

BIRD BANDING NOTES

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FOR THE INFORMATION OF BIRD-BANDING COOPERATORS

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"Watch for Series Designations on Your Bands"
(Series letters now include A, B, C, F, H, L, and 34)

SPECIAL NOTICE

Important Issue.---This number of Bird Banding Notes contains a summary of work during the year and also, in the first section, certain instructions and comments relative to the future progress of the bird-banding work. These should be carefully read by every cooperator.

Because of the size of the annual summary section and the number of special items that must be included, space is not available for extended comment on the many valuable reports that have been received from banding stations during recent months. It is believed that all operators will understand this situation and so will not feel that their work has been slighted in case they do not find mention thereof in these pages. Actually any issue of Bird Banding Notes might be easily filled with interesting detailed accounts of work that is being carried on at the many banding stations.

New Series Designation.---Bands to be manufactured under the contract for the current fiscal year will carry the series designation "34". On the smaller sizes this will be above the serial number, and on the larger sizes it will be stamped at right angles preceding the number. The correct way to refer to such numbers is as follows: 34-245913. By this method the series can be indicated on the return cards without using a complicated code, which would be required for any of the other systems suggested. The Survey appreciates the many helpful comments that were received following the announcement on this subject in the last issue of Bird Banding Notes.

Check Band Shipments.---Every time a shipment of bands is received the inclusive numbers of each string should be carefully checked. Read the numbers on the bands. If they do not agree with the numbers on the tag notify the Bureau so that the office record may be corrected. Issue records constitute the index to banding schedules, and errors may result in inability to locate and complete important returns.

NOTE.---"BIRD BANDING NOTES" is not for general distribution, but anyone using in a published paper any of the information contained in it will be expected to give credit to the person named and to the Bureau.

Read "Return" Bands Carefully.---It would seem hardly necessary to urge great care in reading band numbers, particularly of returns, but the Survey constantly receives return cards reporting as "foreign returns" birds banded during a previous season at the station of recapture. Care in two places will obviate most of these errors. First, watch for the series designations. Second, be sure that you are not reading a band number upside down. When numbers are made up entirely of 1's, 6's, and 9's, it is possible, for instance, to read on a small band upside down, a number that actually was used on a large band. For example, a size-1A band that carried the number "196969" if read upside down would be "696961", representing a size-6 band. On all bands with a series designation (except sizes 0 and 1, which have numbers of five figures only), the first figure after the series designation indicates the size; that is, bands of 100,000, are size 1A; 200,000, size 2; and so on. Watch also for 3's and 8's, as they are sometimes confused.

Changing Bands.---Sometimes because of wear or other damage it is necessary to change a band. (See page 99 of the Manual.) When this is done and the bird is subsequently reported as a return, the original data of banding should be given, not the date when the new band was attached. For example, assume that purple finch A-125736 is banded on January 10, 1925. When it returns on March 15, 1930, the band is badly worn and is replaced by B-182421. March 15, 1930, is, of course, the return date for A-125736, but, when it is again recaptured on January 20, 1931, the date of banding to be noted on the return card is January 10, 1925, not March 15, 1930, although the number should be reported as B-182421. To preserve the continuity of returns for a bird that has carried two or more bands, it is desirable to indicate the original band number at the bottom or on the back of each return card.

One Band per Bird.---In a few cases cooperators have attached a second band when a bird is captured as a return. This is a needless waste of bands, and if the practice were continued for each return some birds might be wearing three or four bands on each leg. A bird should carry only one numbered band at a time.

One Return on Each Card.---When preparing return cards (Form Bi-137), only one return date should be put on each card. Remember the card has yet to be punched and the punch holes will duplicate the written record. Also, it is not desirable to place previous return dates, if any, on the face of the card, although as a means of convenient reference they may be placed on the reverse side, on the left.

Age.---The age to be given on a return card is, of course, the age of the bird at the time it was banded. All data above the double line refer to the status of the bird at the time of banding.

Dead Returns.---If a banded bird returns to the banding station in a subsequent season, is recaptured, and later in the same season dies at or near the station, two return cards are indicated. Both would, of course, give the original banding data. The first should give the date of recapture (trapped), and the second, the date the bird was found dead or killed, the cause of death being indicated if known.

Preparation of Return Cards and Schedules.---It should not be necessary to repeat that a typewriter or pen and ink should be used in filling out schedules and return cards, but occasionally schedules and return cards are received filled out in lead pencil.

All species banded should be reported once each year, but new schedules should not be started at the opening of a calendar year. Economy of paper and filing space demands that each schedule carry as many records as possible. A schedule should not ordinarily be sent in if the species represented is still at the station and new individuals are being regularly trapped. Wait until the season for the species is complete. A good rule is to report winter birds in June and summer birds in January, although this cannot be literally followed in all parts of the country.

Bands should be used in sequence. This materially expedites location of banding records when "return" letters are received at the Survey.

Proper Sex Signs.---The proper sex signs are ♂, meaning male, the arrow of Mars; and ♀, meaning female, the mirror of Venus

Work in Bird Colonies.---Cooperators who visit colonies of gulls, terns, herons, or other birds to band the young, should be exceedingly careful to conduct their operations so that no criticism will result. Two or three injunctions should be heeded: First, complete the work as quickly as possible and get out; remember you endanger the eggs and young if your prolonged presence keeps the adults from giving them proper attention, particularly on stormy or hot days. Second, do not take with you a crowd of boys and girls, such as a school or camp class; two or three competent assistants may be desirable, but any more merely add to the confusion and to the hazards of the colony.

