	0	0	0	0	0	73	3	0	0	0	0	76
SHSA	0	0	0	0	0	0	1	0	0	0	0	0	1
DUNL	12300	50000	11	0	0	0	50	20670	35000	18000	2200	0	138231 1
DOWI	0	0	2	0	0	2	1	0	0	0	0	0	5
SBDO	0	1	0	0	0	0	0	0	0	0	0	0	1
COSN	0	0	0	0	0	0	0	0	0	0	1	0	1
PAJA	0	0	0	0	0	1	0	0	0	0	0	0	1
#GUL	1000	343	501	254	87	773	4593	155	264	721	998	1700	11389
GULL	300	115	0	0	0	120	200	0	100	0	0	0	835
BOGU	0	22	0	49	10	52	50	0	2	0	0	0	185
MEGU	300	6	0	0	0	0	43	0	102	320	80	0	851
RBGU	0	0	0	177	23	476	0	0	0	0	10	0	686
CAGU	0	0	0	5	5	39	4000	0	0	0	8	0	4057
HERG	0	0	1	0	0	1	0	0	0	1	0	0	3
THGU	0	0	0	0	0	0	0	0	5	0	0	0	5
GWGU	400	200	500	23	49	85	300	155	55	400	900	1700	4767
CATE	0	0	6	9	2	0	0	0	0	0	0	0	17
#ALC	0	3	0	0	0	0	0	0	0	0	0	0	3
MAMU	0	3	0	0	0	0	0	0	0	0	0	0	3
RODO	0	0	0	0	0	0	0	17	0	0	0	0	17
#OWL	2	2	0	0	0	0	1	2	5	9	0	0	21
SNOW	2	0	0	0	0	0	0	0	0	0	0	0	2
SEOW	0	2	0	0	0	0	1	2	5	9	0	0	19
#PAS	36	34	101	146	55	76	205	1099	167	307	413	157	2796
VGSW	0	0	0	1	0	0	0	0	0	0	0	0	1
CLSW	0	0	0	1	0	0	0	0	0	0	0	0	1
BNSW	0	0	11	16	19	8	8	0	0	0	0	0	62
NWCR	5	3	5	4	1	0	1	0	0	0	2	18	39
CORA	1	0	0	0	0	0	0	0	0	0	1	0	2
MAWR	0	0	0	1	0	0	0	1	4	2	0	0	8
AMRO	3	0	1	2	0	2	0	0	0	0	1	12	21
WAPI	0	2	0	0	0	0	115	5	0	0	0	0	122
EUST	0	16	60	84	10	10	40	1052	100	255	400	70	2097
COYE	0	0	2	4	1	3	0	0	0	0	0	0	10
SAVS	1	7	22	22	14	39	20	2	1	0	0	0	128
SOSP	6	0	0	0	1	0	1	11	15	7	4	22	67
WCSP	20	4	0	0	0	0	0	8	22	26	5	35	120
RWBL	0	2	0	0	0	0	0	0	0	0	0	0	2
BHCO	0	0	0	0	0	4	0	0	0	0	0	0	4
HOFI	0	0	0	0	5	0	0	20	25	5	0	0	55
AMGO	0	0	0	11	4	10	20	0	0	12	0	0	57
#TOT	24478	58864	1490	482	2216	1492	11619	41781	64725	48045	28267	2090	285549

Appendix 14. Number of birds counted by month at station 12.

| | 1988 | | | | | | | | | | 1989 | | |
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
#COR	0	0	0	0	0	0	0	0	3	0	0	0	3
DCCO	0	0	0	0	0	0	0	0	3	0	0	0	3
#HER	25	7	7	21	38	63	89	1	32	11	2	0	296
GBHE	25	7	7	21	38	63	89	1	32	11	2	0	296
#DAB	550	9	67	1	2	151	212	21216	24770	500	6100	0	53578
GWTE	50	0	17	0	0	0	22	0	0	0	0	0	89
MALL	0	2	6	1	2	0	0	2767	0	500	2100	0	5378
NOPI	500	0	0	0	0	127	90	4612	1500	0	1900	0	8729
CITE	0	0	4	0	0	0	0	0	0	0	0	0	4
NOSL	0	0	2	0	0	20	0	0	0	0	0	0	22
GADW	0	7	11	0	0	4	0	0	0	0	0	0	22
AMWI	0	0	27	0	0	0	100	13837	0	0	2100	0	16064
#DIV	20560	825	70	0	0	50	1389	0	0	4800	2	620	51586
BUFF	0	0	0	0	0	0	0	0	0	0	2	0	2
DUCK	20560	825	70	0	0	50	1389	0	23270	4800	0	620	51584
#RAP	40	6	9	5	3	2	4	6	6	4	13	45	143
BAEA	39	0	2	2	0	0	0	0	2	0	4	37	86
NOHA	1	4	3	3	3	2	4	4	2	3	6	3	38
RTHA	0	2	2	0	0	0	0	0	0	0	1	3	8
RLHA	0	0	0	0	0	0	0	0	1	0	2	2	5
MERL	0	0	0	0	0	0	0	1	0	1	0	0	2
PEFA	0	0	2	0	0	0	0	1	1	0	0	0	4
RNPH	0	0	0	0	1	0	0	0	0	0	0	0	1
#SHO	5744	30381	138	569	406	1944	136	25008	7300	28712	70000	0	170338
BBPL	0	375	0	267	156	1200	62	8	0	700	0	0	2768
KILL	4	6	4	2	6	0	1	0	0	0	0	0	23
GRYE	0	0	0	0	0	2	3	0	0	0	0	0	5
WHIM	0	0	4	0	0	0	0	0	0	0	0	0	4
SAND	0	0	130	0	244	500	0	0	0	12	0	0	886
WESA	0	0	0	300	0	242	0	0	0	0	0	0	542
DUNL	5740	8000	0	0	0	0	0	25000	7300	28000	70000	0	144040
SHOR	0	22000	0	0	0	0	70	0	0	0	0	0	22070
#GUL	847	1250	351	640	110	2294	4084	3046	1415	2114	100	3245	19496
GULL	0	1250	60	9	0	2175	3230	0	0	1500	100	0	8324
BOGU	0	0	0	540	76	0	0	0	0	0	0	0	616
MEGU	0	0	0	0	0	44	0	0	0	300	0	0	344
RBGU	0	0	0	2	0	35	0	0	0	0	0	0	37
THGU	0	0	50	0	0	0	226	0	0	0	0	0	276
GWGU	847	0	241	89	34	40	628	46	1415	314	0	3245	6899
CATE	0	0	0	5	0	0	0	0	0	0	0	0	5
#OWL	0	5	0	1	0	1	1	0	2	0	0	1	11
SNOW	0	0	0	0	0	0	0	0	0	0	0	1	1
SEOW	0	5	0	1	0	1	1	0	2	0	0	0	10
#PAS	80	45	37	40	37	92	22	40	66	379	4	77	919
BNSW	0	0	11	2	20	25	0	0	0	0	0	0	58
NWCR	26	38	6	0	0	0	0	0	6	15	4	36	131
RCKI	0	0	0	0	0	0	0	0	0	1	0	0	1
AMRO	0	0	0	0	0	0	0	0	0	7	0	1	8

