

BIRD BANDING NOTES

ISSUED BY THE FISH AND WILDLIFE SERVICE, UNITED STATES DEPARTMENT OF THE INTERIOR
FOR THE INFORMATION OF BIRD-BANDING COOPERATORS

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No. 2

Series designation of bands.—The series designation is an important part of the band number and must be used on all schedules and return cards. Example: 36-427369; 39-12645; 139-12645. Note that the series may be represented by a number of two or three figures. Watch for this!! Note also the hyphen between the series designation and the band number.

GENERAL INFORMATION TO COOPERATORS

New Service.—The President's Reorganization Order No. IV united the Bureau of Biological Survey and the Bureau of Fisheries into one organization known as the Fish and Wildlife Service. Dr. Ira N. Gabrielson was appointed Director of the new Service, and W. C. Henderson, formerly Associate Chief of the Biological Survey, and Charles E. Jackson, formerly Deputy Commissioner of Fisheries, were named Assistant Directors.

The bands manufactured hereafter will carry the inscription "Notify F. & W. Serv., or "F. & Wildlife Service." The system of numbering remains the same. All bands on hand will be used.

Flyway biologists.—During the past year the field biologists of the Section of Distribution and Migration of Birds have continued their studies in the North and in the South.

L. J. Goldman, of the Pacific Flyway, spent the summer of 1939 in Alaska, continuing studies along the Yukon and Kuskokwim Rivers. The summer of 1940 was spent in British Columbia and the Pacific States.

Dr. G. B. Saunders, of the Central Flyway, during the season of 1939 continued studies of waterfowl conditions in Alberta and Saskatchewan. During the spring and summer of 1940 he was engaged in investigating conditions affecting the White-winged Dove in the Rio Grande Valley in Texas.

In the summer of 1940 the waterfowl studies in the Prairie Provinces of Canada were continued by R. C. McClanahan, biologist of the Washington staff.

C. E. Gillham, of the Mississippi Flyway, spent the summers of 1939 and 1940 on the Arctic coast of Mackenzie, studying especially the nesting grounds of the Snow Goose and the Whistling Swan in the Mackenzie delta. In 1940 he was accompanied by J. J. Lynch, of the Section of Food Habits Research, and the trip to the delta

was made through Alaska by way of the Yukon, Porcupine, and Old Crow Rivers. About 85 young Snow Geese were banded. Also during the summer of 1940 reports of the breeding of Ross's Goose south of Queen Maude Sound were verified. This is the only species of waterfowl in North America whose breeding place has been unknown.

H. S. Peters, of the Atlantic Flyway, spent the early part of the summer of 1939 in New Brunswick and Nova Scotia investigating waterfowl conditions; later, at the invitation of Canadian officials, he visited the eastern Arctic Islands and Hudson Bay aboard the government supply ship "Nascopie." In 1940 he again visited the Maritime Provinces for about three weeks, and late in August joined Dr. Harrison F. Lewis, Canadian migratory bird officer, for a trip to James Bay to study the fall migration of geese.

During the winter (1939-40) Biologists Goldman and Saunders were again in Mexico, and Biologists Gillham and Peters were working along the Gulf of Mexico and in the Southeastern States.

IMPORTANT INFORMATION TO ALL STATION OPERATORS

In the interests of efficiency and economy all cooperators should read carefully the following paragraphs, as they contain important information and instructions. The prescribed methods of handling the many details of the banding work are the result of experience; so every member of a severely taxed office force will appreciate it if all operators adhere to them. Most of them already do so, but there is a tendency on the part of a few to save themselves work at the expense of others. When schedules and return cards are properly filled out the system functions almost automatically.

Special attention is accordingly directed to the "Do nots." These admonitions are unnecessary for most operators, but they are repeated for the benefit of new cooperators as well as for a few of the older ones who apparently have not appreciated their importance.

Change of address.—The Washington office should be notified immediately of change of address. There have been several cases in which, because of failure to do this, mail was returned and the cooperator was automatically dropped from the roll.

Permits.—Be sure that your permit covers all States in which you do banding. Several States require that the State license be obtained before the Federal permit is issued. In case of removal to another State, if the work is to be continued the banding permit should be returned with the request that it be changed or extended to cover the State in which banding work is to be carried on.

Schedules.—These are permanent records and should be made out in ink or on a typewriter, never in pencil. Only one species should be entered on a sheet. The name of the species, name and post office address of the bander, place (if different from mail address) and date of banding, and number of new bandings thereon, should be entered on every sheet. In other words, every sheet must be complete in itself so that, should it become separated from the folder, there will be no

question as to where it belongs. Each sheet should be totaled separately. Do not staple together several schedules for a single species with information on first sheet only. All staples must be removed before filing and it then becomes necessary to copy the information on the other sheets. Use figures, not words, for the total on each sheet. See sample schedules on pages 103 and 105 of the Manual.

Dates of banding must be complete for every record. "July 1940" or "Sept. 10 to 25" is not sufficient. What would be valuable records of the speed of migration may be made useless by such indefinite dates. When several individuals of one species are marked with consecutively numbered bands on the same day, the inclusive numbers may be bracketed and the date written only once.

The date should be put in the space provided for it, after the number, not in the space for "stations." This space is now used chiefly for the designation of banding points away from the home station.

Do not waste schedules.—Never start a new sheet while an unfilled one for the species is on hand. If the calendar year changes before the sheet is filled, the new date can be noted in the column for dates. Species that are banded in small numbers would best be reported only once a year rather than to send two or three schedules with only one or two birds to the sheet.

A few operators seem to make a practice of reporting only every other year, and then make up each year's report separately. One such received this year reported only 41 species, but used 15 extra sheets; in some cases two schedules were used for fewer than 10 birds of a single species. The handling of that report required almost as much time as though two had been sent in at the proper times.

Cooperators are requested not to send in their reports on the "small installment plan." A single schedule requires as many steps for permanent filing as a full year's report. It is the custom to acknowledge receipt of records about once a week, although toward the end of the fiscal year this is done every day or two. A report sent a few sheets at a time means much unnecessary work in the office.

One cooperator who during the year banded about 900 birds reported them in 14 lots during the year, 3 times in the last week in June, when 3 schedules were found to be duplicates. Completely filled schedules may be sent in at any time, but it saves effort and envelopes to let them accumulate a little, except in the case of waterfowl banded during fall migration, recoveries of which are frequently received within a few days after the time of banding.

Return records.—Do not enter return and repeat records on schedules. These are for original banding data only. Returns should be reported on the cards furnished for the purpose (Form 3-137); repeats need not be reported. These cards should be handled with great care. If the edges become "burred," the cards will not go through the sorting machine, and will usually cause one or more other cards to be spoiled. The rewriting and repunching of spoiled cards is a time-consuming task.

Do not send in return cards for recoveries that have been reported from the Washington office. When such cards are sent in they are duplicates and tend to pad the record and clog the files. The recovery record (white card) sent to the station from Washington is made out from the return card that is prepared in the office at the time the report of the capture of a banded bird is received, and before either finder or station operator is notified.

Foreign returns.--When a cooperator traps a "foreign" bird at his station, he should prepare a return card, naming the species and filling in the spaces below the double line. The sex, if known, should be given in the space in the upper section. The sex of many species of young cannot be determined, and if this information is noted on the return card, the banding record may be completed. Age on the return card means age at banding and not that at the time of return. Some cooperators still persist in giving the age at recovery; this necessitates looking up the original data and changing the card.

When foreign returns are sent with station returns, it is advisable to put them on top or in some other way call attention to them. If this is not done, they may be overlooked and filed away to be coded and punched without being completed or the respective station operators notified of the details of interest to them.

Bands.--Check the numbers of all bands received. If a duplicate number is found, it should be destroyed. Two bands of the same number should never be used.

Do not use bands a second time. The only possible exception that can be made to this rule is when a bird is found dead within a few days after banding, in which case the band may be reused. The first banding then should not be reported.

Do not issue bands to unauthorized persons. Only persons holding permits are authorized to band birds. Bands are charged to them, the record of issue being the index to the schedule file. For this reason all records should be made out in the name of the person to whom the bands are charged. When two or more persons are working together, each using bands charged directly to him, the banding records must be listed and reported separately, and not together on one set of schedules.

Regular licensed cooperators planning to band birds of prey should obtain their bands direct from Washington, and send in their reports in the usual way. The cooperative project for the banding of hawks and owls under the direction of R. H. Pough of the National Audubon Society is only for persons who are not registered as regular bird-banding cooperators.

If, in cases of emergency, bands are transferred from one cooperator to another, the Washington office should be notified at once, the inclusive numbers of the bands, the name and address of the person to whom transferred, and the date of reissue being reported.

Rebanded Birds.--It is sometimes necessary, because of wear or other damage, to change a band. When this is done, the record should be entered on the schedule for that species under the new number with a notation that this band replaces, or supplements, the former number, the date of original banding being also given, if possible. Rebanded birds should not be included in the total which is only for number of new birds banded. Usually, a return card should be made, and a note added to the effect that it is a rebanded bird. Here again, the "date banded" is the date of original banding, not the date the new band is attached. This last may be the "date retaken." Removing a small band from a living bird is a very delicate operation and should not be attempted without the services of an assistant to hold the bird. A pair of small, pointed scissors opened across the band at the joint and carefully closed through it will usually open the band sufficiently to slip it off. Put all pressure on the band, none on the tarsus of the bird.

Unrecorded bands.--The issue slip for bands 39-713001 to 39-713400 is missing from the files. Two recovery records of Black Ducks from this series have been received. Will whoever had them please notify this office in order that the records may be corrected and the returns completed.

Office care of records.--It is probable that few cooperators realize the labor involved in the care of the banding records. Each lot received, whether it consists of a single schedule or of a full year's report, must be acknowledged. The sheets are then arranged for filing (the order of all banding files is that of the 1910 A. O. U. Check-List), care being taken to make sure that all necessary data, such as name of species, name and address of cooperator, dates, and totals are on each schedule. Each lot is then totaled and a temporary memorandum record is made; the permanent notations on the cooperator's individual record cards are made 3 or 4 times a year. The number of birds of each species banded is entered in a species total book. It is from these entries that the annual report by species is made. The schedules are then ready for filing. Each cooperator's records, arranged by species in Check-List (1910) order and chronologically under each species, are kept in a folder. This procedure is followed with every lot of records received.

Use of scientific names.--If the scientific name of a bird is used, be sure that it agrees with the common name. Occasionally records must be returned for correction because the birds banded were designated by the common name of one species and the scientific name of another. Also, it is suggested that those station operators who use the scientific names adhere to those given in the A. O. U. Check-List, 1931 edition. This is the accepted American standard regardless of the personal opinions of some systematists.

Bird Banding Notes.--Fred J. Pierce, Winthrop, Iowa, writes that he has for disposal the following numbers of Bird Banding Notes: Vol. 1, Nos. 4, 5, 14, 15, 16, 18, 19, and 21 to 29, inclusive; Vol. 2, Nos. 1 to 11, inclusive; 14, 15, and 16. The Service can no longer supply back issues.

