Bird ringing activities in Finland 1913—1972

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STÉN, I. Seuralank. 15, SF-50170 Mikkeli 17 1974. — *Bird ringing activities in Finland 1913—72.* Ornis Fenn. 51:195—208.

In this report the author considers the development of bird ringing activity in Finland. In 1968 Finland began to develop automatic data processing in accordance with the EURING proposals. In handling the recoveries an even more developed system than originally proposed by EURING has been adopted.

Detailed figures are given of the numbers of birds ringed in Finland between 1913—72; for the years 1968—72 these are given as yearly sums for every species, with figures for those ringed as nestlings and as adults.

More than ten years have elapsed since ringing activity was considered more comprehensively in Finland (NORDSTRÖM 1963). In this paper I shall deal primarily with the development of ringing activities since then. Reports were published on the yearly ringing statistics between 1913 and 1967 continually, but not subsequently because publishing was not considered feasible economically; furthermore, we did not consider it warranted to publish unprocessed recovery data, especially as they had increased vastly. At this stage, automatic data processing also opened up new possibilities of dealing with ringing and recovery data. The Ringing Office agreed wholeheartedly to the proposals put forward by the European Committee for Bird Ringing (EURING) — for the standardization of ringing and processing of recovery data. There could not have been a more suitable moment for reorganization. Obviously, we had to get rid of the both time and personnel-consuming procedures of filing and mailing, or it would have soon become impossible to serve research based on ringing data. In 1967 several measures were taken in anticipation of the new system and, from the following year, the new recovery cards recommended by EURING were employed (see EURING CODE MANUAL, STÉN 1970). These permit automatic data processing. At the same time the Office began to encode all recoveries reported according to the instructions given in the Euring Code Manual (excluding recaptures made by ringers on the original ringing spot). Later, we began to encode regressively. About a third of the recoveries reported between 1913 and 1967*) have now been encoded.

A troublesome shortcoming up to 1967 was that the Ringing Office did not keep any statistics of the age distribution (ad/pull) of the ringed birds or of their regional distribution. Since 1968, the ringers have had to record their ringings according to commune and species, distinguishing also between

*) Some inconsistencies and shortcomings have appeared especially in the reporting of controls.

TABLE 1. Ringing of nestlings of some box-nesting species.

	1968	1969	1970	1971	1972
Parus major	5 142	6 570	9 716	11 470	14 935
Parus caeruleus	412	609	805	1 325	2 015
Parus ater	173	436	445	668	1 074
Ficedula hypoleuca	8 126	10 035	13 044	12 330	15 509

adults and nestlings. The data were gathered in a form suitable for automatic data processing. These statistics enabled the Office to improve its services to ornithologists and consequently the procedure was adopted as a permanent practice the following year. Ringing was reorganised and casual ringers were gradually rejected during 1967 and 1968. In 1967, new ringers were accepted on the basis of an identification test; the ringers also had to be acquainted with ringing procedures. A total reorganization was performed in 1969, and all rings were taken away from non-active ringers. Since then, new ringing licences have been allowed mainly to research workers, to undergraduate students doing their degree in ornithology, and to ringers at bird stations, on the recommendation of the station chief. Mostly the new licences are confined to one or more named species or to named region(s). As an experiment, in 1973, all new licences were confined to 10 named species, which ringers could choose from (with certain restrictions) at will. In order to improve the quality of ringing data and ringing work, the Office has tried to persuade ringers to voluntarily limit their interest to certain species or to certain groups of species. Especially the ringing of box-nesting species has aroused great interest (Table 1). From the point of view of more effective utilization of ringing staff in research projects, the results of the Osprey project (SAUROLA 1972, 1973, 1974) are encouraging. Attempts have been made to improve the quality of ringers work by giving better and more accurate instructions. Completely new instructions were given in 1967, since the old ones had for long been inexact. The Office has continuously kept these up to date by giving more exact definitions and therefore, in 1973 it was necessary to send a stencilized sheet containing all previous information to ringers. The ringers have also been kept informed by means of a stencilized newssheet, "Notes of the Ringing Office", published 4—6 times a year. It soon became evident that yearly meetings of ringers were necessary; they have been arranged since 1970. Each year 30 to 40 per cent of active ringers have participated in these meetings. Ringer meetings are indispensable for contacts both between the Office and ringers and between the latter themselves. Ringing activities have increased vastly during the last decade: a peak (230 414 ind. ringed) was reached in 1970, and the lowest annual number (81 032) was in 1963. The recoveries reported to the Office increased from a total of 1 901 in 1964 (controls were not recorded at that time) to 13 642 in 1972 (Table 2).