WAPI	0	0	1	0	0	0	0	0	0	0	0	0	1
EUST	40	0	15	31	10	50	0	40	60	350	0	37	633
COYE	0	0	1	0	0	0	0	0	0	0	0	0	1
SAVS	0	6	3	6	6	2	2	0	0	0	0	0	25
SOSP	14	1	0	0	1	0	0	0	0	3	0	3	22
DEJU	0	0	0	0	0	0	0	0	0	1	0	0	1
RWBL	0	0	0	1	0	0	0	0	0	2	0	0	3
HOFI	0	0	0	0	0	0	20	0	0	0	0	0	20
AMGO	0	0	0	0	0	15	0	0	0	0	0	0	15
#TOT	27846	32528	679	1282	597	4597	5937	46317	33594	36520	76221	3988	296376

Appendix 15. Number of birds counted by month at station 13.

	1988										1989		
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL
ILOO	4	0	0	0	0	0	11	0	2	0	0	0	17
COLO	4	0	0	0	0	0	11	0	2	0	0	0	17
IGRE	0	0	0	0	0	0	10	0	0	0	0	0	10
RNGR	0	0	0	0	0	0	3	0	0	0	0	0	3
WEGR	0	0	0	0	0	0	7	0	0	0	0	0	7
ICOR	1	0	0	1	0	0	0	0	36	13	0	0	51
DCCO	1	0	0	1	0	0	0	0	36	13	0	0	51
IHER	2	0	1	5	1	8	16	2	27	1	0	2	65
GBHE	2	0	1	5	1	8	16	2	27	1	0	2	65
ISWA	0	0	0	0	0	0	0	0	0	0	2	2	4
TRUS	0	0	0	0	0	0	0	0	0	0	2	2	4
IGEE	0	210	0	1	0	0	13	0	0	0	0	0	224
BRAN	0	210	0	1	0	0	0	0	0	0	0	0	211
CAGO	0	0	0	0	0	0	13	0	0	0	0	0	13
IDAB	4341	318	110	15	6	123	4154	16950	10441	13215	1492	119	51284
GWTE	0	38	16	0	0	8	50	469	313	427	6	88	1415
MALL	815	31	6	9	6	11	10	681	4125	5335	156	1	11186
NOPI	1200	182	59	0	0	104	3853	9600	2600	4700	401	0	22699
BWTE	0	0	6	3	0	0	0	0	0	0	0	0	9
CITE	0	0	0	1	0	0	0	0	0	0	0	0	1
NOSL	0	3	12	0	0	0	0	0	3	0	0	0	18
GADW	126	0	4	2	0	0	0	0	0	3	0	0	135
EUWI	0	0	0	0	0	0	1	0	0	0	0	0	1
AMWI	2200	64	7	0	0	0	240	6200	3400	2750	929	30	15820
IDIV	93	21	263	3	0	0	18	420	12386	2211	270	610	16295
SCAU	0	0	0	0	0	0	0	0	385	1500	21	0	1906
GRSC	0	0	9	0	0	0	0	420	0	0	15	0	444
LESC	0	0	0	0	0	0	0	0	0	11	0	0	11
BLSC	0	0	0	0	0	0	2	0	0	0	0	0	2
SUSC	0	0	10	0	0	0	13	0	0	0	0	0	23
WWSC	90	21	124	0	0	0	3	0	0	0	0	0	238
COGO	0	0	0	0	0	0	0	0	1	0	0	0	1
BUFF	0	0	0	0	0	0	0	0	0	0	1	0	1
RBMG	3	0	0	0	0	0	0	0	0	0	0	0	3
DUCK	0	0	120	3	0	0	0	0	12000	700	233	610	13666
IRAP	18	3	4	4	2	0	7	11	5	3	1	34	92
BAEA	17	2	3	1	1	0	0	0	0	0	1	30	55
NOHA	0	1	1	3	1	0	5	6	2	3	0	2	24
RTHA	1	0	0	0	0	0	0	1	2	0	0	2	6
RLHA	0	0	0	0	0	0	0	2	0	0	0	0	2
AMKE	0	0	0	0	0	0	0	0	1	0	0	0	1
MERL	0	0	0	0	0	0	1	1	0	0	0	0	2
PEFA	0	0	0	0	0	0	1	1	0	0	0	0	2
RNPH	0	0	0	0	0	0	3	0	0	0	0	0	3
ISHO	9853	10040	786	1210	10155	444	499	28014	8911	2285	4755	42	76994
BBPL	350	525	338	450	146	156	410	14	186	62	0	0	2637
LGPL	0	0	1	0	0	0	3	0	0	0	0	0	4
SPPL	0	0	5	0	2	0	3	0	0	0	0	0	10