Proposed new Manual.—Several sections of the Manual have become obsolete because of trap improvements, changes in procedure, and band sizes, and other details. A revision has been contemplated for several years, but it has not been possible to undertake the task because of pressure of other duties. It is now proposed to issue a revision in parts, for a loose-leaf binder. The advantages of such a method will be readily apparent. The work can be done by sections, and as these become obsolete they can be revised individually, and additions can be inserted as necessary, without reprinting the whole work. The table of comparative sizes of birds and bands in the Manual is badly out of date and should not be used.

Birds and Band Sizes.—Since the table of band sizes given in the Manual is obsolete, it has seemed advisable to publish a revised list of sizes for the different birds (see table 2) as was done last year. Several changes will be noted, the result of correspondence regarding the experience of various operators. These changes are indicated in the table by underscoring.

Harold Michener, of Pasadena, Calif., has informed us that operators in his district have found size 2 cut down to size 1A is most satisfactory for some birds that have heavy beaks or scratch actively for their food.

Cooperators are requested to advise the Service wherein their own experiences have differed from the information given in the list. With a few species, individual birds will be found that require a larger sized band than that commonly used. In such cases, two sizes are listed.

With a species having many subspecies, there may be a difference in the size of band required by different races. For example, the large Alaska Song Sparrow would be expected to have larger tarsi than the little desert race.

The following suggestion from Mrs. Ada C. Govan, of Lexington, Mass., is worth passing on. "I have found the Kennard pliers (which I use for all banding) not only splendid for preventing accidents but also effective as a measuring device. Whenever I am in the least doubt as to the correct size of band for some particular leg, I simply clamp the pliers around the tarsus, allow for the thickness of the band, and avoid the trouble resulting from using the wrong size."

Sometimes, when a band of the correct size is not available, a larger size can be cut down to fit. When this is done it should be noted on the report; otherwise it will appear as if too large a band were used.

Although the Service does not advocate the banding of hummingbirds, some are banded every year with cut-down bands. When this is done, the band should be so cut as to retain the series designation and the first figures of the number, if possible. In case of a recovery there would be some possibility of tracing the record of a band so cut, but if the series part of the number is cut off there is no way of finding it except by looking through perhaps a hundred folders.

NEW BIRD BOOKS

Among the large number of books on birds that have appeared during the last year, the following will be of interest to the operators of banding stations:

Life Histories of North American Cuckoos, Goatsuckers, Hummingbirds and Their Allies, by Arthur Cleveland Bent. Published as Bulletin 176 of the United States National Museum. Price 75¢ (paper) from the Superintendent of Documents, Washington, D. C.

This thirteenth volume in the Life History series by Mr. Bent is a compendium of our present knowledge of the species treated. The sections on distribution and migration were prepared in the Fish and Wildlife Service. Banding records were cited when available.

Wings at my Window, by Ada Clapham Govan. Published by The Macmillan Co., New York. Price \$2.50, carriage prepaid.

Mrs. Govan has operated a banding station at her home at Lexington, Mass., for 7 years, and this delightful volume is a personal story of her experiences, not just in banding birds but in forming intimate friendships with them. It is not just another "bird book," but is unique in that it contains scientific facts simply and sincerely told in a manner that may well be the envy of many of those professional writers who attempt to popularize science.

The Autobiography of an Egret, by E. A. McIlhenny. Published by Hastings House, 135 Front St., New York. Price \$2.00.

This story of the life of an Egret, although told in the first person, is based upon Mr. McIlhenny's experiences at his famous "Bird City" and the data resulting from his banded birds. It is lavishly illustrated with excellent photographs taken by the author.

Bill and the Bird Bander, by Edna H. Evans. Published by John C. Winston Co., Philadelphia, Pa. Price \$1.50.

An interesting series of stories based on sound information and woven around a boy who is devoted to birds and who assists "the professor" in his banding work. Much of the information was supplied by Maj. G. Digby Robinson who operates a banding station at St. Petersburg, Fla.

Regional works.—Several books dealing with the birds of different States or parts of States have appeared within the year. Among these are the following:

Birds of Oregon, by Ira N. Gabrielson and Stanley G. Jewett. Published by the Oregon State College, Corvallis, Oreg. Price \$4.25.

Birds of Western Pennsylvania, by W. E. Clyde Todd. Published by the University of Pittsburgh Press, Pittsburgh, Pa. Price \$5.00.

The Birds of Denver and Mountain Parks, by Robert J. Niedrach and Robert B. Rockwell. Published by the Colorado Museum of Natural History, Denver, Colo. Price \$1.25.

The Birds of Buckeye Lake, Ohio, by Milton B. Trautman. Published by the Museum of Zoology, University of Michigan, Ann Arbor, Mich. Price \$2.50.

Birds of Lucas County (Ohio), by Louis W. Campbell. Published by the Toledo Museum of Science, Toledo, Ohio.

Works on migration.—In response to the occasional requests for the names of American books on bird migration, a few citations are here given. Some of the works listed are out of print and can be obtained only through second-hand book dealers.

Chapman, Frank Michler.

The Travels of Birds. 160 pp. D. Appleton and Co., New York. 1916.

Lincoln, Frederick C.

The Migration of American Birds. 189 pp. Doubleday, Doran and Co., New York. 1939.

Rowan, William.

The Riddle of Migration. 151 pp. Williams and Wilkins, Baltimore. 1931.

Wetmore, Alexander.

The Migrations of Birds. 229 pp. Harvard University Press, Cambridge. 1930.

WORK DURING THE YEAR

Drastic action has been taken to eliminate "dead wood" in the list of bird banders. In June a letter was sent to all cooperators who had not reported for three or four years asking them, if they did not intend to continue the work, to return their bands and permits. The permits of all who did not reply within a reasonable time have been revoked by order of the Secretary of the Interior.

The total number of bird-banding cooperators on June 30, 1939, was 2,290. Since the above-mentioned "weeding out" there are now 1731. The seemingly great reduction in the number of cooperators in reality affects only the mailing list and not the number of active banders. Therefore the physical limitations of the Service in handling the work still preclude any large expansion in the number of cooperators.

During the past fiscal year reports were received from 789 persons, an increase of about 4 percent over those of the previous year. Reports were received of banding operations on 31 Federal refuges although stations are in operation on many others, 21 national parks and monuments, and 27 State refuges, game farms, and sanctuaries.

Table 1 shows a comparison of the banding operations during the fiscal year 1939 with those during 1940.

Table 1.—Banding work during 1939 and 1940

	<u>1939</u>	<u>1940</u>
Banded birds reported.....	436,648	428,185
Number of species banded.....	443	445
Returns received.....	26,998	32,016
Grand total of birds banded since 1920.....	3,284,142	3,712,327
Grand total of returns since 1920.....	202,913	234,929

Table 2 shows the number of birds of each species banded both in 1939 and in 1940, the species being listed in accordance with the order in which they appear in the A. O. U. Check-List, 1910 edition. It will be noted that in a few cases, the numbers for the two years are the same. In every case these figures were rechecked to make sure that no error was made in copying.

An asterisk (*) indicates a species that was banded this year for the first time; 9 such species were added in 1940: Rhinoceros Auklet, Small Gray Tern (Hawaii), Audubon's Shearwater, Phoenix Island Petrel, Black Oystercatcher, Sage Hen, Mississippi Kite, Spotted Owl, and Rufous-crowned Sparrow.

All subspecies are included in the total for the species, and the name used is that of the typical form; for example, the Olive-backed Thrush (Hylocichla ustulata swainsoni) does not appear in the list as it is a subspecies of the Russet-backed Thrush (Hylocichla ustulata ustulata), under which the olive-backed form is grouped. In all such cases the English name is followed by the technical specific name and the word "group." The last column of the table contains the most up-to-date information on the correct size of band.

Table 2.—Number of individuals of each species of bird banded and reported during fiscal years 1939 and 1940 and the correct size of band

Name	Number banded		Band size	Name	Number banded		Band size
	1939	1940			1939	1940	
Western Grebe.....	1	1	6	Laysan Albatross.....	128	0	8
Holboell's Grebe.....	2	0	6	*Audubon's Shearwater.....	0	73	3
Horned Grebe.....	9	38	6	Allied Shearwater.....	10	0	3
Eared Grebe.....	23	14	4	Christmas Island			
Pied-billed Grebe.....	83	52	6	Shearwater.....	1	100	4
Common Loon.....	30	3	8	Wedge-Tailed Shearwater....	2,040	2,040	4
Pacific Loon.....	1	0	8	*Phoenix Island Petrel.....	0	127	3
Atlantic Puffin.....	33	4	6	Bulwer's Petrel.....	41	100	1A
*Rhinoceros Auklet.....	0	2	6	Leach's Petrel.....	509	45	1A
Xantus Murrelet.....	0	1	4	Yellow-billed Tropic-			
Black Guillemot.....	108	24	4	bird.....	2	0	5
Pigeon Guillemot.....	2	0	4	Red-tailed Tropic-bird.....	405	450	6
Murre.....	571	1,046	6	Blue-faced Booby.....	283	350	7
Brunnick's Murre.....	1	0	6	White-bellied Booby.....	110	250	7
Razor-billed Auk.....	26	12	6	Red-footed Booby.....	540	400	7
Dovekie.....	3	1	2	Gannet.....	1	34	8
Kittiwake.....	0	1	4	Water-turkey.....	9	4	7
Glaucous Gull.....	5	6	7	European Cormorant.....	133	186	8
Glaucous-winged Gull.....	370	626	7	Double-crested Cormorant..	1,617	1,340	8
Great Black-backed Gull....	201	140	7	Brandt's Cormorant.....	0	100	8
Western Gull.....	242	1,132	6	White Pelican.....	817	270	8
Herring Gull.....	17,168	15,911	6	Brown Pelican.....	912	2,140	8
California Gull.....	1,884	959	5	Man-o'-war Bird.....	424	400	7
Ring-billed Gull.....	4,535	5,032	5	American Merganser.....	32	12	6
Laughing Gull.....	141	1,156	5	Red-breasted Merganser.....	1	4	6
Franklin's Gull.....	1,693	6,667	4	Hooded Merganser.....	14	12	5
Bonaparte's Gull.....	0	1	4	Mallard			
Gull-billed Tern.....	5	6	4	wild.....	15,751	37,969	6
Caspian Tern.....	1,346	471	5	hand-reared.....	981	2,077	7
Royal Tern.....	383	345	5	Mallard-Black Duck			
Forster's Tern.....	13	2	3	hybrid.....	20	4	7
Common Tern.....	17,179	24,318	3	Black Duck			
Arctic Tern.....	76	120	3	wild.....	9,653	9,889	6
Roseate Tern.....	3,425	2,860	3	hand-reared.....	1,554	98	6
Least Tern.....	441	873	1A	Florida Duck.....	86	27	6
Sooty Tern.....	6,427	4,889	3	Gadwall			
Hawaiian or Pacific				wild.....	773	505	6
Bridled Tern.....	151	225	3	hand-reared.....	8	0	6
Black Tern.....	55	39	2	Baldpate.....	1,449	2,328	6
Noddy Tern.....	396	917	3	Green-winged Teal.....	1,721	4,524	5
Love Tern.....	4	99	2	Blue-winged Teal.....	4,118	3,553	5
*Small Gray Tern.....	0	1	1A	Cinnamon Teal.....	379	188	4
Black Skimmer.....	424	702	4	Shoveler.....	582	714	6