Sulphur for Nest Parasites.---Occasionally a cooperator reports the presence of large numbers of parasites in a nest of fledglings. It is suggested that in such cases a small quantity of powdered sulphur be dusted into the nest and on the young birds. The Survey would be glad to have reports from anyone who tries this remedy.

WORK DURING THE YEAR

Despite necessary efforts to limit further expansion, the banding work during the past fiscal year showed increasing progress. In the fall of 1932, the names of more than 300 persons who had made no reports for the preceding three years were dropped, and only a few of these were subsequently reinstated. Every new application has been scrutinized with added care. In spite of all this, however, the number of cooperators at the close of the past fiscal year (June 30, 1933) was 1,842, or only 134 less than a year ago. This fact is of great importance as it indicates the tremendous interest that the ornithologists and bird students of America have in bird banding, and it shows the volume of cooperation that is available. In a single year the number of cooperators might probably be doubled, with a corresponding increase in work accomplished, were the financial and clerical resources adequate for such expansion. Unfortunately there is at present no definite prospect for increased financial support from Congressional appropriations (the banding work is done under the appro-

priation for the investigation and protection of migratory birds), so it would seem that we must be patient unless some public-spirited individual or group comes forward and establishes an endowment.

As a means for the study of our native birds, the banding method has come to occupy a place in the front rank, and there are probably many persons in our country who would be willing and glad to establish such a fund as a memorial if they knew the need and the opportunity. The details of administration could be arranged easily.

During the fiscal year 1933, the number of birds banded and reported was 258,081, which exceeds the total for the previous fiscal year by 45,935 and brings the grand total up to 1,381,609. This increase indicates that by the end of the current fiscal year we will have passed the mark of a million and a half. Return records amounting to 16,589 were received during the year, bringing the grand total for these data to 82,451.

The number of returns on hand raises the question of publication. In Department Bulletin No. 1268 there were published 1,746 return records, while the tables in Technical Bulletin No. 32 show 10,338 additional cases. In the latter bulletin, which cost more than \$2,000, nearly 100 pages of 4 1/2-point type were required. Subtracting those already published from the grand total of July 1, 1933, we find that 70,367 returns had been received since the last return bulletin was published. If these were printed in the same manner as in Technical Bulletin No. 32, that is, 4 1/2-point type double column, it would require a volume of between 600 and 700 pages. The cost would be prohibitive.

Value of Cooperation.--A further study has been made of the value of the cooperation rendered by the operators of banding stations. From the ample data submitted by the stations the average value of equipment was established at \$17 per station. With more than 1,800 stations, this represents an investment exceeding \$31,000. Time and bait were calculated to have an average value of \$34 per year, per station, which every operator will concede is an extremely low figure. Nevertheless this results in a grand total of more than \$62,000 per year. These figures do not include the big research stations, such as the O. L. Austin Ornithological Research Station, on Cape Cod, Mass., or the Baldwin Ornithological Research Station, at Gates Mills, Ohio, where thousands of dollars are invested in equipment and usually from one to five or six assistants are employed. Also there are several large stations, such as that of W. I. Lyon, at Waukegan, Ill., with equipment worth at least \$1,000, and an annual time expenditure of 1,200 to 1,500 hours.

Birds Banded.--The following table lists the number of individuals of each species banded and reported during the fiscal year. The order of the A. O. U. check-list of 1910 has been followed for the reason that the personnel of the banding section have had no opportunity to rearrange the records according to the new (1931) check-list. An asterisk (*) indicates a species new to the list of banded birds.

All subspecies are included in the total for the species, and the names used are those of the typical species; for example, the olive-backed thrush, Hylocichla ustulata swainsoni does not appear in the list, as this is a subspecies of the russet-backed thrush, Hylocichla ustulata ustulata. Actually there are many more banded olive-backs than russet-backs, but they are given together under the latter name. In all such cases the English name is followed by the technical specific name and the word "group".

SPECIES TOTAL--FISCAL YEAR 1933

Holboell's grebe.....	1	Mallard.....	6,774
Horned grebe.....	87	Black duck.....	6,038
Eared grebe	33	Gadwall.....	336
Pied-billed grebe.....	5	European widgeon.....	1
Common loon.....	4	Baldpate.....	606
Red-throated loon.....	1	Green-winged teal.....	2,488
Puffin.....	11	Blue-winged teal.....	351
Black guillemot.....	89	Cinnamon teal.....	125
Atlantic murre.....	46	Shoveller.....	18
Brunnich's murre.....	2	Pintail.....	9,738
Razor-billed auk.....	6	Wood duck.....	329
Dovekie.....	54	Redhead.....	943
Glaucous-winged gull.....	203	Canvasback.....	378
Great black-backed gull.....	21	Scaup duck.....	221
Western gull.....	188	Lesser scaup duck.....	1,813
Herring gull.....	5,408	Ring-necked duck.....	699
California gull.....	921	Golden-eye.....	3
Ring-billed gull.....	1,588	*Barrow's golden-eye.....	1
Laughing gull.....	1,214	American eider duck.....	2
Franklin's gull.....	313	*American scoter.....	1
Bonaparte's gull.....	1	Ruddy duck.....	416
Caspian tern.....	645	Snow goose.....	21
Royal tern.....	1,042	Blue goose.....	46
Cabot's tern.....	6	White-fronted goose.....	4
Forster's tern.....	45	Canada goose.....	303
Common tern.....	18,423	Whistling swan.....	5
Arctic tern.....	248	Roseate spoonbill.....	3
Roseate tern.....	1,356	White-faced glossy ibis.....	19
Least tern.....	614	Bittern	23
Black tern.....	177	Least bittern.....	20
Black skimmer.....	1,315	Great blue heron.....	304
Leach's petrel.....	434	Egret.....	31
Wilson's petrel.....	12	Snowy egret.....	258
Gannet.....	50	Reddish egret.....	8
Common cormorant.....	73	Louisiana heron.....	839
Double-crested cormorant.....	646	Little blue heron.....	445
*Brandt's cormorant.....	21	Green heron.....	75
White pelican.....	884	Black-crowned night heron.....	1,467
Brown pelican.....	521	Yellow-crowned night heron.....	66
American merganser.....	1	King rail.....	8
Red-breasted merganser.....	6	Clapper rail.....	5
Hooded merganser.....	1	Virginia rail.....	24