KILL	2	0	2	10	3	15	1	0	0	0	0	0	33
GRYE	1	0	0	0	0	0	0	0	0	0	0	0	1
LEYE	0	0	0	0	0	6	0	0	0	0	0	0	6
WHIM	0	0	14	0	3	0	0	0	0	0	0	0	17
RUTU	0	0	1	0	0	0	0	0	0	0	0	0	1
BLTU	0	0	0	0	0	2	0	0	0	0	0	0	2
SAND	0	14	15	0	0	0	0	0	0	23	3	0	55
SESA	0	0	1	0	0	0	0	0	0	0	0	0	1
WESA	0	0	316	750	10000	247	25	0	0	0	0	0	11338
LESA	0	0	0	0	1	16	11	0	0	0	0	0	28
BASA	0	0	0	0	0	0	2	0	0	0	0	0	2
PESA	0	0	0	0	0	0	24	0	0	0	0	0	24
DUNL	9500	9500	92	0	0	0	4	28000	8725	2200	4752	42	62815
DOWI	0	0	0	0	0	2	0	0	0	0	0	0	2
SHDO	0	1	0	0	0	0	4	0	0	0	0	0	5
LHDO	0	0	1	0	0	0	12	0	0	0	0	0	13
PAJA	0	0	0	0	0	0	1	0	0	0	0	0	1
#GUL	992	338	112	509	517	248	418	70	1322	54	178	1756	6514
GULL	0	0	0	0	0	0	0	0	0	0	0	300	300
BOGU	0	0	0	250	0	9	30	3	0	0	0	0	292
HEEG	5	0	0	0	0	0	0	0	0	0	0	0	5
MEGU	275	55	0	0	0	0	11	5	1	0	0	0	347
RBGU	0	2	0	42	425	170	323	0	0	0	3	0	965
CAGU	0	0	0	7	38	2	18	0	0	0	0	0	65
HERG	0	6	1	0	2	0	0	0	0	0	0	0	9
THGU	27	0	0	0	0	0	6	0	0	9	0	6	48
GWGU	685	275	111	210	52	67	30	62	1321	45	175	1450	4483
CATE	0	0	3	6	3	0	0	0	0	0	0	0	12
COTE	0	0	0	0	0	0	30	0	0	0	0	0	30
RODO	0	0	0	12	0	0	0	4	0	0	0	0	16
#PAS	27	25	38	159	5	151	149	54	11	11	3	62	695
TRES	0	0	0	2	0	0	0	0	0	0	0	0	2
BNSW	0	0	15	26	5	42	5	0	0	0	0	0	93
NWCR	14	0	0	8	0	0	7	0	0	0	0	11	40
CORA	0	0	0	0	0	0	2	0	0	0	0	0	2
BCCH	0	0	0	1	0	0	0	0	0	0	0	0	1
MAWR	0	0	0	0	0	2	5	1	0	0	0	0	8
AMRO	0	0	3	14	0	0	0	0	0	0	0	10	27
WAPI	0	0	0	0	0	0	27	5	0	0	0	0	32
EUST	13	25	8	65	0	78	53	29	1	4	3	30	309
COYE	0	0	1	2	0	12	0	0	0	0	0	0	15
SAVS	0	0	1	23	0	12	3	0	0	0	0	0	39
FOSP	0	0	0	0	0	0	1	0	0	0	0	0	1
SOSP	0	0	1	1	0	1	13	11	10	7	0	8	52
WCSP	0	0	0	0	0	0	23	0	0	0	0	0	23
LALO	0	0	0	0	0	0	1	0	0	0	0	0	1
RWBL	0	0	8	9	0	0	0	3	0	0	0	3	23
YHBL	0	0	1	0	0	0	0	0	0	0	0	0	1
HOFI	0	0	0	8	0	0	1	5	0	0	0	0	14
AMGO	0	0	0	0	0	4	8	0	0	0	0	0	12
#TOT	15331	10955	1317	1925	10689	974	5329	45525	33141	17793	6701	2627	152307

Appendix 16. Number of birds counted by month at station 14.