Name	Number banded		Band size	Name	Number banded		Band size
	1939	1940			1939	1940	
Pintail			5	Sandhill Crane	2	3	8
wild	18,861	21,419		King Rail	11	2	4
hand-reared	299	87		Clapper Rail	10	20	4
Wood Duck	414	686	5	Virginia Rail	26	9	3
Redhead			6	Sora	28	17	3
wild	574	557		Yellow Rail	0	1	3
hand-reared	55	0		Black Rail	6	2	1A
Canvasback			6	Purple Gallinule	5	13	6
wild	410	707		Florida Gallinule	311	227	6
hand-reared	77	0		Coot	2,401	3,055	6
Greater Scaup	914	27	6	Northern Phalarope	4	2	2
Lesser Scaup			6	Wilson's Phalarope	5	7	2
wild	5,290	1,956		Avocet	36	7	4
hand-reared	0	2		Black-necked Stilt	25	7	4
Ring-necked Duck	1,953	4,560	6	Woodcock	64	370	4
American Goldeneye	10	8	6	Wilson's Snipe	17	261	3
Barrow's Goldeneye	1	0	6	Dowitcher	3	1	2
Bufflehead	18	6	5	Stilt Sandpiper	8	8	1A
Old Squaw	0	4	5	Knot	0	1	2
Harlequin Duck	0	3	5	Pectoral Sandpiper	13	81	1A
American Eider	4	1	7	White-rumped Sandpiper	0	12	1A
White-winged Scoter	23	1	7	Baird's Sandpiper	1	5	1A
Ruddy Duck	41	69	5	Least Sandpiper	257	441	1
Snow Goose	4	12	7	Red-backed Sandpiper	5	31	1A
Blue Goose	16	92	7	Semipalmated Sandpiper	692	422	1
White-fronted Goose	8	52	8	Western Sandpiper	121	534	1
Canada Goose (group)			8	Sanderling	0	3	1A
wild	1,163	1,815		Marbled Godwit	12	47	4
hand-reared	24	116		Greater Yellowlegs	2	18	3
Emperor Goose	1	0	7	Lesser Yellowlegs	23	127	2
Fulvous Tree Duck	1	1	7	Solitary Sandpiper	16	8	2
Whistling Swan	7	1	8	Willet	17	28	4
White Ibis	14	0	6	Upland Plover	23	17	3
Glossy Ibis	18	0	6	Spotted Sandpiper	117	187	1A
White-faced Glossy Ibis	2	22	6	Long-billed Curlew	6	8	4
American Bittern	59	113	6	Hudsonian Curlew	5	0	4
Least Bittern	37	12	4	Black-bellied Plover	0	1	2
Great Blue Heron	221	301	7	Killdeer	196	412	2
American Egret	73	30	7	Semipalmated Plover	25	20	1A
Snowy Egret	194	207	6	Piping Plover	56	201	1A
Louisiana Heron	240	188	6	Snowy Plover	3	3	1A
Little Blue Heron	193	634	6	Wilson's Plover	6	11	2
Green Heron	182	172	5	Mountain Plover	3	0	2
Black-crowned Night Heron				Ruddy Turnstone	2	2	2
Heron	1,349	773	7	Black Turnstone	1	0	2
Yellow-crowned Night Heron				Oystercatcher	5	4	5
Heron	4	0	7	*Black Oystercatcher	0	4	6

Name	Number banded		Band size	Name	Number banded		Band size
	1939	1940			1939	1940	
European Partridge.....	55	75	4	Long-eared Owl.....	26	55	6
Bobwhite			4	Short-eared Owl.....	0	5	6
wild.....	528	1,669		Barred Owl.....	15	15	7
hand-reared.....	0	100		*Spotted Owl.....	0	2	7
Scaled Quail.....	74	69	4	Richardson's Owl.....	0	1	5
California Quail.....	230	260	3	Saw-whet Owl.....	13	27	4
Gambel's Quail.....	242	241	4	Screech Owl.....	200	127	5
Chukar Partridge.....	35	48	5	Great Horned Owl.....	80	151	8
Spruce Partridge.....	1	0	6	Snowy Owl.....	3	9	8
Ruffed Grouse.....	2	5	6	Burrowing Owl.....	23	121	5
Willow Ptarmigan.....	7	0	5	Pygmy Owl.....	1	0	4
Prairie Chicken.....	7	36	6	Ani.....	16	0	4
Sharp-tailed Grouse.....	244	241	6	Roadrunner.....	13	7	5
Ring-necked Pheasant.....	410	122	6	Yellow-billed Cuckoo.....	43	46	2
*Sage Hen.....	0	43	6	Black-billed Cuckoo.....	33	53	2
Wild Turkey			8	Belted Kingfisher.....	57	57	4
wild.....	29	74		Ivory-billed Woodpecker....	1	0	5
hand-reared.....	0	400		Hairy Woodpecker.....	164	122	2
Band-tailed Pigeon.....	42	6	4	Downy Woodpecker.....	567	484	1
Mourning Dove.....	3,192	3,238	3	Texas Woodpecker			
White-winged Dove.....	48	30	4	(scalaris group).....	0	1	1A
Ground Dove.....	159	55	2	Nuttall's Woodpecker.....	1	0	2
Inca Dove.....	228	131	2	White-headed Woodpecker....	0	2	2
Domestic Pigeon.....	3	4	4	Yellow-bellied Sapsucker..	63	39	2
Chinese Spotted Dove.....	72	45	4	Williamson's Sapsucker.....	0	4	2
Turkey Vulture.....	38	18	8	Pileated Woodpecker.....	3	5	3
Black Vulture.....	2,814	3,273	8	Red-headed Woodpecker.....	88	68	2
White-tailed Kite.....	0	6	5	Ant-eating Woodpecker.....	7	17	3
*Mississippi Kite.....	0	3	4	Lewis's Woodpecker.....	11	26	3
Marsh Hawk.....	175	209	5	Red-bellied Woodpecker.....	72	71	2
Sharp-shinned Hawk.....	29	68	3	Gila Woodpecker.....	15	12	2
Cooper's Hawk.....	92	133	5	Flicker.....	834	615	3
Goshawk.....	7	2	6	Red-shafted Flicker.....	21	66	3
Red-tailed Hawk.....	116	213	7	Gilded Flicker.....	1	3	3
Red-shouldered Hawk.....	52	84	6	Chuck-will's-widow.....	4	4	3
Swainson's Hawk.....	63	79	6	Whippoorwill.....	10	8	2
Broad-winged Hawk.....	26	23	6	Poorwill.....	1	0	2
White-tailed Hawk.....	1	1	6	Nighthawk.....	25	95	2
Rough-legged Hawk.....	10	10	7	Texas Nighthawk.....	29	0	2
Ferruginous Rough-leg.....	49	68	7	Chimney Swift.....	71,623	38,821	1
Golden Eagle.....	10	18	8	Vaux's Swift.....	0	5	1
Bald Eagle.....	27	121	8	White-throated Swift.....	1	0	2
Prairie Falcon.....	23	85	6	Ruby-throated			
Duck Hawk.....	41	75	6	Hummingbird.....	3	12	
Pigeon Hawk.....	1	15	4	Anna's Hummingbird.....	3	0	
Sparrow Hawk.....	147	230	4	Rufous Hummingbird.....	1	1	
Osprey.....	187	150	8	Scissor-tailed			
Barn Owl.....	144	229	6	Flycatcher.....	14	3	1A

Name	Number banded		Band size	Name	Number banded		Band size
	1939	1940			1939	1940	
Kingbird.....	215	246	1A	Baltimore Oriole.....	342	454	1A
Arkansas Kingbird.....	164	171	1A	Bullock's Oriole.....	19	9	1A
Crested Flycatcher (crinitus group).....	66	75	1A	Rusty Blackbird.....	332	518	2
Arizona Crested Flycatcher.....	3	0	1A	Brewer's Blackbird.....	302	386	1A
Ash-throated Flycatcher....	1	6	1	Grackle (quiscula group).....	9,260	11,844	3
Eastern Phoebe.....	414	383	1	Boat-tailed Grackle.....	1,906	1,258	4
Say's Phoebe.....	102	59	1	Evening Grosbeak.....	431	681	2
Black Phoebe.....	19	27	1	Pine Grosbeak.....	30	38	2
Olive-sided Flycatcher....	6	1	1	Purple Finch.....	21,595	8,028	1
Eastern Wood Pewee.....	33	17	1	Cassin's Purple Finch.....	5	2	1
Western Wood Pewee.....	2	9	0	House Finch.....	3,226	2,246	0
Yellow-bellied Flycatcher.....	20	15	0	Crossbill.....	162	57	1A
Western Flycatcher.....	11	3	0	White-winged Crossbill....	14	1	1A
Acadian Flycatcher.....	5	8	0	Rosy Finch (tephrocotis group).....	317	0	1
Alder Flycatcher.....	33	18	0	Black Rosy Finch.....	3	0	1
Least Flycatcher.....	73	67	0	Hoary Redpoll.....	26	3	1
Wright's Flycatcher.....	0	6	0	Redpoll.....	2,789	1,089	1
Vermillion Flycatcher.....	3	11	1	Goldfinch (tristis group).....	1,726	1,512	0
Horned Lark.....	194	509	1A	Arkansas Goldfinch (psaltria group).....	67	129	0
Magpie.....	81	162	4	Lawrence's Goldfinch.....	44	0	0
Yellow-billed Magpie.....	2	0	4	Pine Siskin.....	1,508	348	0
Blue Jay.....	3,434	3,295	3	English Sparrow.....	1,434	293	1
Steller's Jay (stelleri group).....	20	62	3	Snow Bunting.....	181	637	1
Woodhouse's Jay.....	5	9	3	Lapland Longspur.....	116	52	1
California Jay.....	209	166	2	McCown's Longspur.....	31	0	1
Canada Jay (canadensis group).....	13	6	3	Vesper Sparrow.....	380	291	1
Raven.....	2	53	6	Savannah Sparrow.....	1,194	486	1
White-necked Raven.....	0	152	6	Baird's Sparrow.....	2	2	1
Crow.....	1,267	996	5	Grasshopper Sparrow.....	23	44	1
Fish Crow.....	43	12	5	Henslow's Sparrow.....	12	5	1A
Pinon Jay.....	19	0	3	Leconte's Sparrow.....	9	3	1
Starling.....	8,430	10,324	2	Sharp-tailed Sparrow.....	0	5	1
Bobolink.....	11	30	1A	Nelson's Sparrow.....	1	2	1
Cowbird.....	7,145	9,985	1A	Seaside Sparrow.....	0	42	1A
Bronzed Cowbird.....	3	1	2	Lark Sparrow.....	23	36	1A
Yellow-headed Blackbird....	1,287	423	2	Harris's Sparrow.....	3,389	2,975	1A
Red-winged Blackbird.....	6,484	7,357	2	White-crowned Sparrow.....	7,838	6,569	1
Tricolored Redwing.....	600	3,000	2	Golden-crowned Sparrow....	1,068	1,235	1A
Eastern Meadowlark.....	325	387	3	White-throated Sparrow....	20,495	21,147	1A
Western Meadowlark.....	206	147	3	Tree Sparrow.....	5,231	5,821	1
Scott's Oriole.....	0	6	1A	Chipping Sparrow.....	2,744	3,490	0
Arizona Hooded Oriole.....	33	110	1A	Clay-colored Sparrow.....	710	628	1
Orchard Oriole.....	215	140	1A	Brewer's Sparrow.....	5	7	1
				Field Sparrow.....	1,392	1,227	0