The development in the number of people employed by the Office during the last decade has not been so favourable, however. The personnel now consists of one Scientific Officer and three clerks; in other words, size of the staff has not changed since 1962. Accordingly, while the number of recoveries

handled has increased over sevenfold in ten years, no new staff positions (except for during a few short periods) have been created, in spite of hard attempts. The Office has tried to ease this very difficult situation by rationalizing its own work. A great improvement is the application of automatic data processing, the development of which is now in rapid progress. With the help of volunteers, an experiment was undertaken in 1972 in order to determine, how to derive the greatest benefit from computerisation: this led to a total reformation of reporting procedure. In 1973 ringers reported their ringings on automatic data forms, mostly already encoded (the encoding procedure was not required in birds with the smallest ring-sizes, i.e. in the most short-lived and smallest ones). Similarly, recoveries and controls are also reported in encoded form. Obviously, all data must be carefully checked in the programmes for sources of error. In 1974 the Office extended computerisation to cover all ringing work, even in the mailing of recoveries. The low punching capacity of the data-processing centre of the University of Helsinki still is a bottleneck. In contrast, the centre has announced that there is enough computer time at disposal.

The work of the Office has now reached a stage where the possibility of processing the data is greater than ever. Rapid results from these developments are already foreseeable, although it is regrettable that insufficient resources cause much trouble and delay, and involve also the Scientific Officer in time-consuming routine work.

The following table (Table 3) lists the number of ringed birds from the years 1913 to 1972. Up to 1967 the data are based on reports already published and partly checked, those of 1968 to 1972 on data processed automatically and checked. Further, each ringer has checked his/her own data. There is no point, at this stage, in publishing recovery percentages or illustrating the recoveries, because the statistics made before 1968 do not distinguish between recoveries and controls. As automatic data processing of the recoveries advances, it will soon give more reliable and useful data in this respect.

TABLE 2. Birds ringed and recoveries reported in the years 1963—1972.

Year	Ringed	Recoveries
1963	81 032	1 979
1964	85 229	1 901
1965	123 930	2 235
1966	136 860	3 245
1967	137 963	1 671*)
1968	162 371	5 511
1969	191 307	8 366
1970	230 414	10 898
1971	175 699	12 243
1972	210 061	13 642

*) only June—December; change of statistical year to calendar year.

The order of the species in the following list follows the species numbering recommended by EURING, which is based on JØRGENSEN's list (1958), more fully presented in the EURING CODE MANUAL. Unidentified species as well as species hybrids, etc. are listed after the actual species list (Table 4).

Acknowledgements

My deepest thanks are due to Dr. Lasse Sammalisto and Mr. Christopher Grapes for translating the manuscript.

TABLE 3. Numbers of birds ringed in Finland during 1913—1972.

	Species	1913—67 Ad+Pull	1968 Ad	1968 Pull	1969 Ad	1969 Pull	1970 Ad	1970 Pull	1971 Ad	1971 Pull	1972 Ad	1972 Pull	Total Ad+Pull
10	*Gavia stellata*	33	5	0	2	0	2	0	6	0	5	0	53
20	*Gavia arctica*	208	49	0	14	0	0	0	20	0	23	0	314
40	*Gavia adamsii*	0	1	0	0	0	1	0	0	0	0	0	2
60	*Podiceps auritus*	59	2	10	6	2	7	2	0	0	7	0	95
80	*Podiceps cristatus*	77	0	0	2	0	0	1	1	1	3	0	85
90	*Podiceps griseigena*	9	0	0	0	0	1	0	0	0	0	0	10
350	*Phalacrocorax carbo*	9	0	0	0	0	0	0	1	0	0	0	10
390	*Ardea cinerea*	4	0	0	0	0	0	0	0	0	0	0	4
480	*Botaurus stellaris*	31	0	0	0	0	0	2	2	0	0	3	38
550	*Cygnus cygnus*	24	1	3	3	0	5	0	4	0	3	0	43
560	*Cygnus bewickii*	1	0	0	0	0	0	0	0	0	0	0	1
570	*Cygnus olor*	4	0	0	4	0	14	2	2	5	4	0	35
590	*Anser anser*	36	0	2	0	5	0	0	0	5	0	2	50
610	*Anser erythropus*	1	0	0	0	0	0	0	0	0	0	0	1
620	*Anser fabalis*	31	2	4	0	0	1	4	0	0	1	1	44
680	*Branta canadensis*	22	0	0	0	0	12	15	12	22	0	0	83
710	*Tadorna tadorna*	1	0	0	0	0	0	0	0	0	0	0	1
720	*Anas platyrhynchos*	3 735	344	110	152	248	297	261	692	204	151	38	6 232
740	*Anas querquedula*	9	9	3	6	2	2	0	4	1	3	0	39
750	*Anas crecca*	1 038	179	76	153	70	70	22	74	17	30	23	1 752
780	*Anas acuta*	486	0	75	3	65	2	16	1	27	0	15	690
800	*Anas penelope*	339	14	70	14	127	15	93	11	39	3	42	767
830	*Anas clypeata*	316	21	76	17	74	0	1	6	2	3	5	521
860	*Aythya ferina*	39	3	10	2	1	2	0	1	0	0	6	64
870	*Aythya fuligula*	756	112	43	96	19	73	9	62	15	78	6	1 269
890	*Aythya marila*	111	19	0	8	0	6	0	2	0	30	0	176
900	*Bucephala clangula*	503	68	6	98	10	50	0	95	0	111	1	942
930	*Clangula hyemalis*	17	7	0	14	0	3	0	0	0	9	0	50