	1988										1989			
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL	
#LOO	3	1	1	0	0	2	22	9	12	14	0	0	64	5.3
LOON	0	0	0	0	0	0	0	0	0	14	0	0	14	1.2
RTLO	0	0	0	0	0	0	0	1	0	0	0	0	1	0.1
COLO	3	1	1	0	0	2	22	8	12	0	0	0	49	4.1
#GRE	2	1	1	0	0	1	15	1	6	0	2	2	31	2.6
HOGR	2	1	0	0	0	0	1	0	0	0	1	2	7	0.6
RNGR	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1
WEGR	0	0	1	0	0	0	14	1	6	0	1	0	23	1.9
#COR	8	0	1	2	0	1	2	0	6	25	2	0	47	3.9
CORM	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1
DCCO	8	0	1	2	0	0	2	0	6	25	2	0	46	3.8
#HER	7	3	19	11	10	17	43	2	24	10	9	1	156	13.0
GBHE	7	3	19	11	10	17	43	2	24	10	9	1	156	13.0
#GEE	0	0	0	0	0	0	0	2	0	0	0	16	18	1.5
SNGO	0	0	0	0	0	0	0	2	0	0	0	0	2	0.2
CAGO	0	0	0	0	0	0	0	0	0	0	0	16	16	1.3
#DAB	5060	4246	159	7	0	512	9615	15055	2521	8050	6221	819	52265	4355.4
GWTE	1290	1135	24	0	0	120	2000	6100	250	320	0	135	11374	947.8
MALL	1400	35	5	1	0	90	415	55	750	1640	0	200	4591	382.6
NOPI	2200	1720	111	6	0	80	4000	4100	1125	5425	5000	232	23999	1999.9
BWTE	0	0	6	0	0	0	0	0	0	0	0	0	6	0.5
CITE	0	1	2	0	0	0	0	0	0	0	0	0	3	0.3
NOSL	0	185	8	0	0	22	0	0	0	0	0	2	217	18.1
GADW	0	0	3	0	0	0	0	0	0	0	0	0	3	0.3
EUWI	0	0	0	0	0	0	0	0	1	0	0	0	1	0.1
AMWI	170	1170	0	0	0	200	3200	4800	395	665	1221	250	12071	1005.9
#DIV	4051	53	218	39	24	483	37	458	7001	4707	62	6517	23650	1970.8
CANV	10	0	0	0	0	0	0	3	0	0	0	2	15	1.3
RNDU	0	0	2	0	0	0	0	0	0	0	0	0	2	0.2
SCAU	30	0	0	0	0	0	0	0	6200	0	49	0	6279	523.3
GRSC	0	50	16	27	20	28	30	30	0	55	0	0	256	21.3
OLDS	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1
SUSC	0	0	0	0	0	0	2	0	0	0	0	0	2	0.2
WWSC	0	0	120	0	0	2	4	2	20	0	0	0	148	12.3
COGO	5	0	1	2	1	0	0	0	0	0	1	10	20	1.7
BOGO	0	0	2	0	0	0	0	0	0	0	0	0	2	0.2
BUFF	0	1	0	0	0	0	0	0	2	0	2	200	205	17.1
COMG	0	0	0	0	0	3	1	3	1	0	0	0	8	0.7
RBMG	1	0	0	7	0	0	0	20	2	0	2	5	37	3.1
RUDU	5	2	17	2	0	0	0	0	11	12	8	0	57	4.8
DUCK	4000	0	60	0	3	450	0	400	765	4640	0	6300	16618	1384.8
#RAP	12	4	7	1	2	1	5	5	6	5	3	11	62	5.2
BAEA	11	1	7	0	0	0	0	0	0	0	2	4	25	2.1
NOHA	1	2	0	1	2	1	3	4	2	3	1	4	24	2.0
RTHA	0	1	0	0	0	0	0	1	2	2	0	3	9	0.8
AMKE	0	0	0	0	0	0	1	0	0	0	0	0	1	0.1
MERL	0	0	0	0	0	0	1	0	2	0	0	0	3	0.3
#SHO	7378	20706	253	392	31292	2168	3994	18202	3355	3147	7835	5502	104224	8685.3

BBPL	525	680	20	100	250	1100	3040	150	1500	360	335	2	8062	671.8
SPPL	0	0	4	3	20	55	0	0	100	0	0	0	182	15.2
KILL	3	2	1	19	3	0	0	1	1	0	0	0	30	2.5
GRYE	0	2	6	0	0	1	0	1	3	7	0	0	20	1.7
LEYE	0	0	0	0	0	8	1	0	0	0	0	0	9	0.8
SPOT	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1
WHIM	0	2	1	0	0	7	0	0	0	0	0	0	10	0.8
BLTU	0	0	0	0	0	3	0	0	0	0	0	0	3	0.3
SAND	150	0	0	0	0	1	7	50	6	0	0	0	214	17.8
SESA	0	0	0	0	500	0	0	0	0	0	0	0	500	41.7
WESA	0	0	175	270	28500	800	40	0	0	0	0	0	29785	2482.1
LESA	0	0	6	0	2000	15	0	0	0	0	0	0	2021	168.4
BASA	0	0	0	0	0	17	1	0	0	0	0	0	18	1.5
PESA	0	0	0	0	0	0	60	0	0	0	0	0	60	5.0
DUNL	6700	20000	40	0	0	146	5	18000	1745	2780	7500	5500	62416	5201.3
STIL	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1
SBDO	0	0	0	0	17	13	0	0	0	0	0	0	30	2.5
LBDO	0	20	0	0	2	0	40	0	0	0	0	0	62	5.2
SHOR	0	0	0	0	0	0	800	0	0	0	0	0	800	66.7
#GUL	560	179	25	144	476	485	382	80	61	275	431	5403	8501	708.4
GULL	150	0	0	0	40	100	0	0	0	10	117	1100	1517	126.4
BOGU	0	72	0	11	21	0	10	0	1	0	0	0	115	9.6
MEGU	380	80	1	12	0	0	40	30	5	190	31	100	869	72.4
RBGU	0	2	0	0	0	145	60	0	0	0	0	0	207	17.3
CAGU	0	0	0	11	15	0	20	0	0	0	0	0	46	3.8
HERG	0	0	0	0	0	0	2	0	0	0	0	0	2	0.2
THGU	15	0	0	0	0	0	0	0	0	0	0	0	15	1.3
GWGU	15	25	24	110	400	240	0	50	55	75	283	4203	5480	456.7
GLGU	0	0	0	0	0	0	250	0	0	0	0	0	250	20.8
CATE	0	0	0	17	2	2	0	0	0	0	0	0	21	1.8
COTE	0	0	0	0	0	18	0	0	0	0	0	0	18	1.5
RODO	0	10	20	20	20	8	0	0	0	0	0	7	85	7.1
MODO	0	0	0	0	1	1	0	0	0	0	0	0	2	0.2
#OWL	0	0	0	0	0	0	0	0	1	1	0	0	2	0.2
SEOW	0	0	0	0	0	0	0	0	1	1	0	0	2	0.2
BEKI	0	0	0	0	0	0	1	1	1	1	1	0	5	0.4
#PAS	77	55	78	181	99	172	240	167	93	91	30	46	1329	110.8
VGSW	2	0	0	0	0	0	0	0	0	0	0	0	2	0.2
NRWS	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1
CLSW	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1
BNSW	0	0	22	30	25	50	9	0	0	0	0	0	136	11.3
STJA	0	0	0	0	0	0	0	0	0	5	0	0	5	0.4
NWCR	15	3	4	2	6	0	30	20	11	0	0	10	101	8.4
BCCH	0	3	0	2	0	0	9	0	0	6	1	5	26	2.2
MAWR	0	3	0	0	0	0	0	0	0	0	0	0	3	0.3
GCKI	0	0	0	0	0	0	0	6	0	1	0	0	7	0.6
RCKI	0	0	0	0	0	0	0	0	0	1	0	2	3	0.3
AMRO	0	10	5	4	2	0	20	4	0	2	2	8	57	4.8
WAPI	0	0	0	0	0	0	100	30	0	0	0	0	130	10.8
CEWA	0	0	0	0	0	2	0	0	0	0	0	0	2	0.2
EUST	0	15	40	60	25	100	63	60	80	50	19	10	522	43.5
COYE	0	0	0	0	1	2	0	0	0	0	0	0	3	0.3
RSTO	0	0	0	0	0	0	0	1	0	0	0	0	1	0.1
SAVS	0	10	4	50	20	15	3	1	0	0	0	0	103	8.6
SOSP	0	5	0	2	4	0	2	10	2	6	8	11	50	4.2