Sora.....	23	Red-shouldered hawk (<u>lineatus</u> group).....	40
Yellow rail.....	1	Swainson's hawk.....	17
*Black rail.....	1	Broad-winged hawk.....	6
Purple gallinule.....	1	Rough-legged hawk.....	4
Florida gallinule.....	37	Ferruginous rough-leg.....	11
Coot.....	3,125	Golden eagle.....	1
Wilson's phalarope.....	6	Bald eagle.....	6
Northern phalarope.....	1	Prairie falcon.....	15
Avocet.....	15	Duck hawk.....	5
Black-necked stilt.....	1	Pigeon hawk.....	5
Woodcock.....	17	Sparrow hawk.....	50
Wilson's snipe.....	8	*Audubon's caracara.....	5
Pectoral sandpiper.....	3	Osprey.....	54
White-rumped sandpiper.....	4	Barn owl.....	104
Baird's sandpiper.....	1	Long-eared owl.....	10
Least sandpiper.....	284	Short-eared owl.....	6
Semipalmated sandpiper.....	103	Barred owl.....	14
Western sandpiper.....	1	Saw-whet owl.....	18
Sanderling.....	5	Screech owl.....	170
Marbled godwit.....	10	Great horned owl.....	30
Greater yellow-legs.....	2	Snowy owl.....	13
Lesser yellow-legs.....	8	Burrowing owl.....	62
Solitary sandpiper.....	18	Road-runner.....	8
Willet.....	40	Yellow-billed cuckoo.....	30
Upland plover.....	6	Black-billed cuckoo.....	19
Spotted sandpiper.....	156	Belted kingfisher.....	43
Long-billed curlew.....	1	Hairy woodpecker (<u>villosus</u> group).....	63
Killdeer.....	221	Downy woodpecker (<u>pubescens</u> group).....	417
Semipalmated plover.....	7	Yellow-bellied sapsucker (<u>varius</u> group).....	83
Piping plover.....	20	Red-headed woodpecker.....	135
Bob-white.....	682	Ant-eating woodpecker.....	3
Scaled quail.....	1	Lewis's woodpecker.....	1
California quail.....	453	Red-bellied woodpecker.....	62
Gambel's quail.....	108	Flicker (<u>auratus</u> group).....	831
Ruffed grouse.....	73	Red-shafted flicker.....	28
Prairie chicken.....	2	Chuck-will's-widow.....	2
Sharp-tailed grouse.....	35	Whip-poor-will.....	3
Pheasant.....	3	Nighthawk.....	26
*Hungarian partridge.....	1	Chimney swift.....	8,246
Band-tailed pigeon.....	15	Ruby-throated hummingbird.....	8
Mourning dove.....	1,988	Anna's hummingbird.....	2
Ground dove.....	135	Scissor-tailed flycatcher.....	9
Inca dove.....	6	Kingbird.....	209
Turkey vulture.....	10	Arkansas kingbird.....	148
Black vulture.....	8	*Cassin's kingbird.....	2
*Everglade kite.....	1	Crested flycatcher (<u>crinitus</u> group).....	36
Marsh hawk.....	100		
Sharp-shinned hawk.....	7		
Cooper's hawk.....	18		
Red-tailed hawk (<u>borealis</u> group).....	24		

Ash-throated flycatcher		Redpoll	29
(<u>cinerascens</u> group)	4	● Goldfinch (<u>tristis</u> group)	1,839
Eastern phoebe	618	Arkansas goldfinch (<u>psaltria</u>	292
Say's phoebe	52	group)	73
Black phoebe	3	● Pine siskin	140
Wood pewee	26	English sparrow	127
Western wood pewee	16	Snow bunting	3
Yellow-bellied flycatcher	21	Lapland longspur	13
Western flycatcher	18	Chestnut-collared longspur	463
Acadian flycatcher	9	Vesper sparrow	2
Alder flycatcher	32	Ipswich sparrow	1,089
Least flycatcher	54	Savannah sparrow	5
Horned lark (<u>alpestris</u> group)	74	Baird's sparrow	29
Magpie	92	Grasshopper sparrow	15
Blue jay	2,751	Henslow's sparrow	9
Steller's jay (<u>stelleri</u>		Leconte's sparrow	6
group)	47	Sharp-tailed sparrow	1
Florida jay	3	Nelson's sparrow	7
Woodhouse's jay	12	Seaside sparrow	26
California jay	111	Lark sparrow	2,595
Arizona jay	1	Harris's sparrow	4,835
Canada jay (<u>canadensis</u> group)	27	● White-crowned sparrow (<u>leu-</u>	1,418
Raven	4	<u>cophrys</u> group)	17,911
White-necked raven	303	Golden-crowned sparrow	3,911
Crow	258	● White-throated sparrow	3,726
Fish crow	2	● Tree sparrow	865
● Starling	12,258	● Chipping sparrow	71
Bobolink	36	Clay-colored sparrow	1,375
● Cowbird	8,277	Brewer's sparrow	1
Yellow-headed blackbird	189	Field sparrow	18,124
Red-winged blackbird	2,886	White-winged junco	388
Tricolored red-wing	1,202	● Junco (<u>hyemalis-oregonus</u>	1
Meadowlark	237	group)	1,317
Western meadowlark	58	Red-backed junco (<u>phaeonotus</u>	836
Scott's oriole	1	1910 group)	1,497
Hooded oriole	42	Black-throated sparrow	1,258
Orchard oriole	65	Bell's sparrow	390
Baltimore oriole	389	Pine-woods sparrow	334
Bullock's oriole	113	Rufous-crowned sparrow	111
Rusty blackbird	427	● Song sparrow	157
Brewer's blackbird	209	Lincoln's sparrow	
Grackle (<u>quiscula</u> group)	11,376	Swamp sparrow	
Boat-tailed grackle	72	● Fox sparrow	
Evening grosbeak	495	Towhee	
Pine grosbeak	20	Artic towhee (<u>maculatus</u>	
● Purple finch	5,055	group)	
Cassin's finch	7	Canon towhee (<u>fuscus</u> group)	
House finch	4,288	California towhee (<u>crissalis</u>	
Crossbill	21	group)	
White-winged crossbill	3	Abert's towhee	