TABLE 3. *Cont.*

Species	1913—67 Ad+Pull	1968 Ad	1968 Pull	1969 Ad	1969 Pull	1970 Ad	1970 Pull	1971 Ad	1971 Pull	1972 Ad	1972 Pull	Total Ad+Pull
950 *Somateria mollissima*	2 160	851	70	895	3	534	0	680	47	512	59	5 811
980 *Melanitta nigra*	14	1	0	1	0	1	0	0	0	1	0	18
990 *Melanitta fusca*	446	34	0	19	0	13	0	20	0	17	0	549
1040 *Mergus albellus*	1	0	0	0	0	0	0	0	0	0	0	1
1050 *Mergus merganser*	240	38	4	56	0	34	0	38	0	24	8	442
1060 *Mergus serrator*	496	58	1	47	0	32	2	35	0	19	0	690
1080 *Pernis apivorus*	451	0	62	1	34	1	37	0	47	6	48	687
1100 *Milvus migrans*	24	0	0	0	0	0	0	0	0	0	0	24
1110 *Accipiter gentilis*	2 318	58	373	70	391	95	337	92	425	58	497	4 714
1130 *Accipiter nisus*	2 348	210	52	156	60	113	83	148	64	143	75	3 452
1150 *Buteo buteo*	1 572	2	148	3	260	4	281	1	151	3	251	2 676
1170 *Buteo lagopus*	232	1	1	1	10	1	183	1	26	0	0	456
1200 *Aquila chrysaetos*	73	1	12	0	2	0	11	3	20	1	20	143
1240 *Aquila clanga*	1	0	0	0	0	0	0	0	0	0	0	1
1270 *Haliaeetus albicilla*	30	1	1	0	2	1	1	0	2	0	2	40
1330 *Circus cyaneus*	122	1	19	1	17	2	10	4	10	1	21	208
1350 *Circus pygargus*	10	0	0	0	0	0	0	0	0	0	0	10
1360 *Circus aeruginosus*	468	0	50	0	20	0	40	1	59	2	69	709
1380 *Pandion haliaetus*	1 716	0	278	0	283	3	286	5	475	3	729	3 778
1410 *Falco rusticolus*	9	0	0	0	0	0	0	0	0	0	0	9
1420 *Falco peregrinus*	219	0	7	0	3	0	10	0	5	0	6	250
1430 *Falco subbuteo*	347	2	19	5	20	1	38	3	27	1	36	499
1450 *Falco columbarius*	290	2	48	5	19	4	41	8	40	3	14	474
1460 *Falco vespertinus*	3	0	0	0	0	0	0	0	0	1	0	4
1480 *Falco tinnunculus*	3 077	11	207	5	259	6	178	7	163	12	141	4 066
1500 *Tetrao urogallus*	53	5	0	2	1	2	1	4	0	2	6	76
1510 *Lyrurus tetrix*	282	5	4	5	1	15	38	49	15	25	3	442
1530 *Lagopus lagopus*	77	1	3	2	1	1	1	2	0	0	0	88

TABLE 3. *Cont.*

Species	1913—67 Ad+Pull	1968 Ad	1968 Pull	1969 Ad	1969 Pull	1970 Ad	1970 Pull	1971 Ad	1971 Pull	1972 Ad	1972 Pull	Total Ad+Pull
1540 *Lagopus mutus*	7	0	0	0	0	0	0	0	0	0	0	7
1550 *Tetrastes bonasia*	88	4	1	3	0	4	1	5	3	7	2	118
1600 *Perdix perdix*	167	11	0	0	0	0	1	2	0	0	0	181
1610 *Coturnix coturnix*	1	0	0	0	0	0	0	0	0	0	0	1
1620 *Phasianus colchicus*	2 601	111	1	65	0	57	0	60	411	187	146	3 639
1640 *Grus grus*	29	0	4	0	0	0	3	0	0	0	2	38
1670 *Rallus aquaticus*	7	6	0	0	0	3	4	2	0	3	1	26
1680 *Crex crex*	16	7	2	10	0	7	0	7	0	0	0	49
1690 *Porzana parva*	1	0	0	0	0	0	0	0	0	0	0	1
1710 *Porzana porzana*	18	12	0	8	0	1	0	7	0	16	0	62
1730 *Gallinula chloropus*	6	2	0	2	1	7	5	5	28	17	40	113
1770 *Fulica atra*	168	1	3	2	2	1	1	1	8	16	3	206
1820 *Haematopus ostralegus*	908	2	119	5	36	5	32	0	40	0	38	1 185
1850 *Vanellus vanellus*	12 235	67	1 517	110	1 582	94	1 756	34	855	31	397	18 678
1870 *Charadrius squatarola*	32	1	0	2	0	1	0	2	0	5	0	43
1880 *Charadrius apricarius*	75	9	22	7	7	3	19	3	7	5	2	159
1910 *Charadrius hiaticula*	4 181	76	118	115	135	355	114	133	172	192	72	5 663
1920 *Charadrius dubius*	1 264	55	78	119	153	109	136	84	138	101	166	2 403
1970 *Charadrius morinellus*	245	2	8	9	36	11	88	47	49	6	31	532
2000 *Numenius phaeopus*	105	2	5	1	32	5	29	7	18	0	6	210
2020 *Numenius arquata*	4 494	1	258	2	236	3	297	4	208	9	151	5 663
2030 *Limosa limosa*	16	0	0	0	4	0	0	0	0	0	3	23
2040 *Limosa lapponica*	14	0	3	0	1	4	3	2	3	1	0	31
2050 *Tringa erythropus*	201	4	1	3	0	29	4	7	0	8	1	258
2060 *Tringa totanus*	3 324	76	136	182	146	137	125	102	210	104	96	4 638
2080 *Tringa stagnatilis*	2	0	0	0	0	0	0	0	0	0	0	2
2090 *Tringa nebularia*	173	15	6	22	2	16	6	7	7	24	4	282
2110 *Tringa ochropus*	324	46	20	45	22	58	15	39	24	30	8	631