GCSP	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1
WCSP	0	3	0	2	2	2	0	0	0	0	0	0	9	0.8
DEJU	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1
RWBL	60	2	2	3	0	0	0	0	0	0	0	0	67	5.6
YHBL	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1
HOFI	0	0	0	4	2	0	0	35	0	10	0	0	51	4.3
AMGO	0	0	0	10	10	0	4	0	0	10	0	0	34	2.8
HOSP	0	0	0	10	2	0	0	0	0	0	0	0	12	1.0
#TOT	17158	25258	782	814	31926	3871	14356	33982	13087	16326	14596	18324	190480	15873.3

Appendix 17. Number of birds counted by month at station 15.

				1988							1989			
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL	
#LOO	3	9	3	0	2	3	3	5	1	9	6	0	44	3.7
RTLO	1	2	1	0	0	3	0	2	0	2	0	0	11	0.9
ARLO	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1
COLO	2	6	2	0	2	0	3	3	1	7	6	0	32	2.7
#GRE	16	36	27	0	0	0	28	23	19	14	7	0	170	14.2
HOGR	0	3	2	0	0	0	3	3	7	2	1	0	21	1.8
RNGR	4	3	4	0	0	0	8	2	11	0	2	0	34	2.8
EAGR	0	0	1	0	0	0	0	0	1	0	0	0	2	0.2
WEGR	12	30	20	0	0	0	17	18	0	12	4	0	113	9.4
#COR	2	9	20	0	2	20	9	5	9	12	18	0	106	8.8
DCCO	2	5	8	0	0	12	9	5	5	8	6	0	60	5.0
BRCO	0	2	0	0	0	0	0	0	0	1	0	0	3	0.3
PECO	0	2	12	0	2	8	0	0	4	3	12	0	43	3.6
#HER	23	12	0	18	12	16	18	12	11	11	4	0	137	11.4
GBHE	23	12	0	18	12	16	18	12	11	11	4	0	137	11.4
#GEE	0	80	16	70	6	90	0	0	50	40	60	0	412	34.3
BRAN	0	80	0	0	0	0	0	0	0	0	0	0	80	6.7
CAGO	0	0	16	70	6	90	0	0	50	40	60	0	332	27.7
#DAB	234	182	100	52	30	62	70	75	121	170	901	0	1997	166.4
WODU	0	0	0	3	0	0	0	0	0	0	0	0	3	0.3
GWTE	54	120	0	18	0	0	25	40	0	20	250	0	527	43.9
MALL	12	16	50	30	0	30	30	25	0	0	200	0	393	32.8
NOPI	118	12	30	0	30	0	0	0	0	0	50	0	240	20.0
NOSL	0	18	0	0	0	2	0	0	0	0	0	0	20	1.7
EUWI	0	0	0	0	0	0	0	0	1	0	1	0	2	0.2
AMWI	50	16	20	1	0	30	15	10	120	150	400	0	812	67.7
#DIV	451	79	170	1	0	5	41	445	176	103	50	0	1521	126.8
CANV	8	0	0	0	0	0	0	20	8	0	3	0	39	3.3
RNDU	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1
GRSC	150	0	0	0	0	0	0	150	40	2	2	0	344	28.7
HADU	0	6	0	0	0	0	0	0	0	4	1	0	11	0.9
OLDS	18	0	0	0	0	0	0	20	0	9	9	0	56	4.7
BLSC	0	0	0	0	0	0	0	2	0	0	0	0	2	0.2
SUSC	250	60	60	0	0	0	32	200	60	60	28	0	750	62.5
WWSC	0	6	0	0	0	0	9	0	0	1	0	0	16	1.3
COGO	15	1	15	0	0	0	0	30	18	22	0	0	101	8.4
BOGO	0	0	30	0	0	0	0	12	21	0	0	0	63	5.3
BUFF	10	4	42	0	0	4	0	8	16	4	5	0	93	7.8
HOMG	0	0	0	0	0	0	0	0	0	1	1	0	2	0.2
COMG	0	0	18	1	0	1	0	0	11	0	0	0	31	2.6
RBMG	0	2	4	0	0	0	0	3	0	0	1	0	10	0.8
RUDU	0	0	0	0	0	0	0	0	2	0	0	0	2	0.2
#RAP	2	4	1	1	0	2	0	6	1	4	1	0	22	1.8
BAEA	1	1	1	0	0	0	0	0	1	1	0	0	5	0.4
SSHA	0	0	0	0	0	0	0	0	0	0	1	0	1	0.1
RTHA	1	2	0	0	0	2	0	6	0	1	0	0	12	1.0
RLHA	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1