Name	Number banded		Band size	Name	Number banded		Band size
	1939	1940			1939	1940	
Black-chinned Sparrow.....	0	2	1	Phainopepla.....	6	7	1A
White-winged Junco.....	1	283	1A	Northern Shrike.....	5	23	2
Junco (hyemalis-oregonus group).....	22,274	21,399	0	Loggerhead Shrike.....	273	175	2
Red-backed Junco (phaeonorotus group).....	303	154	1	Red-eyed Vireo.....	113	182	0
Black-throated Sparrow.....	38	28	1	Philadelphia Vireo.....	7	12	0
Sage Sparrow.....	5	10	1	Warbling Vireo.....	18	24	0
Pine-woods Sparrow.....	1	4	1	Yellow-throated Vireo.....	2	3	0
*Rufous-winged Sparrow.....	0	2	1	Solitary Vireo.....	1	22	0
Rufous-crowned Sparrow.....	3	7	1	White-eyed Vireo.....	4	10	0
Song Sparrow.....	9,743	8,939	1	Hutton's Vireo.....	1	1	0
Lincoln's Sparrow.....	1,576	1,162	0	Bell's Vireo.....	4	6	0
Swamp Sparrow.....	974	531	1	Black and White Warbler.....	291	277	1
Fox Sparrow.....	2,659	2,520	1A	Prothonotary Warbler.....	61	160	1
Towhee.....	1,695	1,826	2	Worm-eating Warbler.....	9	3	1
Arctic Towhee (maculatus group).....	492	736	1A	Blue-winged Warbler.....	27	35	0
Canon Towhee (fuscus group).....	203	306	1A	Brewster's Warbler.....	1	1	0
California Towhee (crissalis group).....	413	283	1A	Golden-winged Warbler.....	19	15	0
Abert's Towhee.....	122	120	1A	Virginia's Warbler.....	0	2	0
Green-tailed Towhee.....	52	52	1A	Nashville Warbler.....	296	189	0
Cardinal.....	2,282	2,795	2	Orange-crowned Warbler (celata group).....	381	384	0
Pyrrhuloxia.....	1	11	2	Tennessee Warbler.....	408	532	0
Rose-breasted Grosbeak.....	284	271	1A	Parula Warbler.....	58	56	0
Black-headed Grosbeak.....	205	148	1A	Cape May Warbler.....	56	53	0
Blue Grosbeak.....	3	7	1A	Yellow Warbler.....	494	412	0
Indigo Bunting.....	249	216	1	Black-throated Blue Warbler.....	161	134	0
Lazuli Bunting.....	56	99	1	Myrtle Warbler.....	3,176	2,546	0
Painted Bunting.....	52	56	1	Audubon's Warbler.....	227	200	0
Dickcissel.....	4	20	1A	Magnolia Warbler.....	476	386	0
Lark Bunting.....	3	217	1A	Cerulean Warbler.....	2	1	0
Western Tanager.....	34	37	1A	Chestnut-sided Warbler.....	164	134	0
Scarlet Tanager.....	60	94	1A	Bay-breasted Warbler.....	76	72	1
Summer Tanager.....	5	27	1A	Blackpoll Warbler.....	280	274	1
Hepatic Tanager.....	2	0	1A	Blackburnian Warbler.....	72	52	0
Purple Martin.....	494	534	1A	Yellow-throated Warbler.....	7	2	1
Cliff Swallow.....	66	200	1	Grace's Warbler.....	2	0	0
Barn Swallow.....	1,846	1,885	1	Black-throated Gray Warbler.....	12	10	0
Tree Swallow.....	495	1,653	1	Black-throated Green Warbler.....	124	94	0
Violet-green Swallow.....	23	23	1	Townsend's Warbler.....	7	0	0
Bank Swallow.....	1,873	1,706	1	Hermit Warbler.....	0	1	0
Rough-winged Swallow.....	79	81	1	Kirtland's Warbler.....	16	0	1
Bohemian Waxwing.....	600	123	1A	Pine Warbler.....	211	105	1
Cedar Waxwing.....	3,122	481	1	Palm Warbler.....	75	82	1

Name	Number banded		Band size	Name	Number banded		Band size
	1939	1940			1939	1940	
Prairie Warbler.....	33	23	0	White-breasted Nuthatch....	568	562	1A
Ovenbird.....	875	639	1	Red-breasted Nuthatch.....	134	68	1
Water-thrush.....	192	202	1	Brown-headed Nuthatch.....	0	2	1
Louisiana Water-thrush.....	7	12	1	Pygmy Nuthatch.....	169	30	1
Kentucky Warbler.....	38	7	1	Tufted Titmouse.....	573	548	1A
Connecticut Warbler.....	65	41	1	Black-crested Titmouse.....	7	5	
Mourning Warbler.....	122	78	1	Plain Titmouse			
Macgillivray's Warbler.....	26	26	1	(inornatus group).....	60	75	1
Maryland Yellowthroat.....	743	673	1	Black-capped Chickadee			
Chat.....	141	91	1A	(atricapillus group)....	2,202	2,435	0
Hooded Warbler.....	13	0	1	Carolina Chickadee			
Wilson's Warbler				(carolinensis group)....	88	150	0
(pusilla group).....	209	145	0	Mountain Chickadee			
Canada Warbler.....	212	190	1	(gambeli group).....	40	43	0
Redstart.....	983	807	0	Hudsonian Chickadee.....	0	1	0
Pipit.....	32	141	1	Chestnut-backed Chicka-			
Sprague's Pipit.....	0	1	1	dee (rufescens group).	48	19	0
Dipper.....	1	0	1A	Bushtit.....	23	47	0
Mockingbird.....	882	833	1A	Verdin.....	12	1	0
Catbird.....	3,830	3,922	1A	Wren-tit.....	52	62	1
Brown Thrasher.....	2,795	2,321	2	Golden-crowned Kinglet....	406	243	0
Curve-billed Thrasher.....	38	19	2	Ruby-crowned Kinglet.....	546	433	0
Bendire's Thrasher.....	17	5	2	Blue-gray Gnatcatcher.....	2	1	0
California Thrasher.....	131	93	2	Townsend's Solitaire.....	15	13	1A
Crissal Thrasher.....	18	8	2	Wood Thrush.....	558	360	2
Cactus Wren.....	49	29	1A	Veery (fuscescens group)..	290	221	1A
Rock Wren.....	11	13	1	Gray-cheeked Thrush.....	501	462	1A
Canon Wren.....	8	9	1	Russet-backed Thrush			
Carolina Wren.....	255	182	1	(ustulata group).....	1,237	1,292	1A
Bewick's Wren				Hermit Thrush.....	1,827	1,275	1A
(bewicki group).....	227	114	0	Robin.....	9,147	8,312	2
House Wren.....	2,703	2,233	0	Varied Thrush.....	34	6	2
Winter Wren.....	110	95	0	Eastern Bluebird.....	1,576	1,272	1A
Short-billed Marsh Wren....	1	6	0	Western Bluebird			
Long-billed Marsh Wren				(mexicana group).....	365	191	1A
(palustris group).....	52	204	0	Mountain Bluebird.....	78	79	1A
Brown Creeper.....	231	198	0			4	

Fiscal Year 1940

The following stations on Federal refuges banded more than 100 birds:

Sand Lake National Wildlife Refuge, Columbia, S. Dak.....	17,339
W. E. Beed	
Des Lacs National Wildlife Refuge, Kenmare, N. Dak.....	8,481
Seth H. Low.	
Bear River Migratory Bird Refuge, Brigham, Utah.....	5,534
V. T. Wilson	
Lake Malheur National Wildlife Refuge, Burns, Oreg.....	5,502
Geo. M. Benson	
Chautauqua National Wildlife Refuge, Havana, Ill.....	4,089
Homer L. Bradley	
Piedmont National Wildlife Refuge, Round Oak, Ga.....	3,212
R. J. Fleetwood	
Tule Lake, Clear Lake, and Klamath Lake National Wildlife Refuges, Merrill, Oreg., C. G. Fairchild.....	2,305
Lower Souris National Wildlife Refuge, Upham, N. Dak.....	2,298
C. J. Henry	
Sacramento National Wildlife Refuge, Willows, Calif.....	2,072
P. J. Van Huizen	
Medicine Lake National Wildlife Refuge, Medicine Lake, Mont.....	1,711
T. C. Horn	
Waubay National Wildlife Refuge, Waubay, S. Dak.....	1,288
D. R. Ambrosen	
Cape Romain National Wildlife Refuge, McClellanville, S. C.....	1,012
A. H. DuPre	
Lake Bowdoin National Wildlife Refuge, Malta, Mont.....	898
B. M. Hazeltine	
Upper Souris National Wildlife Refuge, Foxholm, N. Dak.....	800
F. Sheldon Dart and J. C. Kreuser	
Lake Mattamuskeet National Wildlife Refuge, New Holland, N. C.....	583
Maynard S. Johnson	
Seney National Wildlife Refuge, Germfask, Mich.....	580
J. H. Steenis and Homer L. Bradley	
Lacreek National Wildlife Refuge, Martin, S. Dak.....	313
Earle W. Craven	
Wichita Mountains Wildlife Refuge, Cache, Okla.....	259
C. H. Rouse and Frank B. McMurray	
Patuxent National Wildlife Refuge, Bowie, Md.....	140
Dr. Don R. Coburn and W. W. Bailey	
Necedah National Wildlife Refuge, Necedah, Wis.....	124
Burns T. Carter	

The following cooperative stations banded more than 5,000 birds:

E. A. McIlhenny, Avery Island, La.....	28,909
O. L. Austin, N. Eastham, Mass.....	22,426
C. M. Owens, Monticello, Ark.....	12,737
Mrs. F. C. Laskey, Nashville, Tenn.....	11,875
C. C. and F. E. Ludwig, Lansing, Mich.....	8,377
G. C. Munro, Honolulu, T. H.....	7,321
Hugh S. Davis, Tulsa, Okla.....	5,670
Geo. H. Lowery, Jr., University, La.....	5,420