TABLE 3. *Cont.*

Species	1913—67 Ad+Pull	1968 Ad	1968 Pull	1969 Ad	1969 Pull	1970 Ad	1970 Pull	1971 Ad	1971 Pull	1972 Ad	1972 Pull	Total Ad+Pull
2130 *Tringa glareola*	5 307	750	34	1 010	34	1 216	53	499	34	426	14	9 377
2140 *Tringa hypoleuca*	2 874	205	95	462	124	459	123	260	112	281	105	5 100
2160 *Xenus cinereus*	106	8	24	15	13	5	10	11	33	2	15	242
2180 *Arenaria interpres*	4 468	54	273	101	374	106	289	78	356	105	211	6 415
2200 *Capella media*	10	0	0	0	0	1	0	0	0	1	0	12
2210 *Capella gallinago*	1 693	395	27	366	14	539	11	341	13	394	8	3 801
2220 *Lymnocryptes minimus*	77	7	17	18	4	1	0	5	0	7	0	136
2230 *Scolopax rusticola*	683	17	57	23	27	18	29	15	14	14	31	928
2240 *Crocethia alba*	21	0	0	2	0	8	0	0	0	0	0	31
2250 *Calidris canutus*	260	0	0	4	0	48	0	1	0	12	0	325
2270 *Calidris minuta*	1 690	9	0	193	0	526	0	30	0	202	0	2 650
2280 *Calidris temminckii*	1 534	124	72	106	81	178	50	155	61	144	37	2 542
2340 *Calidris maritima*	11	3	0	0	0	3	0	0	0	13	0	30
2350 *Calidris alpina*	7 297	228	50	435	72	1 706	15	1 128	23	723	2	11 679
2360 *Calidris ferrugineus*	282	6	0	51	0	34	0	55	0	34	0	462
2370 *Limicola falcinellus*	169	18	18	9	22	7	18	14	8	2	1	286
2380 *Tryngites subruficollis*	1	0	0	0	0	0	0	0	0	0	0	1
2390 *Philomachus pugnax*	6 948	1 002	55	1 273	42	2 402	44	484	56	715	11	13 032
2420 *Phalaropus fulicarius*	0	0	0	0	0	0	0	1	0	0	0	1
2430 *Phalaropus lobatus*	300	16	48	11	80	18	65	102	35	14	10	699
2510 *Stercorarius parasiticus*	352	19	110	23	181	25	132	18	176	29	191	1 256
2520 *Stercorarius longicaudus*	10	0	0	0	2	0	25	0	0	0	0	37
2550 *Larus canus*	34 117	26	3 946	24	5 237	41	3 252	52	2 744	39	2 871	52 349
2560 *Larus argentatus*	20 155	1	4 623	0	3 952	7	3 718	5	4 260	6	3 601	40 328
2570 *Larus fuscus*	18 305	3	1 688	1	2 042	6	1 719	32	1 560	7	1 529	26 892
2580 *Larus marinus*	1 612	0	308	0	379	0	317	0	389	0	430	3 435
2590 *Larus hyperboreus*	1	0	0	0	0	0	0	0	0	0	0	1
2630 *Larus ridibundus*	104 088	196	14 018	154	15 253	192	16 101	116	4 354	45	3 076	157 593