MERL	0	0	0	0	0	0	0	0	0	1	0	0	1	0.1
PEFA	0	1	0	0	0	0	0	0	0	1	0	0	2	0.2
RNPH	0	0	0	0	0	2	0	0	0	0	0	0	2	0.2
#RAI	0	0	2	0	0	2	0	0	16	88	0	0	108	9.0
AMCO	0	0	2	0	0	2	0	0	16	88	0	0	108	9.0
#SHO	0	85	68	28	2	18	166	190	0	422	1	0	980	81.7
BBPL	0	1	0	0	0	0	118	0	0	60	0	0	179	14.9
SPPL	0	0	6	0	0	0	30	0	0	0	0	0	36	3.0
KILL	0	2	1	3	0	1	2	0	0	6	1	0	16	1.3
GRYE	0	2	11	10	0	16	3	0	0	6	0	0	48	4.0
LEYE	0	0	0	0	0	0	10	0	0	0	0	0	10	0.8
WHIM	0	0	10	0	0	0	3	0	0	0	0	0	13	1.1
RUTU	0	0	0	0	2	0	0	0	0	0	0	0	2	0.2
SAND	0	0	0	0	0	0	0	40	0	100	0	0	140	11.7
WESA	0	80	40	0	0	0	0	0	0	0	0	0	120	10.0
LESA	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1
DUNL	0	0	0	0	0	0	0	150	0	250	0	0	400	33.3
DOWI	0	0	0	15	0	0	0	0	0	0	0	0	15	1.3
PAJA	0	0	0	0	0	0	1	0	0	0	0	0	1	0.1
#GUL	420	675	273	120	42	168	283	410	310	560	155	0	3416	284.7
BOGU	0	125	8	0	12	18	0	0	0	0	0	0	163	13.6
MEGU	120	200	15	0	0	0	250	60	60	160	40	0	905	75.4
RBGU	0	0	0	0	0	0	30	0	0	0	0	0	30	2.5
CAGU	0	0	0	0	0	0	3	0	0	0	0	0	3	0.3
GWGU	300	350	250	120	30	150	0	350	250	400	115	0	2315	192.9
CATE	0	0	0	0	2	0	0	0	0	0	0	0	2	0.2
COTE	0	0	11	0	0	0	300	0	0	0	0	0	311	25.9
#ALC	2	1	1	0	1	0	0	0	0	0	0	0	5	0.4
PIGU	0	1	1	0	1	0	0	0	0	0	0	0	3	0.3
MAMU	2	0	0	0	0	0	0	0	0	0	0	0	2	0.2
BTPI	0	0	1	0	2	1	0	0	0	0	0	0	4	0.3
MODO	0	0	0	2	0	0	0	0	0	0	0	0	2	0.2
#OWL	0	0	0	0	6	0	0	0	0	0	0	0	6	0.5
CBOW	0	0	0	0	6	0	0	0	0	0	0	0	6	0.5
BLSW	0	0	0	0	6	0	0	0	0	0	0	0	6	0.5
VASW	0	0	0	0	0	0	30	0	0	0	0	0	30	2.5
BEKI	0	0	1	0	1	1	0	1	0	1	1	0	6	0.5
#PAS	44	86	142	76	62	82	76	51	83	44	64	0	810	67.5
TRES	0	0	0	14	11	27	0	0	0	0	0	0	52	4.3
VGSW	0	0	30	12	0	0	0	0	0	0	0	0	42	3.5
NRWS	0	0	0	0	2	0	0	0	0	0	0	0	2	0.2
BNSW	0	0	0	12	0	0	15	0	0	0	0	0	27	2.3
STJA	0	0	0	0	1	0	0	0	0	0	2	0	3	0.3
NWCR	0	60	60	0	5	0	30	0	50	35	60	0	300	25.0
CORA	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1
BCCH	0	0	6	3	3	0	4	0	0	0	0	0	16	1.3
BUSH	0	0	15	0	8	0	0	0	0	0	0	0	23	1.9
BEWR	0	0	2	0	1	0	0	0	0	0	0	0	3	0.3
AMRO	8	18	0	0	3	0	6	25	0	0	0	0	60	5.0
WAPI	0	0	0	0	0	0	19	0	0	0	0	0	19	1.6
CEWA	0	0	0	0	2	0	0	0	0	0	0	0	2	0.2
COYE	0	0	0	0	3	0	0	0	0	0	0	0	3	0.3
BHGR	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1
RSTO	0	0	2	0	0	0	0	0	3	0	0	0	5	0.4
SAVS	0	8	0	0	0	3	2	0	0	0	0	0	13	1.1

SOSP	12	0	0	3	1	0	0	8	12	6	0	0	42	3.5
WCSP	0	0	12	12	2	9	0	0	0	0	0	0	35	2.9
DEJU	0	0	0	0	0	0	0	18	0	0	0	0	18	1.5
RWBL	8	0	3	0	0	0	0	0	0	3	2	0	16	1.3
BHCO	0	0	0	0	2	0	0	0	0	0	0	0	2	0.2
HOFI	16	0	11	20	0	0	0	0	18	0	0	0	65	5.4
PISI	0	0	0	0	15	0	0	0	0	0	0	0	15	1.3
AMGO	0	0	0	0	2	43	0	0	0	0	0	0	45	3.8
#TOT	1197	1258	836	368	176	472	1025	1223	797	1478	1268	0	10098	841.5

Appendix 1?. Number of birds counted by month at station 16.