The following banded between 1,000 and 5,000:

Irvin Sturgis, Lexington, Mo.....	4,560
Mrs. Marie V. Beals, Elmhurst, N. Y.....	4,488
A. J. Butler, Chilliwack, B. C.....	4,007
Mr. and Mrs. F. Everett Frei, Glasgow, Ky.....	3,790
Mrs. J. Y. Hutchison, Clarksville, Tenn.....	3,636
Mrs. Ethel M. Crowell, Franklin, Mass.....	3,531
S. H. Weakley, Fort Smith, Ark.....	3,441
Johnson A. Neff, Sacramento, Calif.....	3,419
Maj. G. D. Robinson, St. Petersburg, Fla.....	3,367
Dr. A. O. Gross, Brunswick, Maine.....	3,115
Harold C. Wilson, Ephraim, Wis.....	3,074
LeRoy Wilcox, Speonk, N. Y.....	2,930
Ben B. Coffey, Jr., Memphis, Tenn.....	2,905
Mrs. Hannah R. Gray, Wilton, N. Dak.....	2,601
Herbert H. Southam, Toronto, Ont.....	2,577
Dr. Edmund Jurica, Lisle, Ill.....	2,537
Vernon C. Rossman, Waukesha, Wis.....	2,535
K. E. Bartel, Blue Island, Ill.....	2,434
F. C. Labahn, Jr., Blue Island, Ill.....	2,345
Miss Louise J. Miller, Zion, Ill.....	2,294
R. H. Jordan, Oklahoma City, Okla.....	2,266
Prof. J. M. Stack, East Lansing, Mich.....	2,214
Bennett K. Matlack, Bridgeton, N. J.....	2,180
Brasher C. Bacon, Madisonville, Ky.....	2,130
Mr. and Mrs. P. E. Downing, Highland Park, Ill.....	2,127
Dr. W. Bruce Large, Rochester, N. Y.....	2,035
H. K. Hutter, Aberdeen, S. Dak.....	2,004
Charles R. Mason, Boston, Mass.....	1,972
Gardiner Bump, Albany, N. Y.....	1,938
A. K. and D. Smiley, Mohonk Lake, N. Y.....	1,901
F. W. Robl, Ellinwood, Kans.....	1,894
C. E. Holcombe, Zion, Ill.....	1,878
C. J. Goetz, Cincinnati, Ohio.....	1,875
M. J. Magee, Sault Ste. Marie, Mich.....	1,873
R. A. Conyers, Independence, Mo.....	1,739
Reed W. Ferris, Beaver, Oreg.....	1,685
Prof. O. A. Stevens, Fargo, N. Dak.....	1,665
Dr. A. R. Shearer, Mont Belvieu, Tex.....	1,656
Irl Rogers, Modesto, Calif.....	1,649
R. J. Middleton, Norristown, Pa.....	1,622
H. P. Baily, Philadelphia, Pa.....	1,572
Dumont Banding Station, Pequannock, N. J.....	1,538
Rev. Edw. Stoehr, Washington, D. C.....	1,532
Herbert Buckalew, Chincoteague, Va.....	1,530
A. D. Cruickshank, Freeport, N. Y.....	1,500
F. H. West, Narberth, Pa.....	1,482
H. H. Krug, Chesley, Ont.....	1,481
R. E. Ware, Clemson College, S. C.....	1,446
Robert Allison, Athol, Mass.....	1,441
Keahon Garland, Demarest, N. J.....	1,396

Mrs. N. Edw. Ayer, Pomona, Calif.....	1,385
Howard W. Braun and Grover N. Keplinger, Jr., Canton, Ohio.....	1,340
Stuart Criddle, Treesbank, Man.....	1,325
F. G. Bard, Regina, Sask.....	1,319
Dr. H. F. Lewis, Ottawa, Ont.....	1,313
Chas. J. Spiker, Branchport, N. Y.....	1,289
C. V. Duff, Hollywood, Calif.....	1,279
W. M. Davidson, Beltsville, Md.....	1,220
Horace Groskin, Ardmore, Pa.....	1,208
L. B. Fletcher, Boston, Mass.....	1,200
W. E. Schantz, Columbus, Ohio.....	1,168
J. J. Storrow, Boston, Mass.....	1,161
A. Haak, Norwood, Man.....	1,144
B. S. Bowdish, Demarest, N. J.....	1,130
Mrs. H. H. Baily, Coral Gables, Fla.....	1,119
T. M. Sperry, Madison, Wis.....	1,108
Rev. G. C. M. Bierens, Fairmount, N. Dak.....	1,097
Verdi Burtch, Branchport, N. Y.....	1,092
Dr. Wm. Pepper, Philadelphia, Pa.....	1,090
Carlos Stannard, Phoenix, Ariz.....	1,085
Oscar M. Root, North Andover, Mass.....	1,079
A. C. Fox, Mandan, N. Dak.....	1,077
E. P. Edwards, Sweet Briar, Va.....	1,067
J. M. Vardaman, Charlottesville, Va.....	1,059
J. M. Cadbury, Philadelphia, Pa.....	1,051
Dr. C. B. Worth, Princeton, N. J.....	1,049
Mr. and Mrs. L. G. Flentge, DesPlaines, Ill.....	1,019
E. A. Mason, Groton, Mass.....	1,000

The following banded between 800 and 1,000:

Dr. D. A. Dery, Quebec, Que.	M. Middlekauff, Ithaca, N.Y.
Mrs. H. A. Drew, Barre, Vt.	Paul H. Oppmann, Lakewood, Ohio
E. W. Ehmann, Piedmont, Calif.	Preston F. Osborn, Lakin, Kans.
Paul M. Flinn, Lapwai, Idaho	G. Hapgood Parks, Hartford, Conn.
J. M. Frazier, Hattiesburg, Miss.	Richard H. Pough, New York City
Dr. H. C. Gardenier, Montvale, N. J.	Quebec Zoological Garden, Charlesbourg, Que.
Geoffrey Gill, Huntington, N. Y.	Mrs. S. H. Rogers, Lewisburg, Tenn.
Paul W. Hoffman, Wauwatosa, Wis.	H. D. Ruhl, Lansing, Mich.
P. L. Hovey, Brookgreen, S. C.	Mrs. Irene D. Swart, Boonton, N. J.
L. M. Jones, Ames, Iowa	Gordon H. True, Jr., San Francisco, Calif.
Mrs. Alice McAlister, Canaan, N. Y.	Carl R. Warren, Ashland, Ohio
E. D. McKee, Grand Canyon, Ariz.	Chas. Yeomans, Chicago, Ill.
Mrs. Robert T. Mack, Highland Park, Ill.	

The following banded between 500 and 800:

W. O. Astle, Flushing, N. Y.	E. C. Bosl, Milwaukee, Wis.
R. N. Bach, Bismarck, N. Dak.	Dr. J. F. Brenckle, Mellette, S. Dak.
Carmen Beining, Platteville, Wis.	O. M. Bryens, McMillan, Mich.
Glenn L. Berner, Jamestown, N. Dak.	Dr. H. A. Burns, Ah-gwah-ching, Minn.
C. R. Berrey, Midwest, Wyo.	Louis W. Campbell, Toledo, Ohio
R. M. Bond, Santa Paula, Calif.	Dr. Karl Christofferson, Blaney, Mich.

Mrs. F. M. Cutler, Amherst, Mass.
 W. Dahlberg, Chicago, Ill.
 W. W. Demeritt, Key West, Fla.
 F. M. Erickson, Salem, Oreg.
 John E. Fast, Nogales, Ariz.
 Dr. M. H. Finley, Winetka, Ill.
 F. J. H. Fredeen, Macrorie, Sask.
 E. P. Hamilton, Milton, Mass.
 Dr. G. B. Happ, Elsay, Ill.
 Dr. H. H. Hayes, Hubbard Woods, Ill.
 L. L. Howe, Belmont, N. Y.
 H. L. Hutchins, Hamden, Conn.
 George Kent, Holland, Mich.
 M. J. Lerch, Penn Yan, N. Y.
 Mr. & Mrs. H. B. Looff, Oak Harbor, Wash.
 John Mayer, New York City
 Miss Ida Merriman, Kingston, Ont.
 J. R. Morton, Winnipeg, Man.
 H. E. McArthur, Waukegan, Ill.
 Frank McCamey, Memphis, Tenn.
 W. F. Nichols, Pasadena, Calif.
 Mrs. and Mrs. Wm. Pepper, Jr., Wyncote, Pa.
 Mrs. C. E. Peterson, Madison, Minn.
 Dr. M. D. Pirnie, Battle Creek, Mich.
 G. W. Pyle, Berwyn, Pa.
 Mrs. Mabel T. Rogers, Milledgeville, Ga.
 Mrs. M. C. Sargent, La Jolla, Calif.
 T. G. Scott, Ames, Iowa
 B. L. Sharp, Lititz, Pa.
 Miss Alta Smith, Cuyahoga Falls, Ohio
 Mrs. Otis H. Smith, San Anselmo, Calif.
 Lawrence Ward, Rockford, Mich.
 M. J. Westfall, Jr., Orlando, Fla.
 James B. Young, Louisville, Ky.