TABLE 3. *Cont.*

Species	1913—67 Ad+Pull	1968 Ad	1968 Pull	1969 Ad	1969 Pull	1970 Ad	1970 Pull	1971 Ad	1971 Pull	1972 Ad	1972 Pull	Total Ad+Pull
2660 *Larus minutus*	533	0	29	0	61	9	106	28	142	12	62	982
2680 *Rissa tridactyla*	4	0	0	0	0	0	0	0	0	0	0	4
2720 *Chlidonias niger*	4	0	0	0	0	0	1	0	0	0	0	5
2740 *Hydroprogne caspia*	7 556	0	782	0	831	10	763	0	968	0	1 023	11 933
2750 *Sterna hirundo*	27 388	20	2 398	42	2 010	43	2 217	52	2 320	17	1 690	38 197
2760 *Sterna paradisaea*	15 757	7	2 586	27	2 397	57	2 192	49	2 829	14	2 225	28 140
2800 *Sterna albifrons*	6	0	2	0	13	0	13	1	3	0	10	48
2840 *Plautus alle*	1	0	0	0	0	0	0	0	0	0	0	1
2860 *Alca torda*	1 463	10	122	0	124	0	243	6	90	1	265	2 324
2880 *Uria aalge*	57	1	0	0	1	1	4	0	0	2	3	69
2890 *Cepphus grylle*	5 597	23	1 013	33	998	17	697	64	1 271	38	995	10 746
2920 *Fratercula arctica*	243	0	0	0	0	0	0	0	0	0	0	243
2970 *Columba livia*	609	2	44	30	0	43	11	28	17	236	247	1 267
2980 *Columba oenas*	477	0	6	0	13	1	13	0	26	0	45	581
2990 *Columba palumbus*	1 558	10	121	13	86	15	96	10	69	10	49	2 037
3000 *Streptopelia turtur*	0	0	0	4	0	3	0	1	0	2	0	10
3020 *Streptopelia decaocto*	0	0	0	0	0	0	0	4	0	0	0	4
3040 *Cuculus canorus*	394	65	6	45	2	59	6	48	5	70	4	704
3090 *Bubo bubo*	183	4	43	6	45	5	42	7	56	3	99	493
3100 *Nyctea scandiaca*	9	0	0	0	0	0	0	0	0	0	0	9
3110 *Surnia ulula*	79	0	0	1	3	1	25	3	0	2	0	114
3120 *Glaucidium passerinum*	121	7	14	6	24	10	33	13	14	1	4	247
3140 *Strix aluco*	2 478	47	496	50	659	48	436	53	428	75	730	5 500
3150 *Strix uralensis*	535	12	218	30	239	16	178	8	86	48	316	1 686
3160 *Strix nebulosa*	32	0	0	0	2	1	30	1	0	1	8	75
3170 *Asio otus*	1 571	41	77	27	183	34	92	51	22	33	90	2 221
3180 *Asio flammeus*	854	2	25	11	218	7	79	6	0	3	31	1 236
3200 *Aegolius funereus*	3 673	62	134	83	430	357	599	154	135	200	469	6 296

TABLE 3. *Cont.*

Species	1913—67 Ad+Pull	1968 Ad	1968 Pull	1969 Ad	1969 Pull	1970 Ad	1970 Pull	1971 Ad	1971 Pull	1972 Ad	1972 Pull	Total Ad+Pull
3230 *Caprimulgus europaeus*	205	24	12	72	7	81	10	69	11	68	6	565
3270 *Apus apus*	4 304	106	173	193	297	162	302	335	325	229	411	6 837
3320 *Alcedo atthis*	3	1	0	0	0	0	0	1	0	0	0	5
3360 *Upupa epops*	1	1	0	1	0	1	0	0	0	0	0	4
3370 *Iynx torquilla*	8 547	149	853	243	1 118	288	1 157	278	1 080	260	1 280	15 253
3390 *Picus canus*	61	1	0	3	6	3	2	5	0	14	6	101
3400 *Dryocopus martius*	809	1	29	1	90	2	38	0	72	6	91	1 139
3410 *Dendrocopus major*	3 520	1 742	52	88	25	232	81	193	108	2 083	150	8 274
3440 *Dendrocopus leucotos*	22	2	0	2	0	0	0	2	4	3	2	37
3450 *Dendrocopus minor*	379	18	4	11	8	27	8	35	9	73	30	602
3460 *Picoides tridactylus*	129	23	17	15	17	9	7	20	13	13	4	267
3560 *Lullula arborea*	69	1	0	0	0	1	0	0	0	2	0	73
3570 *Alauda arvensis*	2 997	69	166	86	170	318	153	93	96	125	97	4 370
3600 *Eremophila alpestris*	28	5	0	1	0	1	0	2	0	0	0	37
3610 *Hirundo rustica*	14 473	881	747	887	557	1 341	840	759	682	552	682	22 401
3640 *Delichon urbica*	6 183	515	64	489	64	723	109	310	210	173	77	8 917
3650 *Riparia riparia*	17 808	917	323	1 365	321	2 287	702	1 618	443	1 423	529	27 736
3660 *Oriolus oriolus*	33	0	0	1	3	4	0	0	2	9	1	53
3670 *Corvus corax*	509	7	83	4	94	3	100	1	123	2	189	1 115
3680 *Corvus cornix*	7 817	28	324	23	397	19	327	23	276	12	291	9 537
3700 *Corvus frugilegus*	1 046	0	60	8	37	5	83	49	24	0	9	1 321
3710 *Corvus monedula*	4 112	26	199	18	184	26	131	22	132	3	186	5 039
3720 *Pica pica*	5 392	41	226	30	321	28	253	18	211	21	260	6 801
3740 *Nucifraga caryocatactes*	86	430	0	0	0	0	0	189	0	3	0	708
3750 *Garrulus glandarius*	1 409	33	40	47	63	62	63	65	31	101	50	1 964
3760 *Cractes infaustus*	41	15	3	9	0	14	0	1	0	2	1	86
3790 *Parus major*	73 632	3 592	5 142	6 896	6 570	8 437	9 716	10 212	11 470	11 910	14 935	162 512
3800 *Parus caeruleus*	7 670	417	412	890	609	1 026	805	1 643	1 325	2 121	2 015	18 933