					1988						1989			
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL	
#LOO	0	0	0	0	3	0	17	4	2	10	4	5	45	3.8
LOON	0	0	0	0	0	0	0	1	0	0	0	0	1	0.1
RTLO	0	0	0	0	0	0	0	1	0	0	0	1	2	0.2
ARLO	0	0	0	0	0	0	15	0	0	0	0	0	15	1.3
COLO	0	0	0	0	3	0	2	2	2	10	4	4	27	2.3
#GRE	0	0	0	0	0	0	26	20	22	16	12	9	105	8.8
GREB	0	0	0	0	0	0	0	2	0	0	0	0	2	0.2
HOGR	0	0	0	0	0	0	6	13	14	15	12	8	68	5.7
RNGR	0	0	0	0	0	0	20	5	8	0	0	1	34	2.8
WEGR	0	0	0	0	0	0	0	0	0	1	0	0	1	0.1
#COR	0	0	0	0	0	0	1	3	6	6	7	4	27	2.3
CORM	0	0	0	0	0	0	0	0	0	1	0	0	1	0.1
DCCO	0	0	0	0	0	0	0	2	3	1	3	3	12	1.0
BRCO	0	0	0	0	0	0	0	0	2	0	0	0	2	0.2
PECO	0	0	0	0	0	0	1	1	1	4	4	1	12	1.0
#HER	0	0	0	0	0	0	0	0	0	1	0	1	2	0.2
GBHE	0	0	0	0	0	0	0	0	0	1	0	1	2	0.2
#DAB	0	0	0	0	0	0	0	0	4	0	0	0	4	0.3
EUWI	0	0	0	0	0	0	0	0	1	0	0	0	1	0.1
AMWI	0	0	0	0	0	0	0	0	3	0	0	0	3	0.3
#DIV	0	0	0	7	21	0	38	143	1164	30176	118	139	31806	2650.5
SCAU	0	0	0	0	0	0	0	10	50	5000	2	0	5062	421.8
GRSC	0	0	0	0	0	0	0	25	25	50	1	11	112	9.3
LESC	0	0	0	0	0	0	0	0	0	7	0	0	7	0.6
HADU	0	0	0	7	15	0	24	19	37	23	22	17	164	13.7
OLDS	0	0	0	0	0	0	0	0	1	2	2	1	6	0.5
BLSC	0	0	0	0	1	0	0	0	7	3	10	5	26	2.2
SUSC	0	0	0	0	1	0	3	15	5	10	3	22	59	4.9
WWSC	0	0	0	0	2	0	0	5	5	1	15	10	38	3.2
GOLD	0	0	0	0	2	0	0	0	0	0	0	0	2	0.2
COGO	0	0	0	0	0	0	0	15	0	10	19	18	62	5.2
BOGO	0	0	0	0	0	0	0	0	15	8	14	12	49	4.1
BUFF	0	0	0	0	0	0	0	24	10	17	6	8	65	5.4
RBMG	0	0	0	0	0	0	0	15	9	25	21	2	72	6.0
RUDU	0	0	0	0	0	0	1	15	0	20	0	33	69	5.8
DUCK	0	0	0	0	0	0	10	0	1000	25000	3	0	26013	2167.8
#RAP	0	0	0	1	1	0	0	1	0	2	1	1	7	0.6
BAEA	0	0	0	1	1	0	0	1	0	2	1	1	7	0.6
#SHO	0	0	0	0	0	0	0	0	0	0	0	200	200	16.7
DUNL	0	0	0	0	0	0	0	0	0	0	0	200	200	16.7
#GUL	0	0	0	18	7	0	53	44	172	33	23	21	371	30.9
GULL	0	0	0	0	0	0	5	0	50	10	0	0	65	5.4
BOGU	0	0	0	0	0	0	10	0	0	0	0	0	10	0.8
MEGU	0	0	0	0	0	0	1	3	0	0	3	2	9	0.8
RBGU	0	0	0	0	3	0	25	5	0	0	0	0	33	2.8
THGU	0	0	0	0	1	0	0	1	2	0	2	0	6	0.5
GWGU	0	0	0	18	3	0	12	35	120	23	18	19	248	20.7
#PAS	0	0	0	64	59	0	10	78	25	31	24	47	338	28.2

VGSW	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1
BNSW	0	0	0	1	2	0	0	0	0	0	0	0	3	0.3
STJA	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1
NWCR	0	0	0	16	5	0	2	10	1	5	3	32	74	6.2
BCCH	0	0	0	13	10	0	5	17	10	10	5	5	75	6.3
BUSH	0	0	0	0	20	0	0	10	0	0	8	0	38	3.2
BEWR	0	0	0	0	0	0	0	1	0	0	0	0	1	0.1
WIWR	0	0	0	0	0	0	0	0	0	1	1	2	4	0.3
GCKI	0	0	0	0	0	0	0	20	0	0	0	0	20	1.7
RCKI	0	0	0	1	1	0	0	0	0	0	0	0	2	0.2
AMRO	0	0	0	9	8	0	0	0	0	2	0	0	19	1.6
EUST	0	0	0	0	0	0	0	0	1	5	0	0	6	0.5
RSTO	0	0	0	2	2	0	1	0	1	3	0	1	10	0.8
FOSP	0	0	0	1	0	0	1	0	0	0	0	2	4	0.3
SOSP	0	0	0	13	0	0	1	3	2	5	2	0	26	2.2
GCSP	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1
WCSP	0	0	0	2	3	0	0	0	0	0	0	0	5	0.4
DEJU	0	0	0	1	5	0	0	17	10	0	5	5	43	3.6
RWBL	0	0	0	4	1	0	0	0	0	0	0	0	5	0.4
#TOT	0	0	0	90	91	0	145	293	1395	30275	189	427	32905	2742.1

Appendix 19. Number of birds counted by month at station 17.