Green-tailed towhee.....	11	Blackburnian warbler.....	20
Cardinal.....	1,481	Yellow-throated warbler.....	6
Rose-breasted grosbeak.....	122	Black-throated gray warbler.....	3
Black-headed grosbeak.....	145	Black-throated green warbler.....	52
Indigo bunting.....	108	Kirtland's warbler.....	5
Lazuli bunting.....	46	● Pine warbler.....	141
Painted bunting.....	1	● Palm warbler (both).....	80
Dickcissel.....	1	● Prairie warbler.....	21
Western tanager.....	57	● Ovenbird.....	451
Scarlet tanager.....	37	● Water-thrush (<u>noveboracensis</u>	
Summer tanager.....	4	group).....	238
Hepatic tanager.....	2	● Louisiana water-thrush.....	4
Purple martin.....	580	● Kentucky warbler.....	6
Cliff swallow.....	126	● Connecticut warbler.....	35
Barn swallow.....	1,781	● Mourning warbler.....	65
● Tree swallow.....	1,073	● Macgillivray's warbler.....	37
● Violet-green swallow.....	44	● Maryland yellow-throat (<u>trichas</u>	
● Bank swallow.....	1,189	group).....	642
● Rough-winged swallow.....	29	● Chat.....	91
● Bohemian waxwing.....	57	● Hooded warbler.....	4
● Cedar waxwing.....	275	● Wilson's warbler (<u>pusilla</u>	
● Northern shrike.....	4	group).....	146
● Loggerhead shrike (<u>ludovi-</u>		● Canada warbler.....	74
<u>cianus</u> group).....	140	● Redstart.....	398
● Red-eyed vireo.....	94	● Pipit.....	3
● Philadelphia vireo.....	17	● Dipper.....	2
● Warbling vireo.....	18	● Mockingbird.....	512
● Yellow-throated vireo.....	5	● Catbird.....	2,820
● Blue-headed vireo (<u>solitarius</u>		● Brown thrasher.....	2,021
group).....	15	● Curve-billed thrasher.....	6
● White-eyed vireo.....	4	● California thrasher.....	41
● Black and white warbler.....	321	● Crissal thrasher.....	5
● Worm-eating warbler.....	1	● Sage thrasher.....	4
● Blue-winged warbler.....	12	● Cactus wren.....	4
● Golden-winged warbler.....	3	● Rock wren.....	1
● Brewster's warbler.....	1	● Carolina wren.....	260
● Virginia's warbler.....	1	● Bewick's wren (<u>bewicki</u> group)....	151
● Nashville warbler.....	72	● House wren.....	3,720
● Orange-crowned warbler (<u>celata</u>		● Winter wren.....	112
group).....	221	● Short-billed marsh wren.....	1
● Tennessee warbler.....	123	● Long-billed marsh wren.....	47
● Parula warbler.....	25	● Brown creeper.....	536
● Cape May warbler.....	11	● White-breasted nuthatch.....	427
● Yellow warbler.....	431	● Red-breasted nuthatch.....	30
● Black-throated blue warbler.....	71	● Brown-headed nuthatch.....	7
● Myrtle warbler.....	2,195	● Pygmy nuthatch.....	97
● Audubon's warbler.....	218	● Tufted titmouse.....	491
● Magnolia warbler.....	157	● Plain titmouse (<u>inornatus</u>	
● Cerulean warbler.....	1	group).....	55
● Chestnut-sided warbler.....	44	● Bridled titmouse.....	7
● Bay-breasted warbler.....	19	● Chickadee (<u>atricapillus</u> group).....	1,909
● Black-poll warbler.....	333	● Carolina chickadee (<u>carolinen-</u>	
		<u>sis</u> group).....	203

Mountain chickadee (<u>gambeli</u> group).....	45	Veery (<u>fuscescens</u> group)	109
Hudsonian chickadee (<u>hudsonicus</u> group).....	17	Gray-cheeked thrush (<u>aliciae</u> group).....	257
Chestnut-backed chickadee (<u>rufescens</u> group).....	26	Russet-backed thrush (<u>ustulata</u> group).....	279
Bush-tit.....	4	Hermit thrush.....	1,271
Verdin.....	11	Robin.....	8,315
Wren-tit.....	43	Varied thrush.....	35
Golden-crowned kinglet.....	275	Bluebird.....	1,297
Ruby-crowned kinglet.....	401	Western bluebird (<u>mexicana</u> group).....	161
Blue-gray gnatcatcher.....	4	Mountain bluebird.....	39
Wood thrush.....	338		