TABLE 3. *Cont.*

Species	1913—67 Ad+Pull	1968 Ad	1968 Pull	1969 Ad	1969 Pull	1970 Ad	1970 Pull	1971 Ad	1971 Pull	1972 Ad	1972 Pull	Total Ad+Pull
3820 *Parus ater*	5 492	24	173	107	436	58	445	202	668	3 375	1 074	12 054
3830 *Parus cristatus*	2 802	25	71	79	128	74	89	87	183	69	117	3 724
3840 *Parus cinctus*	123	4	0	13	14	13	27	38	21	28	55	336
3860 *Parus palustris*	0	0	0	1	0	0	0	0	0	0	0	1
3870 *Parus montanus*	9 157	388	296	1 800	446	1 477	408	633	465	1 368	298	16 736
3880 *Aegithalos caudatus*	1 184	21	0	372	14	363	0	144	5	451	12	2 566
3910 *Sitta europaea*	23	1	0	0	0	1	0	1	0	1	0	27
3940 *Certhia familiaris*	2 530	10	15	114	18	166	42	295	42	1 152	83	4 467
3970 *Cinclus cinclus*	464	72	0	123	16	134	16	122	0	197	5	1 149
3980 *Troglodytes troglodytes*	560	74	0	20	3	42	4	96	10	127	1	937
4000 *Erithacus rubecula*	31 669	4 873	162	4 606	95	7 369	182	7 330	101	9 548	114	66 049
4010 *Luscinia luscinia*	134	55	16	124	78	126	117	107	113	159	49	1 078
4020 *Luscinia megarhynchos*	0	0	0	0	0	0	0	2	0	0	0	2
4040 *Luscinia svecica*	3 820	445	206	825	220	1 215	368	1 054	137	1 079	50	9 419
4050 *Tarsiger cyanurus*	1	0	0	0	0	0	0	2	0	1	0	4
4060 *Phoenicurus ochruros*	10	1	0	2	0	2	0	2	0	3	0	20
4070 *Phoenicurus phoenicurus*	26 042	3 423	392	1 965	466	3 128	744	2 730	489	2 302	438	42 119
4090 *Saxicola rubetra*	12 725	646	412	1 216	539	760	411	519	355	579	262	18 424
4120 *Oenanthe oenanthe*	10 579	285	350	477	366	670	465	466	376	487	264	14 785
4230 *Turdus torquatus*	45	0	0	6	0	8	0	8	0	2	4	73
4240 *Turdus merula*	8 559	753	254	793	407	1 002	288	807	283	1 340	264	14 750
4290 *Turdus pilaris*	46 793	1 083	1 397	1 344	1 665	1 355	1 790	699	1 633	1 102	1 367	60 228
4300 *Turdus iliacus*	38 210	2 765	2 045	2 960	2 325	2 420	2 744	1 746	1 490	2 295	1 645	60 645
4310 *Turdus philomelos*	17 645	1 254	515	1 398	621	1 678	851	2 068	463	2 407	433	29 333
4320 *Turdus viscivorus*	878	13	23	15	17	17	17	16	11	31	17	1 055
4380 *Locustella lanceolata*	0	0	0	0	0	0	0	1	0	0	0	1
4390 *Locustella naevia*	42	6	0	33	0	30	2	40	0	39	0	192
4420 *Locustella fluviatilis*	6	2	0	7	0	5	0	5	0	6	0	31