The following banded between 300 and 500:

Gordon Acomb, Cincinnati, Ohio
 L. H. Barkhausen, Chicago, Ill.
 H. M. Bayer, Midland, Tex.
 C. A. Beckhart, Barrington, Ill.
 J. E. and W. J. Beecher, Chicago, Ill.
 Miss Lisa von Borowsky, Brooksville, Fla.
 Dr. D. J. Borrer, Columbus, Ohio
 Mrs. Mary A. Bowers, Concord, Mass.
 H. R. Buettner, Burlington, Iowa
 Dr. & Mrs. Henry Bunting, New Haven, Conn.
 B. W. Cartwright, Winnipeg, Man.
 L. R. Caywood, Nogales, Ariz.
 Miss Marion Clow, Lake Forest, Ill.
 C. Conklin, Canal Winchester, Ohio
 Sears Crowell, Oxford, Ohio
 Mrs. Florence K. Daley, Oliverea, N. Y.
 Dr. Paul D. Dalke, Columbia, Mo.
 David Damon, Ames, Iowa
 W. N. Davey, Jackson, Mich.
 George Dock, Scarsdale, N. Y.
 John Dornan, Philadelphia, Pa.
 Mr. & Mrs. H. H. Edwards, Claremont, Calif.
 R. B. Fischer, Flushing, N. Y.
 Maynard Fosberg, Turlock, Calif.
 Mr. & Mrs. J. A. Gillespie, Glenolden, Pa.
 C. O. Handley, Blacksburg, Va.
 T. S. Hennessy, Ottawa, Ont.
 Paul D. Hurd, Santa Ana, Calif.
 A. S. Jackson, Throckmorton, Tex.
 Dr. R. L. Jickling, August, Mich.
 Mr. & Mrs. C. S. Jung, Milwaukee, Wis.
 V. R. Kiessling, Phoenix, Ariz.
 E. C. Kinsey, Manor, Calif.
 H. W. Knight, Belchertown, Mass.
 R. G. Kuerzi, Myrtle Beach, S. C.
 G. A. LaBelle, Round Hill, Alta.
 Bert Lambert, Allenville, Mich.
 Mrs. T. C. Luellen, Washington, Pa.
 W. N. MacBriar, Jr., Winter Park, Fla.
 D. L. Mann, Manset, Maine
 Mrs. M. T. Maxson, Milton, Wis.
 Waldo Mayhew, Turlock, Calif.
 Rev. P. H. Miller, Collinsville, Ill.
 Mrs. Daisie M. Morrison, Gulfport, Fla.
 Dr. T. E. Musselman, Quincy, Ill.
 Theed Pearse, Courtenay, B. C.
 E. S. Preston, Tower City, N. Dak.
 J. L. Primrose, Raleigh, N. C.
 Mrs. John Redington, Wilton, Conn.
 W. R. Salt, Rosebud, Alta.
 Mrs. Mary H. Schaub, Wilmette, Ill.
 G. J. Schultz, Waukegan, Ill.
 M. L. Seibert, Oakland, Calif.
 Dr. Dayton Stoner, Albany, N. Y.
 Arthur Sullivan, Winnipeg, Man.
 E. L. Sumner, Berkeley, Calif.
 Estes Suter, Hot Springs, S. Dak.
 Mrs. R. H. Thomas, North Little Rock, Ark.
 A. D. Trempe, Sault Ste. Marie, Mich.
 Prof. Geo. Wagner, Madison, Wis.
 Dr. L. H. Walkinshaw, Battle Creek, Mich.
 Edward Ward, Delta, Man.
 Mrs. J. A. Webb, Avon, Mass.
 W. P. Wharton, Groton, Mass.
 Wilk Bros., Edmonton, Alta.
 H. F. and G. Wing, Jackson, Mich.
 Dr. H. B. Wood, Harrisburg, Pa.
 Dr. A. M. Woodbury, Salt Lake City, Utah.
 Mrs. Ruth J. Wright, Randolph, Mass.

The following banded between 200 and 300:

Dennis Ashby, Duncan, B. C.	H. A. W. Kates, Montoursville, Pa.
Fred Bard, Sr., Regina, Sask.	Dale S. King, Coolidge, Ariz.
Mrs. F. L. Battell, Ames, Iowa	A. D. Kirk, Wilkinsburg, Pa.
Paul Beaubien, Flagstaff, Ariz.	Wm. H. Lawrence, Washington, D. C.
R. O. Bender, Ridley Park, Pa.	H. D. McCann, Paoli, Pa.
Mrs. H. M. Bisbee, Durham, N. H.	V. H. Maddy, Stockton, Kans.
J. M. Bradley, Weston, Mass.	H. L. Mendall, Orono, Maine
R. B. Brown, Winnetka, Ill.	L. J. Merovka, New Orleans, La.
F. M. Carroll, New Orleans, La.	W. W. Neeley, Chester, S. C.
L. E. Carter, Russiaville, Ind.	W. P. Nickell, Bloomfield Hills, Mich.
G. D. Chamberlain, Presque Isle, Maine	Mrs. Elizabeth F. Norris, Wenonah, N. J.
L. B. Chapman, Wellesley, Mass.	Mrs. L. B. Payne, Santa Cruz, Calif.
E. D. Clabaugh, Berkeley, Calif.	C. A. A. Pedersen, Montvale, N. J.
R. D. Connor, Livingston, N. J.	H. C. Pegg, Glenevis, Alta.
F. G. Crawford, Long Beach, Calif.	Dr. H. F. Perkins, Burlington, Vt.
Fred Curtis, Redfield, S. Dak.	Wesley Perkins, Waterville, Maine
Mrs. E. C. Doughty, Williamstown, Mass.	James L. Peters, Harvard, Mass.
Mrs. F. L. DuMond, Grand Rapids, Mich.	R. Ralston, Flushing, N. Y.
Miss Constance Everett, Waseca, Minn.	C. S. Rich, Alhambra, Calif.
S. C. Fordham, Jr., Delmar, N. Y.	C. T. Ridley, Norwood, Man.
F. B. Foster, Phoenixville, Pa.	S. D. Robbins, Belmont, Mass.
R. S. Fried, Katonah, N. Y.	R. N. Saxton, Arlington, Va.
Mrs. Ada C. Govan, Lexington, Mass.	Thomas Smith, Hamilton, Ont.
James Grant, Jr., Lumby P. O., B. C.	J. F. Stubler, Hinsdale, Ill.
Mr. & Mrs. O. J. Gromme, Milwaukee, Wis.	L. R. Talbot, South Lincoln, Mass.
Mr. & Mrs. L. Gulotta, Lincoln, Nebr.	A. R. Tobey, Dublin, N. H.
V. Haskins, East Durham, N. Y.	Mrs. Wilson Tout, North Platte, Nebr.
H. O. Havemeyer, New York City	Dr. G. J. Wallace, Lenox, Mass.
W. E. Heston, Bar Harbor, Maine	H. E. Weakly, North Platte, Nebr.
M. Howell, Jacksonville, Fla.	Mrs. K. B. Wetherbee, Worcester, Mass.
T. A. Imhof, Brooklyn, N. Y.	J. P. Wetherill, Jr., Philadelphia, Pa.
R. H. Imler, Denver, Colo.	S. W. Witmer, Goshen, Ind.
L. M. Jones, Columbus, Ohio	Henry Wolcott, Kent, Ohio

The following banded between 100 and 200:

C. M. Aldous, Orono, Maine	R. H. Carter, Jr., Muscow, Sask.
Dr. A. A. Allen, Ithaca, N. Y.	T. Donald Carter, Boonton, N. J.
Parks Allen, Ithaca, Mich.	G. L. Cook, Bashaw, Alta.
Miss Lois Almon, Rhinelander, Wis.	Compton Crook, Towson, Md.
Mrs. E. A. Anthony, Bar Harbor, Maine	C. G. Danforth, Iowa City, Iowa
L. M. Ashley, Takoma Park, Md.	Miss Anne B. Dobbin, Elk Ridge, Md.
Walter Baker, Ottumwa, Iowa	P. W. Durant, Norway House, Man.
D. D. Baldwin, Fessenden, N. Dak.	W. S. Feeney, Madison, Wis.
W. J. K. Bard, Regina, Sask.	L. Foeckler, Waukesha, Wis.
Miss Dorothy I. Barnett, Milwaukee, Wis.	J. T. Fowle, Vernon, B. C.
E. E. Bell, Water Valley, Miss.	Prof. A. C. Fraser, Ithaca, N. Y.
E. A. Bergstrom, Waltham, Mass.	Fred N. Gallup, Escondido, Calif.
H. R. Bolen, Cape Girardeau, Mo.	Miss Elizabeth C. Gilliland, Carlisle, Ind.
Adam Brown, Parry Sound, Ont.	E. W. Glandon, Stapleton, Nebr.
H. C. Burdick, Mayville, N. Dak.	Mrs. E.K. Glossbrenner, Indianapolis, Ind.
Prof. & Mrs. C.J. Campbell, Hanover, N.H.	R. W. Goodale, Hartford, Conn.
H. R. Carder, Stettler, Alta.	A. J. Gorski, Ephraim, Wis.
W. F. Carr, Philadelphia, Pa.	A. B. Gresham, Winnipeg, Man.

Miss Margaret E. Gross, Grand Rapids, Mich. E. C. Poler, Medina, N. Y.
 Mrs. M. L. Guest, Athens, Ohio B. J. Posey, Green Bay, Wis.
 E. R. Guild, Glenwood Springs, Colo. G. S. Raynor, Manorville, N. Y.
 Dr. H. W. Hann, Ann Arbor, Mich. E. J. Reimann, Philadelphia, Pa.
 F. W. Hatch, Copemish, Mich. H. Richardson, Grand Rapids, Mich.
 J. C. Higgins, London, Ont. W. L. Richardson, Porterville, Calif.
 Mrs. F. L. Hook, S. Milwaukee, Wis. Mr. & Mrs. F.J. Roubal, Silverton, Oreg.
 J. C. Howell, Ithaca, N. Y. H. W. Schaars, Milwaukee, Wis.
 Mrs. Esther L. Jackson, Ohio, Ill. W. M. Shepherd, Paris, Miss.
 E. D. Johnson, Chicago, Ill. Mrs. Francis Sherwin, Willoughby, Ohio
 D. J. Jones, Jr., Flagstaff, Ariz. Benjamin Shreve, Salem, Mass.
 E. R. Jones, Ceres, Calif. Mr. & Mrs. E. Siddall, Malvern, Pa.
 Karl W. Kahmann, Hayward, Wis. H. M. Simpson, Summerland, B. C.
 E. R. Kalmbach, Denver, Colo. Merit B. Skaggs, South Euclid, Ohio
 S. C. Kendeigh, Champaign, Ill. Frank R. Smith, Laurel, Md.
 P. Kuntz, Winnipeg, Man. H. R. Sperry, Avon, Conn.
 A. Linn, Greenville, Pa. Stoltenberg Bros., Omaha, Nebr.
 R. J. Livingston, Oswego, Oreg. Miss E. Grace Stuart, New York, N. Y.
 Mrs. L. M. Lofberg, Road's End, Calif. Dr. G. M. Sutton, Ithaca, N. Y.
 R. J. Longstreet, Daytona Beach, Fla. Mrs. A. P. Thomas, Indianapolis, Ind.
 W. W. Lott, London, Ont. C. A. Thomas, Santa Fe, N. Mex.
 G. McComb, Zenith, Kans. S. A. Thorne, Milwaukee, Wis.
 Wm. McIntosh, Jr., Panama City, Fla. J. H. Toulouse, Jr., Gran Quivira, N.Mex.
 Mr. & Mrs. L.T. McKinney, Chaco Canyon, N.Mex. F. W. Trevor, Millbrook, N. Y.
 H. F. McLean, Merrickville, Ont. R. K. Ungemah, White Plains, N. Y.
 Louis Martin, Springfield, Ill. R. M. Verrill, Buffalo, N. Y.
 H. P. Melzer, Milford, N. H. Dr. B. L. von Jarchow, Racine, Wis.
 Prof. & Mrs. H. Meyer, Knoxville, Tenn. Charles F. Walker, Put-in-Bay, Ohio
 Andrew Miner, Minneapolis, Minn. Wm. G. Webb, Eagle Rock, Calif.
 Dayton Murphy, Wellington, Ont. L. M. Weber, St. Louis, Mo.
 Rev. C. F. Nieset, Collegeville, Ind. C. L. Whittle, Hancock, N. H.
 Dr. Allen M. Pearson, Auburn, Ala. F.J.B. Williams, Portage la Prairie, Man.
 H. R. Pease, West Hartford, Conn. R. B. Williams, Salt Lake City, Utah
 J. G. Peterson, Descanso, Calif. Miss Marie G. Willson, Greenwich, Conn.
 O. W. Pflueger, Mont Alto, Pa. Norman Young, Midwest, Wyo.