Station Totals.--In preparing the following table the same method has been employed as in previous reports. The number of species banded at the largest stations is given only when this information has been sent in by the operators. Records included are those received at the offices of the Biological Survey before closing time on June 30, 1933. In some cases a station may thus be in a lower group than it would be if all records had been received before the "dead line." For example, Walt Batezel, of Camden, N. J., and Maj. George D. Robinson, of St. Petersburg, Fla., both banded more than 300 birds during the fiscal year, but their records were not received until July 3, 1933, after the books had been closed. Similarly, Dr. Harry W. Hann, of Ann Arbor, Mich., actually banded 620 birds, but he is listed in the group 300 to 500, as his final schedules for the year were not received until August 7, 1933. On the other hand Horace D. McCann, of Paoli, Pa., banded 426 birds during the fiscal year 1933, but is included in the group 800 to 1,000, because of the fact that a series of schedules for the fiscal year 1932 were received last year after June 30. Attention is again directed to the fact that the value of a station cannot be judged solely by the number of birds banded, since there are some stations banding less than 100 birds per year, that are making important local studies. It is impossible to list all stations, but these tabulations are continued as a means of illustrating the growth of the project and promoting a little healthy competition.

The following banded more than 1,000 birds:

	Number of individuals	Number of species
Dr. Oliver L. Austin, Jr., North Eastham, <u>Mass.</u>	19,288	--
William I. Lyon, Waukegan, Ill.	7,692	--
E. A. McIlhenny, Avery Island, La.	6,498	--
S. H. Weakley, Fort Smith, Ark.	5,190	--
Lawrence E. Hicks, Columbus, Ohio	4,829	--
Dr. J. F. Brenckle, Northville, S. Dak.	4,825	84
Frederick E. Ludwig, Lansing, Mich.	4,526	--
Dr. A. R. Shearer, Mont Belvieu, Tex.	4,447	10
William P. Wharton, Groton, <u>Mass.</u>	4,267	--
Alfred D. Trempe, Sault Ste. Marie, Mich.	3,357	--
G. C. Reifel, Vancouver, B. C.	3,057	--
Glenn Berner, Jamestown, N. Dak.	2,951	57

	Number of individuals	Number of species
C. E. Holcombe, Zion, Ill.	2,922	--
George M. Benson, Voltage, Oreg.	2,881	--
Mrs. Marie V. Beals, Elmhurst, Long Island, N. Y.	2,720	--
Dr. S. Prentiss Baldwin, Cleveland, Ohio	2,576	--
E. Milby Burton, Charleston, S. C.	2,491	--
F. W. George, Aberdeen, S. Dak.	2,397	--
Christian J. Goetz, Cincinnati, Ohio	2,380	35
M. J. Magee, Sault Ste. Marie, Mich.	2,326	--
Dr. Edmund Jurica, Lisle, Ill.	2,271	73
Mrs. Kenneth B. Wetherbee, Worcester, <u>Mass.</u>	2,227	56
Nion R. Tucker, Burlingame, Calif.	2,194	--
Henry P. Baily, Philadelphia, Pa.	2,147	15
R. J. Middleton, Norristown, Pa.	2,136	71
Prof. Joseph W. Stack, East Lansing, Mich.	2,108	57
Hugh M. Worcester, Merrill, Oreg.	2,069	--
Dr. Wilbur K. Butts, Chattanooga, Tenn.	2,049	--
Frank W. Robl, Ellinwood, Kans.	2,018	12
Miss Louise J. Miller, Zion, Ill.	1,995	--
Prof. O. A. Stevens, Fargo, N. Dak.	1,871	--
T. E. Musselman, Quincy, Ill.	1,789	--
Mrs. Arch Cochran, Nashville, Tenn.	1,577	43
Verdi Burtch, Branchport, N. Y.	1,568	--
A. J. Butler, Chilliwack, B. C.	1,457	--
Howard W. Braun, Canton, Ohio	1,445	90
Edward M. Davis, Shirley, <u>Mass.</u>	1,416	55
Rev. G. C. M. Bierens, Fairmount, N. Dak.	1,382	--
Harold C. Wilson, Ephraim, Wis.	1,362	--
Mrs. F. C. Laskey, Nashville, Tenn.	1,352	43
Mr. and Mrs. Ben L. Clary, Coachella, Calif.	1,349	--
F. L. Sumner, Jr., Berkeley, Calif.	1,300	--
J. Carl Welty, Fairfield, Iowa	1,292	--
B. S. Bowdish, Demarest, N. J.	1,284	--
Johnson Neff, Marysville, Calif.	1,224	--
C. Conklin, Canal Winchester, Ohio	1,214	27
Arthur Rotch, Boston, <u>Mass.</u>	1,214	--
Ivan R. Tomkins, Savannah, Ga.	1,210	--
Mrs. Hannah R. Gray, Wilton, N. Dak.	1,201	--
George Lang, Indian Head, Sask.	1,138	--
John A. Gillespie, Glenolden, Pa.	1,077	44
Paul A. Stewart, Leetonia, Ohio	1,053	42
Charles E. Boardman, Jamestown, N. Dak.	1,009	37
Belden C. Saur, Foster, Ohio	1,004	48

(54)

The following banded between 800 and 1,000:

Herbert Buckalew, Milford, Del.
William W. Demeritt, Key West, Fla.
Richard Gordon, Abbeville, La.
A. L. Hager, Vancouver, B. C.
Dr. W. Bruce Large, Rochester, N. Y.
Horace D. McCann, Paoli, Pa.