TABLE 3. *Cont.*

Species	1913—67 Ad+Pull	1968 Ad	1968 Pull	1969 Ad	1969 Pull	1970 Ad	1970 Pull	1971 Ad	1971 Pull	1972 Ad	1972 Pull	Total Ad+Pull
4450 *Acrocephalus arundinaceus*	7	2	0	4	0	4	0	4	5	1	0	27
4460 *Acrocephalus scirpaceus*	605	330	19	651	9	570	4	696	8	543	3	3 438
4470 *Acrocephalus palustris*	24	11	10	22	4	9	4	28	4	20	4	140
4480 *Acrocephalus dumetorum*	56	10	0	24	5	31	13	37	9	20	4	209
4500 *Acrocephalus schoenobaenus* ..	2 733	1 415	81	2 067	39	1 865	39	1 767	56	1 172	6	11 240
4530 *Hippolais icterina*	514	25	16	40	13	65	17	53	15	62	13	833
4540 *Hippolais pallida*	1	0	0	0	0	0	0	0	0	0	0	1
4570 *Sylvia atricapilla*	3 251	1 085	39	547	29	627	20	636	61	1 137	18	7 450
4580 *Sylvia nisoria*	122	33	0	44	1	63	7	56	40	96	84	546
4600 *Sylvia borin*	11 831	2 004	262	2 239	194	2 022	150	1 665	190	3 326	207	24 090
4610 *Sylvia communis*	6 045	1 295	123	1 188	103	1 584	147	1 145	98	818	59	12 605
4620 *Sylvia curruca*	6 722	1 228	202	1 176	145	1 570	105	1 077	186	1 046	136	13 593
4660 *Sylvia cantillans*	0	1	0	0	0	0	0	0	0	0	0	1
4720 *Phylloscopus trochilus*	46 864	15 029	1 123	19 750	1 606	18 840	1 570	9 139	1 004	6 483	724	122 132
4730 *Phylloscopus collybita*	5 499	622	13	1 047	40	799	75	1 141	22	538	14	9 810
4750 *Phylloscopus sibilatrix*	1 350	73	42	81	43	58	20	173	21	140	97	2 098
4760 *Phylloscopus fuscatus*	0	1	0	0	0	1	0	0	0	0	0	2
4780 *Phylloscopus inornatus*	7	3	0	2	0	0	0	1	0	2	0	15
4790 *Phylloscopus proregulus*	1	6	0	2	0	0	0	2	0	2	0	13
4800 *Phylloscopus borealis*	6	0	5	0	0	0	0	0	0	1	0	12
4810 *Phylloscopus trochiloides*	11	0	0	0	0	3	4	4	0	2	0	24
4820 *Regulus regulus*	8 296	1 267	0	1 803	1	2 706	0	3 941	0	4 819	1	22 834
4830 *Regulus ignicapillus*	0	1	0	0	0	0	0	0	0	0	0	1
4840 *Muscicapa striata*	25 539	2 084	1 158	1 523	1 103	2 098	1 007	1 798	913	1 723	737	39 683
4860 *Ficedula hypoleuca*	71 951	1 332	8 126	1 874	10 035	2 145	13 044	2 888	12 330	3 488	15 509	142 722
4870 *Ficedula albicollis*	3	0	0	0	0	2	0	2	0	3	0	10
4890 *Ficedula parva*	296	32	3	28	0	40	0	37	4	37	0	477
4900 *Prunella modularis*	3 594	620	81	634	86	783	123	584	46	717	78	7 346

TABLE 3. *Cont.*

Species	1913—67 Ad+Pull	1968 Ad	1968 Pull	1969 Ad	1969 Pull	1970 Ad	1970 Pull	1971 Ad	1971 Pull	1972 Ad	1972 Pull	Total Ad+Pull
4930 *Anthus pratensis*	4 725	373	278	629	272	504	348	170	98	273	40	7 710
4940 *Anthus novaezeelandiae*	2	0	0	0	0	0	0	0	0	0	0	2
4950 *Anthus campestris*	5	0	0	1	0	1	0	0	0	2	0	9
4970 *Anthus trivialis*	5 250	680	190	1 156	181	969	156	781	95	681	88	10 227
4980 *Anthus gustavi*	0	0	0	0	0	0	0	0	0	1	0	1
4990 *Anthus cervinus*	453	56	88	50	13	197	0	19	6	19	1	902
5000 *Anthus spinoletta*	232	12	21	0	9	6	5	4	0	11	0	300
5030 *Motacilla alba*	31 255	2 269	1 525	2 581	1 700	3 025	1 628	2 016	1 459	1 361	1 316	50 135
5050 *Motacilla cinerea*	2	0	0	0	0	1	0	0	0	0	0	3
5060 *Motacilla flava*	8 531	2 712	292	3 012	313	3 326	256	1 803	227	807	95	21 374
5110 *Bombycilla garrulus*	5 582	41	0	16	0	1 988	15	350	0	853	21	8 866
5120 *Lanius excubitor*	307	59	19	42	29	48	17	84	47	74	16	742
5160 *Lanius collurio*	7 247	717	269	1 136	253	1 237	187	922	358	1 477	262	14 065
5180 *Sturnus vulgaris*	59 078	2 507	2 898	2 601	4 242	5 241	4 583	3 289	3 860	1 998	3 248	93 545
5250 *Passer domesticus*	4 952	1 015	192	1 230	254	2 130	410	1 788	320	2 248	386	14 925
5280 *Passer montanus*	39	6	0	5	0	18	1	31	0	71	0	171
5320 *Coccothraustes coccothraustes*	6	1	0	8	0	3	0	2	0	3	0	23
5330 *Chloris chloris*	6 326	564	99	1 415	95	2 166	128	1 978	122	3 083	100	16 076
5350 *Carduelis carduelis*	339	21	0	31	0	59	0	32	0	58	0	540
5360 *Carduelis spinus*	13 126	3 471	3	1 088	1	6 873	8	868	7	3 595	0	29 040
5370 *Carduelis cannabina*	1 756	51	73	207	163	48	95	187	67	76	74	2 797
5380 *Carduelis flavirostris*	20	0	0	5	0	1	0	2	0	5	0	33
5390 *Carduelis flammea*	24 488	4 172	289	2 020	29	11 836	100	5 278	271	20 675	87	69 245
5430 *Carduelis hornemanni*	132	3	4	1	5	18	0	5	0	212	0	380
5460 *Serinus canaria*	1	0	0	0	0	0	0	1	0	0	0	2
5480 *Pyrrhula pyrrhula*	12 010	965	45	1 547	28	4 182	28	2 591	25	3 737	34	25 192
5500 *Carpodacus erythrinus*	2 634	407	312	465	217	441	271	381	282	272	235	5 917
5510 *Pinicola enucleator*	583	3	4	3	0	22	12	9	4	2	3	645