	1988										1989			
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	TOTAL	
#LOO	2	0	0	0	1	10	38	0	0	0	0	0	51	4.3
COLO	2	0	0	0	1	10	38	0	0	0	0	0	51	4.3
#GRE	0	0	1000	1	0	18	141	0	0	0	0	0	1160	96.7
HOGR	0	0	0	0	0	12	60	0	0	0	0	0	72	6.0
RNGR	0	0	0	0	0	6	30	0	0	0	0	0	36	3.0
WEGR	0	0	1000	1	0	0	51	0	0	0	0	0	1052	87.7
#COR	1	0	4	2	4	8	3	0	0	0	0	0	22	1.8
DCCO	0	0	4	2	4	8	2	0	0	0	0	0	20	1.7
PECO	1	0	0	0	0	0	1	0	0	0	0	0	2	0.2
#HER	0	0	3	0	1	2	5	0	0	0	0	0	11	0.9
GBHE	0	0	3	0	1	2	5	0	0	0	0	0	11	0.9
#GEE	8	0	0	0	0	0	6	0	0	0	0	0	14	1.2
BRAN	8	0	0	0	0	0	0	0	0	0	0	0	8	0.7
CAGO	0	0	0	0	0	0	6	0	0	0	0	0	6	0.5
#DAB	714	0	2	8	0	10	202	0	0	0	0	0	936	78.0
MALL	2	0	2	8	0	4	74	0	0	0	0	0	90	7.5
NOPI	520	0	0	0	0	6	60	0	0	0	0	0	586	48.8
AMWI	192	0	0	0	0	0	68	0	0	0	0	0	260	21.7
#DIV	57	0	5	48	300	210	600	0	0	0	0	0	1220	101.7
SCAU	0	0	3	0	0	0	0	0	0	0	0	0	3	0.3
LESC	0	0	0	31	0	0	0	0	0	0	0	0	31	2.6
SUSC	6	0	0	2	0	10	250	0	0	0	0	0	268	22.3
WWSC	7	0	0	15	300	200	350	0	0	0	0	0	872	72.7
COGO	4	0	2	0	0	0	0	0	0	0	0	0	6	0.5
BUFF	40	0	0	0	0	0	0	0	0	0	0	0	40	3.3
#RAP	0	0	1	0	0	0	3	0	0	0	0	0	4	0.3
NOHA	0	0	0	0	0	0	2	0	0	0	0	0	2	0.2
RTHA	0	0	1	0	0	0	1	0	0	0	0	0	2	0.2
RNPH	0	0	0	0	0	0	2	0	0	0	0	0	2	0.2
#SHO	0	0	1	0	1017	24	38	0	0	0	0	0	1080	90.0
KILL	0	0	1	0	8	24	14	0	0	0	0	0	47	3.9
GRYE	0	0	0	0	0	0	14	0	0	0	0	0	14	1.2
LEYE	0	0	0	0	1	0	6	0	0	0	0	0	7	0.6
SAND	0	0	0	0	0	0	2	0	0	0	0	0	2	0.2
WESA	0	0	0	0	1000	0	0	0	0	0	0	0	1000	83.3
LESA	0	0	0	0	8	0	0	0	0	0	0	0	8	0.7
BASA	0	0	0	0	0	0	2	0	0	0	0	0	2	0.2
#GUL	6227	0	98	111	141	160	128	0	0	0	0	0	6865	572.1
GULL	6000	0	0	0	0	0	0	0	0	0	0	0	6000	500.0
BOGU	0	0	50	45	50	75	75	0	0	0	0	0	295	24.6
MEGU	20	0	3	10	4	12	0	0	0	0	0	0	49	4.1
RBGU	75	0	0	0	30	13	25	0	0	0	0	0	143	11.9
CAGU	0	0	5	11	32	40	12	0	0	0	0	0	100	8.3
GWGU	132	0	40	45	25	20	16	0	0	0	0	0	278	23.2
CATE	0	0	25	0	4	0	0	0	0	0	0	0	29	2.4
COTE	0	0	28	2	0	75	150	0	0	0	0	0	255	21.3
RODO	0	0	4	1	8	1	12	0	0	0	0	0	26	2.2
BEKI	0	0	1	2	2	1	2	0	0	0	0	0	8	0.7

#PAS	58	0	41	122	162	136	110	0	0	0	0	0	629	52.4
VGSW	0	0	0	1	2	0	0	0	0	0	0	0	3	0.3
BNSW	0	0	6	8	12	60	16	0	0	0	0	0	102	8.5
NWCR	58	0	10	62	62	25	28	0	0	0	0	0	245	20.4
BCCH	0	0	1	5	6	4	4	0	0	0	0	0	20	1.7
BUSH	0	0	0	0	6	0	2	0	0	0	0	0	8	0.7
BEWR	0	0	0	1	1	1	1	0	0	0	0	0	4	0.3
AMRO	0	0	4	5	5	4	6	0	0	0	0	0	24	2.0
EUST	0	0	8	12	45	25	26	0	0	0	0	0	116	9.7
COYE	0	0	0	0	0	4	0	0	0	0	0	0	4	0.3
RSTO	0	0	1	3	2	1	2	0	0	0	0	0	9	0.8
SAVS	0	0	0	1	0	0	3	0	0	0	0	0	4	0.3
SOSP	0	0	2	0	1	0	4	0	0	0	0	0	7	0.6
GCSP	0	0	0	2	0	0	0	0	0	0	0	0	2	0.2
WCSP	0	0	0	2	2	2	6	0	0	0	0	0	12	1.0
RWBL	0	0	4	12	12	2	6	0	0	0	0	0	36	3.0
HOFI	0	0	5	8	6	8	6	0	0	0	0	0	33	2.8
#TOT	7067	0	1213	297	1640	655	1440	0	0	0	0	0	12312	1026.0