Corrections.—The following corrections should be noted in Bird Banding Notes, vol. 3, no. 1, table 2, issued in October 1939:

Mourning Dove - reported, 5,539; correct figure, 3,192.

Golden-crowned Sparrow - reported, 754; correct figure, 1,068.

Station Totals.—From the volume of mail late in June it would seem that co-operators now realize the need for the rule that reports to be counted in the yearly total must be in the Washington office before the close of business on June 30. Because in 1940 June 30 fell on Sunday, reports received on July 1 were counted.

Cooperators sending in a large number of schedules at one time are advised to allow ample time for the report to reach Washington, since large manila envelopes or packages under frank may be treated as second-class mail.

Correction.—In the report for the fiscal year 1939, Fr. Edward Stoehr, of Washington, D. C., should have been credited with banding 1,111 birds.

PHOTOGRAPHS

Opportunity was not presented during the year to rearrange and index the constantly growing collection of photographs relating to the banding work. It is now planned to place the collection in a 4 by 6 steel file, which will hold most of the material now on hand. Large pictures will be filed in jackets in a vertical steel letter file. Among the photographs sent in during the year are the following:

H. O. Todd, Jr., Murfreesboro, Tenn., nine showing nest and eggs of the Killdeer and of the Mockingbird, a Nighthawk on its nest, and young Pileated Woodpeckers.

Dayton Murphy, Wellington, Ont., a photograph showing "a pan of Quail" raised by bantams.

E. H. A. Fischer, Grand Forks, N. Dak., a picture of a banded Pintail.

Dr. T. E. Musselman, Quincy, Ill., a photograph of a Blue Goose that fraternized with a flock of domestic geese.

John A. Gillespie, Glenolden, Pa., a photograph of a banded immature Snowy Egret.

Russell C. Richards, Berwyn, Pa., one showing a pheasant pen, and three of his traps in place.

Eugene W. Schmidt, New Britain, Conn., a picture of two young Barn Owls perched on a stump.

Gilbert G. Benjamin, Jr., Los Angeles, Calif., two views of a banded Anthony Towhee.

L. J. Merovka, two pictures of a Woodcock chick.

C. L. Hawthaway, West Newton, Mass., a fine set of fifteen pictures showing the nest of a Cooper's Hawk, and the young in successive stages until about ready to leave the nest.

Earl L. Loyster, Milwaukee, Wis., a set of twelve showing his waterfowl banding stations and the banding and releasing of ducks, and diagrams of trap construction.

Daniel Smiley, Jr., Mohonk Lake, N. Y., two photographs of his traps.

John M. Frazier, Hattiesburg, Miss., two views of his Chimney Swift trap, one of the trap in place and the other of swifts in the trap.

Henry P. Baily, Philadelphia, Pa., a picture of an automatic trap on a hotel veranda with two Purple Finches on the perch above the trap.

O. M. Root, North Andover, Mass., two pictures of traps in position.

Roy H. Smith, Kent, Ohio, a set of six views of his electrically operated window trap.

Frederick T. Bashour, Hartford, Conn., two photographs of band opening pliers, described elsewhere.

Donald J. Borrer, Columbus, Ohio, nine excellent views of his traps and one of the botanical gardens of the Ohio State University where his station is located.

O. H. Neimeyer, Prospect, Ohio, three pictures of Pheasants in a pen trap.

W. M. Davidson, Beltsville, Md., a print of a Blue Jay with primaries white except for the tips.

Albert Harris, Fargo, N. Dak., a picture of a banded Snowy Owl.

Dr. K. Christofferson, Blaney Park, Mich., a photograph and description of a partially albino Junco.

Carlos Stannard, Phoenix, Ariz., a picture of a Band-tailed Pigeon banded when eighteen days old.

Mrs. John Y. Hutchison, Clarksville, Tenn., two prints of the banding of Chimney Swifts, showing the trap on the chimney and the group at work.

John C. Calhoun, Evanston, Ill., nine views illustrating the banding of Chimney Swifts at Charlottesville, Va., showing the chimney, trap, and gathering cage, and the group of banders at work.

Edward McColgan, Catonsville, Md., five photographs - three of young Crows in the nest and two of young Hummingbirds in the nest.

Hugh S. Davis, Tulsa, Okla., eight excellent photographs showing ducks, traps, and banding at Mohawk Park. They also show groups of persons being instructed in the work of banding.

E. A. McIlhenny, Avery Island, La., four pictures illustrating the banding of Woodcock, one of Black Vultures in a trap, and one of the banding of Nighthawks.

Maine Fish and Game Department, a print of the waterfowl-banding trap on the Penobscott River and one of a banded Greater Snow Goose.-

H. C. Burdick, Mayville, N. Dak., four pictures of traps (2-cell Potter, 6-cell Brenckle, funnel-type, and drop) used at that station.

Mrs. Emily Barry Walker, of the East Texas State Teachers College, Commerce, Tex., a series of five pictures of the different types of traps used at her station.

WORK AT BANDING STATIONS

Reference can be made to the work of only a few of the 789 stations that reported during the year. Possibly some of the other stations did even more important work, but most of the "copy" has been taken from summaries submitted by cooperators because such material was most easily kept together for the purpose.

Mrs. F. C. Laskey, of Nashville, Tenn., banded 11,875 birds, 9,182 of which were Chimney Swifts. Included in her "catch" were many banded swifts from several other stations.

L. A. Summerhayes banded twelve Blue-winged Teal and one Shoveler at San Jose de Guatemala, Guatemala. These are the first waterfowl to be banded south of the United States.

Prof. J. W. Stack, East Lansing, Mich., reports that since the Michigan Agricultural College station was organized in 1923, about 20,000 birds have been banded.

S. H. Weakley, of Fort Smith, Ark., wrote in the fall of 1939 that he had about 40 bushels of hedge apples, or osage oranges, which he had found the best bait for Purple Finches, Goldfinches, and Siskins. He had out forty traps. As he banded 491 Goldfinches and 125 Purple Finches, the bait was evidently successful.

The Southwestern National Monuments of the National Park Service has 11 active stations in Arizona and New Mexico. At these were banded 6,183 birds of 109 species, and Superintendent Hugh M. Miller reported that much was learned about the birds of the monuments that has proved of interest to the visiting public.

Daniel Smiley, Jr., Lake Mohonk, N. Y., has submitted a careful analysis of the work done by him and his brother since 1928. In that time 6,373 birds were banded and 443 returns received. Included in the report is a detailed description of a banded Junco at least 8 years old.

Mrs. N. Edward Ayer, of Pomona, Calif., reports having banded 1,385 birds of 52 species and having recorded 1,953 repeats and 147 returns. The most numerous species were Gambel's Sparrow and the House Finch.

W. E. Brentzel, of Fargo, N. Dak., reports banding 839 birds during the fall of 1939 and the spring of 1940. The work was done on an average-sized city lot, in which a large lily pool and shrubbery seemed to make the lot especially attractive to birds.

Carmen Beining, of Platteville, Wis., submitted a sample of the mimeographed sheet on which he keeps his records and an explanation of his system of recording. He also has an outline map on which recoveries from other stations are noted, as a means of studying migration.

C. M. Owens, of Monticello, Ark., banded 4,600 Cowbirds within a stone's throw of the public square. He finds that rice is an effective bait. It is effective also for Meadowlarks, which are inclined to repeat often.

Verdi Burtch and Charles J. Spiker, at Branchport, N. Y., banded more than 225 Barn Swallows in the Branchport marsh, going out in a boat at night with a flashlight. The birds were swept off the cattails with a net on the end of a bamboo pole.

Carl Eggert, of Rockford, Ill., reports that he follows the desirable practice of checking back on all nests at which he has banded young. If any birds have died, he retrieves the bands.

Hugh S. Davis, of Tulsa, Okla., banded 5,670 birds, 2,224 of which were Mallards and 1,438 Pintails. This work was done in Mohawk Park, and the cooperation and interest of various groups were obtained.

C. R. Berrey, of Midwest, Wyo., banded 125 birds of prey of 7 species; among these were 8 young Golden Eagles, 42 Great Horned Owls, 22 Prairie Falcons, and 14 Ferruginous Roughlegs. He also banded 47 Yellow-headed Blackbirds and 31 Mountain Bluebirds.

Dr. L. H. Walkinshaw, of Battle Creek, Mich., is making a special study of the Prothonotary Warbler, and during the past year he banded 132 in Michigan and Tennessee.

Dr. William Pepper, of Philadelphia, Pa., when sending a newspaper clipping about his work, remarked that he is starting his second quarter century of banding. Since 1914 he has banded 8,378 birds of 103 species.

At the Bear River Migratory Bird Refuge in Utah, 5,533 waterfowl of 11 species were banded. Of these, 1,240 were Canada Geese, more of that species than had previously been banded in any one year at the refuge.

James J. Mooney of Highland Park, Ill., is making a study of the homing instinct in Cowbirds and Blue Jays, supplementing the studies of the late W. I. Lyon.

H. H. Southam, of Toronto, Ont., banded 2,577 birds, among which were 326 shorebirds of 8 species and 19 Saw-whet Owls.

Prof. O. A. Stevens, of Fargo, N. Dak., banded 1,186 birds of 67 species during 1939. Included in his list of species are 20 warblers, 15 finches, 5 thrushes, and 4 flycatchers.

Dr. E. Jurica and V. Laketek, of Lisle, Ill., also ran up a fine total in 1939, their grand total being 2,750 birds of 64 species, among which were 20 species of warblers and 7 thrushes.

W. Rodman Peabody, of Boston, Mass., reports a decided falling off in birds taken at his station despite an increased number of traps. Purple Finches were noticeable by their scarcity and there were comparatively few Tree Sparrows and Goldfinches.

Wilk Brothers, of Camrose, Alta., banded 449 birds, part of which were banded at Churchill, Man. Among those banded at Churchill were 3 species of shorebirds, 17 Horned Larks, 119 Snow Buntings, and 11 Lapland Longspurs.

Dr. Harold C. Burdick, of Mayville, N. Dak., operating at the State Teachers College, banded 603 birds of 37 species in 1940. He writes that his most effective traps are of the Potter type, made from scrap baling wire picked up in the city junk heap and costing only a little time and some solder. Students at the college undertake individual projects as a part of their work in biology.

Mrs. Thos. C. Luellen, of Washington, Pa., banded 218 birds and had 24 returns, two of them, a Robin and a Cardinal, being foreign to her station. One of her Brown Thrashers was recovered in Mississippi.

Mrs. Blanche M. Getty, of Sioux Falls, S. Dak., in reporting her operations, included the histories of several injured birds brought to her for treatment.