James P. Melzer, Milford, Mass.
Dr. Miles D. Pirnie, Battle Creek,
Mich.
Albert K. Smiley, Mohonk Lake, N. Y.
William Vogt, Wantagh, N. Y.
Edward Ward, Delta, Man. (11)

The following banded between 500 and 800:

Robert Allison, Athol, Mass.
Henry A. Anderson, Ephraim, Wis.
Mrs. Effie A. Anthony, Bar Harbor, Me.
Miss Dorothy A. Baldwin, Hardwick, Mass.
Philip C. Barney, Farmington, Conn.
Dr. Henry S. Bartholomew, Lansing, Mich.
Carmen Beining, Platteville, Wis.
Ernest D. Clabaugh, Berkeley, Calif.
Ben B. Coffey, Jr., Memphis, Tenn.
Mrs. Florence K. Daley, Oliverea, N.Y.
Dr. Ralph E. De Lury, Ottawa, Ont.
George D. Eustis, Vineyard Haven, Mass.
L. B. Fletcher, Boston, Mass.
Keahon Garland, Damarest, N. J.
Geoffrey Gill, Huntington, L.I., N.Y.
Fr. Eugene Goellner, Manchester, N. H.
Arthur J. Gorski, Ephraim, Wis.
Mrs. C. H. Hall, Los Angeles, Calif.
Lyndon L. Hargrave, Flagstaff, Ariz.
Henry O. Havemeyer, Mahwah, N. J.
Paul W. Hoffman, Milwaukee, Wis.
Frank Hopkins, Campbellsport, Wis.
Dr. J. E. Horning, Carmangay, Alta.
Miss Signe Lee, Glyndon, Minn.
Mrs. Helena E. Lindsay, Hayward, Calif.
Bert Lloyd, Churchill, Sask.

R. J. Longstreet, Daytona Beach, Fla.
Seth H. Low, Quincy, Mass.
George W. Luther, Detour, Mich.
Lester R. Marland, Ware, Mass.
H. E. McArthur, Waukegan, Ill.
Edwin D. McKee, Grand Canyon, Ariz.
Byron W. McPheters, Bar Harbor, Me.
R. Owen Merriman, Kingston, Ont.
Mrs. Daisie M. Morrison, Gulfport, Fla.
George E. Mushbach, Ogden, Utah.
John L. Partin, Los Angeles, Calif.
Dr. William Pepper, Philadelphia, Pa.
William Pepper, Jr., Wyncote, Pa.
Harry D. Ruhl, East Lansing, Mich.
Lewis O. Shelley, Westmoreland, N. H.
James Spear, Jr., Wallingford, Pa.
Eric M. Tait, Summerland, B. C.
Dr. Frederick C. Test, Chicago, Ill.
Prof. Louis A. Test, Lafayette, Ind.
Judge M. O. Thompson, Lisbon, N. Dak.
Mrs. Willard L. Thorp, Amherst, Mass.
Hobart M. Van Deusen, Hanover, N. H. *
Charles L. Whittle, Peterboro, N. H.
George S. Wolfram, Canal Winchester,
Ohio.
Harry E. Woods, Huntington, Mass. (51)

The following banded between 300 and 500:

Shaler E. Aldous, Denver, Colo.
Oscar P. Allert, McGregor, Iowa.
H. L. Angus, Quincy, Ill.
Dr. Harry A. Barbour, Mayville, Mich.
Dr. Charles H. Bastin, Vancouver, B.C.
Morton P. Bates, Grand Rapids, Mich.
Samuel M. Batterson, Mohler, Oreg.
Dr. Earl Brooks, Noblesville, Ind.
Oscar M. Bryens, McMillan, Mich.
Mrs. Charles L. Bull, Oradell, N. J.
Frank M. Carroll, New Orleans, La.

Lawrence B. Chapman, Newton Highlands,
Mass.
Dr. Karl Christofferson, Blaney, Mich.
Mr. and Mrs. Francis V. Crane, Needham,
Mass.
Norman Criddle, Treesbank, Man.
Mrs. Frederick M. Cutler, Amherst, Mass.
Mrs. Marie Dales, Sioux City, Iowa
W. M. Davidson, Silver Spring, Md.
Donald W. Douglas, Ann Arbor, Mich.
Mrs. Willard H. Edwards, Fairhope, Ala.

Edwin W. Ehmann, Piedmont, Calif.
 Prof. Frank M. Erickson, Salem, Oreg.
 Frank L. Farley, Camrose, Alta.
 Reed W. Ferris, Beaver, Oreg.
 Rev. Paul B. Frydrych, Dayton, Ohio
 Dr. Harry W. Hann, Ann Arbor, Mich.
 Dr. Harold H. Hayes, Hubbard Woods,
 Ill.
 H. Gordon Heggeness, Fargo, N. Dak.
 Lawrence E. Hunter, Dallas City, Ill.
 Egbert Jones, Ceres, Calif.
 W. F. Kubichek, Cedar Rapids, Iowa
 Dr. Harrison F. Lewis, Ottawa, Ont.
 Prof. Raymond R. Marsden, Manchester
 Depot, Vt.
 Vernon L. Marsh, Great Falls, Mont.
 Lewis C. McGregor, Pontiac, Ill.
 Donald D. McLean, San Jose, Calif.
 Jesse V. Miller, Peterboro, N. H.
 Allen S. Montgomery, Owosso, Mich.