	Species	1913—67 Ad+Pull	1968 Ad	1968 Pull	1969 Ad	1969 Pull	1970 Ad	1970 Pull	1971 Ad	1971 Pull	1972 Ad	1972 Pull	Total Ad+Pull
5520	*Loxia curvirostra*	580	21	50	6	0	14	0	36	4	97	29	837
5530	*Loxia pytyopsittacus*	45	2	0	10	0	12	0	7	0	1	0	77
5540	*Loxia leucoptera*	46	1	0	2	0	0	0	13	0	8	0	70
5550	*Fringilla coelebs*	34 884	3 845	459	9 232	491	6 780	598	3 462	439	5 260	444	65 894
5560	*Fringilla montifringilla*	9 631	1 635	125	2 874	66	1 442	86	1 426	98	1 251	76	18 710
5580	*Emberiza citrinella*	10 508	910	148	1 718	145	2 039	61	2 579	64	2 585	119	20 876
5590	*Emberiza leucocephala*	0	1	0	0	0	0	0	0	0	0	0	1
5630	*Emberiza aureola*	362	47	135	46	139	35	77	27	103	3	15	989
5670	*Emberiza hortulana*	1 177	282	86	171	50	120	86	108	49	73	54	2 256
5710	*Emberiza rustica*	499	155	16	116	3	101	6	48	3	112	9	1 068
5720	*Emberiza pusilla*	15	11	1	7	2	7	1	3	0	1	1	49
5740	*Emberiza schoeniclus*	11 251	2 619	501	3 941	297	3 320	162	3 145	67	3 089	75	28 467
5780	*Calcarius lapponicus*	294	21	127	8	74	37	95	37	66	14	21	794
5790	*Plectrophenax nivalis*	220	4	0	18	8	160	9	73	5	164	3	664
	Total ad & pull		89 464	72 536	109 196	82 043	142 124	88 167	102 238	73 454	133 847	76 204	
	Total ad + pull	1 173 932	162 000		191 239		230 291		175 692		210 051		2 143 205

TABLE 4. Numbers of ringings of incompletely identified birds.

Species	1913—67 Ad+Pull	1968—72 Ad	1968—72 Pull	Total Ad+Pull
Spec. ign.	12	18		30
Podiceps sp.	8			8
Anas sp.	16			16
Aythya sp.	3			3
Melanitta sp.	1			1
Mergus sp.	5			5
Buteo sp.	25			25
Charadrius hiaticula vel *dubius*	1			1
Tringa sp.	2			2
Capella sp.	2			2
Larus canus vel *ridibundus*	6			6
Larus canus vel *fuscus*	468			468
Larus argentatus vel *marinus*	503			503
Larus argentatus vel *fuscus*	637		49	686
Larus fuscus vel *marinus*	12			12
Larus sp.	211			211
Sterna hirundo vel *paradisaea*	11 155		505	11 660
Sterna sp.	31			31
Columba sp.	6			6
Hirundo sp.	8			8
Hirundo vel *Delichon*	1			1
Hirundo x *Delichon*	—	1		1
Parus sp.	12			12
Turdus sp.	68			68
Acrocephalus sp.	4			4
Sylvia sp.	29			29
Phylloscopus sp.	47	1		48
Ficedula hypoleuca x *albicollis*	—		5	5
Anthus sp.	29			29
Loxia sp.	2			2
Emberiza sp.	4			4
Total	13 308	20	559	13 887

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Selostus: **Rengastustoiminta Suomessa vuosina 1913—72.**

Katsauksessa käsitellään rengastustoimintaa Suomessa vuosina 1913—1972. Yksityiskohtaisemmin selostetaan toimintaa kymmenvuotiskaudella 1963—1972. Merkittävimpänä muutoksena rengastustoiminnan kehittämisessä pidetään vuodesta 1968 lähtien tapahtunutta siirtymistä automaattiseen tietojenkäsittelyyn EURINGin suosituksia noudattaen. Löytöjen käsittelyssä on ATK sittemmin kehitetty vieläkin pidemmälle kuin EURING alunperin kaavaili.

Taulukoissa esitetään pöntöissä pesivien lintulajien pesäpoikasrengastuksen tehostuminen vuosina 1968—1972 (Taulukko 1.), rengastusten ja löytöjen kokonaismäärät vuosina 1963—1972 (Taulukko 2.), lajeittaiset rengastusmäärät 1913—1972 eriteltyinä aikuis- ja poikasrengastuksiin vuosina 1968—1972 (Taulukko 3.) ja tarkasti määrittämättömien lajien rengastukset vuosilta 1913—1972 (Taulukko 4.).