M. J. Magee, of Sault Ste. Marie, Mich., in his report to the end of 1939, records his total banding of Purple Finches as 22,836 and of Evening Grosbeaks as 3,965.

Thomas Imhof, of Brooklyn, N. Y., included in his banding report for 1939, such unusual species as the Dovekie, Red-backed Sandpiper, and Seaside Sparrow.

Lawrence L. Howe, of Belmont, N. Y., operating six traps of different types, reported 474 birds of 34 species, including several warblers. On his list the Tree Sparrow leads with 79 individuals.

E. A. McIlhenny, of Avery Island, La., in a communication dated January 22, 1940, reports the recapture in the autumn of 1939 of a large number of ducks banded at his station in previous seasons. During the period from June to December 1939 he obtained 708 returns. In addition to 342 returns of Pintails, Ring-necked Ducks, Lesser Scaups, Blue-winged Teals, Coots, and Gallinules, his list contains records of the recapture of Blue Jays, Boat-tailed Grackles, Cardinals, Red-winged Blackbirds, Chimney Swifts, and 337 Black Vultures.

At the Sand Lake Refuge, Columbia, S. Dak., 7,710 birds were banded during the last six months of 1939. Of these, 837 were song birds of 23 species and 5,547 waterfowl of 13 species. Included also in the list were the American Bittern, the Black-crowned Night Heron, and 1,285 Franklin's Gulls.

Horace Groskin, of Ardmore, Pa., changed the location of his station during 1939. Nevertheless, during the fiscal year 1940 he banded 1,208 birds, representing 27 species. The Purple Finch headed the list with 630 individuals.

C. C. Ludwig, of Lansing, Mich., during the summer of 1940 banded 7,157 birds. Data on Herring and Ring-billed Gulls and Common and Caspian Terns made up the bulk of the report. His sons assisted in this work.

Mr. and Mrs. Paul Downing, of Highland Park, Ill., list the banding of 2,127 birds of 54 species in their report received in May 1940. The Starling, heading the list with 600 records, is followed by the White-throated Sparrow with 438, and the Chimney Swift with 267. Nine species of warblers and five of thrushes were included.

Vernon C. Rossman, of Waukesha, Wis., listed 1,160 birds of 55 species in his last report. Harris's Sparrows were banded at his station for the first time in the spring season, and 2 Cardinals were banded during February 1940, this latter species having only recently worked into his area.

Oscar M. Bryens, of McMillan, Mich., reports that the Cowbird and the Bronzed Grackle have become so numerous in his vicinity that the former has taken first place in the number of a single species banded at his station, a position held for years by the Savannah Sparrow.

Mr. and Mrs. Leroy Gullota, of Lincoln, Nebr., conclude a tabulation of the birds banded at their station with the following comment: "Net gain: Comradeship, Knowledge, and Inspiration from our Bird Friends in Nebraska."

Henry C. Kyllingstad, of Emrick, N. Dak., has submitted a sketch and description of an ingenious device to control the drip from the water pail used on the Brenckle and other traps. The valve stem from an old automobile inner tube is inserted through a small hole in the pail with a couple of small blocks of wood and pieces of the tube itself for waterproof washers. The valve nut is then screwed up over the projecting stem to seal the joint. A piece of $\frac{1}{4}$ -inch rubber tubing is attached to the valve stem, and the drip is controlled with the regulation tubing clamp (several types are available). This device, once set, will drip at the same rate all day and will not plug up as does a rag pulled through a nail hole. Mr. Kyllingstad puts a small box or cover of window screen over the stem opening inside the pail to prevent plugging of the tube by such debris as might fall into it.

Richard B. Fischer, of Flushing, N. Y., has developed a modification of the Potter trap that has given excellent results at his station. Simplicity is its chief claim for attention.

The specimen he sent to the Washington office is made from No. 2 hardware cloth and measures 14 inches in length, $8\frac{1}{2}$ inches in height, and 6 inches in width. A vertically sliding door of galvanized iron is fitted to the back for the removal of captured birds. The bottom is open except for the forward part, which is practically covered by the hardware-cloth treadle extending 6 inches into the trap. This is hinged to a piece of heavy wire extended across the front at the ground level.

The front door is made from a piece of hardware cloth $8\frac{1}{2}$ by 9 inches. The selvedge forms the lower edge. The $1\frac{1}{2}$ inches of extra width on each side is bent at right angles so that when down the door actually encloses the front of the cage. A piece of heavy wire about 33 inches long is attached across the front of the door about $2\frac{1}{2}$ inches from the top. About 13 inches will project on each side. At points just beyond each side of the trap this wire is bent upward, and at the top of the door it is again bent at right angles (a little more) so that it will extend back 7 or 8 inches along the sides of the trap with a downward slant. The terminal sections ($1\frac{1}{2}$ to 2 inches) are bent at right angles to project through opposite meshes of the side walls of the trap chamber. These meshes form all the bearings necessary.

A piece of fairly stiff wire (about baling-wire size) is attached to the top of the door near one corner and passed into the trap chamber through a mesh in the top at a point over the inner edge of the treadle. As will be seen, the door falls through an arc and when it is raised, the free end of the trigger wire moves down so that it may be engaged through one of the last course of meshes of the treadle.

Owen J. Gromme, of Milwaukee, Wis., who has successfully operated a station for the banding of hawks, offers a word of caution. He places his captured hawks in a "sock" to keep them quiet during banding, but he warns that the "sock" must be of ample size so that it will not interfere with the bird's breathing and, for the same reason, it must be of a loose weave to admit plenty of air.

George Dock, Jr., of Scarsdale, N. Y., reports that he has had poor luck with all types of tree traps. The Baldwin tree trunk trap proved the most successful, but it is a fact that our trapping equipment does need a better trap for woodpeckers. This is a challenge to American ingenuity.

Under the title "A New Sport, the Capture and Banding of Birds at Night", published in American Forests for October, 1940, E. A. McIlhenny of Avery Island, La., makes a most important contribution to the technique of obtaining birds for banding. The following description of the net used is quoted from the article:

"I procured two dry bamboo poles eighteen feet long and tied their butts firmly together every six inches for six feet of their length. At the point where the highest tie was made, I forced between the poles a small block of strong wood. Two feet above this spreader, I inserted a second spreader one and one-quarter feet long. Two feet and four inches above the second spreader, a third spreader was put into place. This last spreader had a length of three feet. As each spreader was put into place, the poles were lashed tightly to each end. With the spreaders in place, the small ends of the poles were bent towards each other, taped for strength, and lashed together. This procedure produced a brail above the second spreader seven feet in length and three feet eight inches wide at the widest point, shaped exactly like an oval tennis racket. Over the spread portion I tied securely, stretched taut, a fine mesh of linen thread. This gave me a net with a total length from top to bottom of thirteen feet, and it proved most efficient for the use I intended it - the catching of birds at night on comparatively smooth and open ground.

"I fitted two of my six-compartment carrying cages for small birds with cloth tops instead of the wire they are usually covered with, put new batteries in my six-cell electric headlight, and fresh batteries in a powerful flashlight, and, selecting as helpers two men who are agile and quiet walkers, I was ready for the big experiment of catching woodcock at night."

In addition to capturing 186 Woodcock, Mr. McIlhenny also captured by this method 23 Killdeers, 207 Wilson's Snipe, more than 100 other shorebirds of 9 species, 83 American Pipits, 268 Meadowlarks, and others. It is recommended that every cooperator interested, make an effort to read this article.

BANDS

Frederick T. Bashour, of Hartford, Conn., has developed an ingenious but simple device to open bands. The jaws of a pair of pointed pliers are ground down to form a series of graduated cylinders the size of the inside of the bands, the smallest at the tips and increasing in size toward the hinge. A strong compression coil spring, about $2\frac{1}{2}$ inches in length and $\frac{3}{8}$ inch in diameter, made from #16 gage steel wire is inserted between the handles. To attach the spring, holes are drilled opposite each other through the handles a short distance from their ends and oversized nails are forced through these holes. These nails are then cut off to leave stubs about $\frac{1}{2}$ inch in length projecting toward each other on the inside of the handles. The spring is compressed and its ends slipped over the stubs. The last helix at each end of the coil is collapsed tightly against the stub to lock the spring in place. When the pliers are closed, the spring is compressed, and an unopened band may then be slipped over the appropriate size cylinder of the jaws. As the grip on the handles is gradually released, the spring expands and opens the band evenly. The sketches and photographs sent in by Mr. Bashour show cylinders for just two sizes of bands (probably 0 and 1) but the possible number of these is obviously dependent upon the length of the jaws of the pliers.

The tool was developed by Mr. Bashour's brother, Edward T. Bashour, and the photographs were made by L. Henry Taylor, both of Hartford, Conn. Mr. Bashour writes that although this tool may also be used to close bands, it is not so efficient for this as are the Kennard pliers.

C. Russell Mason, Secretary-Treasurer of the Massachusetts Audubon Society, Boston, reports that he has had cases brought to his attention of a bird's rear toe or claw becoming caught in the band. This indicates the use of a band that is too large, and is utterly inexcusable. There is little choice between a band that is too small and one that is too large. Neither should ever be used. Better always to release a bird unbanded than to mark it with a band that may be a real handicap or result in serious injury.

William A. Marcy, of Lynn, Mass., has contributed an item that will be of interest to those who feel that the weight of a band bothers the bird that carries it. The weights of the different bands were taken on enclosed chemical balance scales at the Thomson Laboratory of the General Electric Co. Sizes 0, 1A, 2, 4, and 5 were of the '39 series and sizes 1 and 3 were of the '40 series. The average weight in grams was recorded as follows: 0, .0573; 1, .0576; 1A, .0746; 2, .1393; 3, .250; 4, .3216; and 5, .375. For purposes of comparison, one ounce equals 28.35 grams.

RETURNS

Though it has been deemed advisable to discontinue the attempt to select outstanding returns from the thousands received and include them in Bird Banding Notes, it does seem worth while to list a few transatlantic returns received.

Caspian Tern 566280, banded as a chick on July 14, 1927, on Shoe Island in northern Lake Michigan, by W. I. Lyon, was found dead near Whitby, York County, England, during August 1939. This is the first report received of a bird banded in America and recovered in England, and so far as known it is the first record of the American race of the Caspian Tern to be captured on the eastern side of the Atlantic.

A Great Skua, wearing the band "Witherby-High Holborn-London, 401218" was found dead near Swampscott, Mass., February 4, 1940. Correspondence revealed that this bird was banded as a nestling, July 3, 1939, at Hermaness, the most northerly point of the Shetland Islands north of Scotland.

An Atlantic Kittiwake was shot on November 14, 1939, near Twillingate, Newfoundland, which wore band No. 69780 D of the Central Bureau of Birdringing, Moscow. It had been banded as a nestling on August 9, 1939, on Kharlov Island, near Murmansk, U. S. S. R. This is the second Kittiwake banded on Kharlov Island and recovered in Newfoundland; in both cases the birds were less than six months old.