Arthur Morley, Swampscott, Mass.
 Arthur N. Pack, Princeton, N. J.
 W. Rodman Peabody, Milton, Mass.
 L. C. Pettibone, Dawson, N. Dak.
 Olin S. Pettingill, Jr., Middleton,
 Mass.
 James V. Porter, Glenwood, Minn.
 Thomas F. Power, Worcester, Mass.
 E. V. Rutherford, St. Paul, Ind.
 Rexford N. Saxton, Washington, D. C.
 John E. Sibley, Whittemore, Mich.
 D. K. Stephenson, South Bend, Ind.
 Mrs. Georgia B. Thomas, Indianapolis,
 Ind.
 Peter J. Van Huizen, Cambridge, Md.
 Mrs. Susan E. Van Zandt, San Rafael,
 Calif.
 Leslie Wheeler, Lake Forest, Ill.
 Julius H. White, Rochester, N. Y.

The following banded between 200 and 300:

Harry G. Anderson, Madison, Wis.
 Lloyd C. Atwell, Lake Villa, Ill.
 James B. Batson, Lumberton, Miss.
 Henry A. Bowden, Litchfield, Conn.
 Clarence Bretsch, Gary, Ind.
 Deane N. Brigham, Kennebunk, Me.
 Read Burtsfield, West Lafayette, Ind.
 Miss Agness Callaway, Fairbury, Nebr.
 Ralph G. Carpenter, II, Wolfeboro,
 N. H.
 R. H. Carter, Jr. Muscow, Sask.
 H. L. Chaffee, Amenia, N. Dak.
 Mrs. Ethel M. Crowell, Franklin,
 Mass.
 Richard J. Eaton, Boston, Mass.
 D. Kemp Edwards, Ottawa, Ont.
 Miss Constance Everett, Waseca,
 Minn.
 Prof. Allan C. Fraser, Ithaca, N. Y.
 C. P. Graham, Leakesville, Miss.
 Mr. and Mrs. Vernon Haskins, East
 Durham, N. Y.
 Walter P. Houle, Forest Lake, Minn.
 Harold L. Hutchins, Hamden, Conn.
 Loyd S. Jenkins, Worcester, Mass.
 William H. Johnson, Waukegan, Ill.
 Robert H. Jordan, Oklahoma City,
 Okla.

Charles D. Lanier, New York City, N. Y.
 S. A. Liddell, Summerland, B. C.
 L. M. Litzenberger, Silver City, N. Mex.
 Lawrence Marshall, Owosso, Mich.
 Raymond O. Marshall, Leetonia, Ohio
 Miss Grace C. Meleney, White Plains,
 N. Y.
 Gale W. Monson, Argusville, N. Dak.
 Mrs. Margaret M. Nice, Columbus, Ohio
 John T. Nichols, New York City, N. Y.
 L. C. Nielsen, Battle Creek, Mich.
 Carl A. A. Pedersen, Mintvale, N. J.
 Samuel E. Perkins, Ill., Indianapolis,
 Ind.
 Mrs. Cristabel S. Rockwood, Northampton,
 Mass.
 Miss Agnes E. Russell, Westfield, Wis.
 Prof. Frank Smith, Hillsdale, Mich.
 William E. Smith, South Chatham,
 Mass.
 Joseph V. Sparmaker, Philadelphia, Pa.
 Mr. and Mrs. Forrest M. Stott,
 St. Petersburg, Fla.
 Frederick C. Stott, Plainfield, N. J.
 Lony B. Strabala, Leetonia, Ohio
 Mrs. John A. Thompson, Minneapolis,
 Minn.
 B. L. von Jarchow, Racine, Wis.

Elmo C. Weeks, Sanbornton, N. H.
Dr. Harold B. Wood, Harrisburg, Pa.

C. Brooke Worth, St. Davids, Pa.
William L. Wotherspoon, Hyas, Sask.

The following banded between 100 and 200:

Ross B. Albaugh, Mayfield Heights,
Ohio

Walter I. Allen, Altadena, Calif.

Jack D. Baker, Santa Rosa, Calif.

Amos P. Balsom, Milwaukee, Wis.

Fred G. Bard, Regina, Sask.

Mr. and Mrs. Clarence A. Barnes,
Los Angeles, Calif.

Beecher Beery, Pleasant Hill, Ohio

Mrs. Anna Benson, Fruita, Colo.

Mrs. Herman Betz, Dunedan, Fla.

Marion A. Boggs, Waynesville, N. C.

John J. Bonavich, Quakake, Pa.

Miss Antonie Borek, Westfield, Mass.

Fred Bradshaw, Regina, Sask.

William E. Brentzel, Fargo, N. Dak.

Henry Bunting, Madison, Wis.

Mrs. George E. Burbank, Sandwich,
Mass.

Dr. Herbert A. Burns, Ah-gwah-ching,
Minn.

Victor H. Cahalane, Bloomfield Hills,
Mich.

Louis W. Campbell, Toledo, Ohio

Mrs. Edith B. Carman, Grand Junction,
Colo.

Prof. Charles Carter, Fairfield, Iowa.

John R. Carter, Muscow, Sask.

Lowell E. Carter, Russiaville, Ind.

Floyd B. Chapman, Columbus, Ohio

Deane Cochrane, Barkerville, B. C.

James B. Connell, Henderson, N. C.

Lee S. Crandall, New York Zoological
Park, New York City.

John H. Davidson, Wilmette, Ill.

C. J. De Line, Owosso, Mich.

C. W. Dickinson, Jr., Richmond, Va.

Ralph D. Dieterle, Detroit, Mich.

Dr. Roy V. Dillingham, Lansing, Mich.

Gustave Domitz, Jr., Pequannock, N.J.

O. E. Ehrhart, Antwerp, Ohio

Albert F. Eichelsdoerfer, Rock Island,
Ill.

Samuel A. Eliot, Jr., Northampton,
Mass.

Miss Ethel B. Finster, Ashville, N.C.

Redington Fiske, Chestnut Hill, Mass.

J. Alfred Flett, Duncan, B. C.

Charles B. Floyd, Boston, Mass.

Frank B. Foster, Haverford, Pa.

Mrs. Harriet A. Frothingham, Brookline,
Mass.

Miss Elizabeth C. Gilliland, Carlisle,
Ind.

Mrs. Elsa K. Glossbrenner, Indianapolis,
Ind.

Mrs. Anna C. Goddard, Greensburg, Ind.

E. O. Grant, Ashland, Me.

Mrs. Florence C. Griscom, Roslyn, Pa.

Mrs. Marjorie L. Guest, Athens, Ohio

Mrs. Mary F. Hall, Lafayette, Calif.

Richard B. Harding, Brookline, Mass.

Floyd W. Hatch, Copemish, Mich.

Harry S. Hathaway, South Auburn, R.I.

Charles S. Hegeman, Montclair, N. J.

Grant Henderson, Greensburg, Ind.

J. C. Higgins, London, Ont.

Richard M. Hinchman, Milton, Mass.

Mrs. Frank D. Hubbard, New Haven, Conn.

N. L. Huff, Minneapolis, Minn.

George A. Ingham, Jr., Collingdale, Pa.

Mrs. Esther L. Jackson, Ohio, Ill.

Randolph Jenks, Morristown, N. J.

Thomas J. Jiracek, La Crosse, Wis.

J. Paul Jones, Des Moines, Iowa

Howard A. W. Kates, Downingtown, Pa.

H. P. Kidd, East Williston, N. Y.

Mrs. Russell D. Kilborne, Hanover, N.H. *

Maxwell R. Knapp, Rhinebeck, N. Y.

Mrs. Sadie B. Knox, Westfield, Mass.

P. Kuntz, Winnipeg, Man.

James A. Laughlin, Marshall, Mo.

Charles P. Lyman, Canton, Mass.

Mrs. Grace R. Mason, Zion, Ill.

James R. McGreal, Somersworth, N. H.

Dr. George E. McPherson, Belchertown,
Mass.

Karl F. Miller, Milwaukee, Wis.

Arthur Milliken, North Andover, Mass.

A. A. Misek, Brainard, Nebr.

Charles E. Northcutt, Columbia, Mo.

Rudolph F. Nunnemacher, Milwaukee, Wis.

Mrs. L. B. Payne, Santa Cruz, Calif.	Miss Edna M. Stevens, Blue Rapids, Kans.
Mrs. Emily C. Peabody, Appleton, Wis.	James W. Stiles, Houston, Tex.
Charles A. Pease, Berkeley, Calif.	Prof. Dayton Stoner, Albany, N. Y.
James L. Peters, Harvard, Mass.	W. B. Taber, Jr., Kansas, Ill.
Charles Platt, Ambler, Pa.	Robert E. Taylor, Oakland, Calif.
Charles H. Preston, Danvers, Mass.	Ben H. Thompson, Berkeley, Calif.
James L. Rhoads, Everett, Wash.	Frank J. Vejtasa, Fairdale, N. Dak.
John McB. Robertson, Buena Park, Calif.	Miss Blanche Vignos, Los Angeles, Calif.
Vernon C. Rossman, Waukesha, Wis.	Rev. Harold W. Wagar, Dell Rapids, S. Dak.
Mr. and Mrs. A. F. Satterthwait, Webster Groves, Mo.	Henry E. Wagner, Detroit, Mich.
Clarence H. Schoenike, Oconomowoc, Wis.	Lawrence Ward, St. Johns, Mich.
Rev. Alphonse N. Schuh, La Crosse, Wis.	Clarence Webb, Jr., Earleville, Md.
Gustav J. Schultz, Sutherland, Iowa	T. F. Wemhaner, Quincy, Ill.
Henry Sears, Boston, Mass.	John P. Wetherill, Jr., Philadelphia, Pa.
Norman O. Sibley, Whittemore, Mich.	Mrs. Henry H. Wilder, Westfield, Mass.
Mrs. Otis H. Smith, San Anselmo, Calif.	Miss Marie G. Willson, Greenwich, Conn.
Wendell P. Smith, Wells River, Vt.	Samuel W. Witmer, Goshen, Ind.
G. D. Sprot, Cobble Hill, B. C.	
Stanley F. Stein, Shakopee, Minn.	

PHOTOGRAPHS

The collection of photographs continues to grow as banding-station operators send in pictures taken in connection with their work. Operators sending in this material are requested to furnish with each print a legend on the back, giving the date, the locality, and the name of the cooperator. Pen and ink is best for this purpose as lead pencil or typewriter is likely to damage the face of the print so that it cannot be copied.

The following photographs have been received since the last issue of Bird Banding Notes:

Lawrence Ward, St. Johns, Mich.: Three, two of the nest of a red-tailed hawk, the third a flashlight picture of a banded saw-whet owl.

Frank W. Robl, Ellinwood, Kans.: Four, showing ducks and geese at his refuge and banding station.

Paul W. Hoffman, Milwaukee, Wis.: Eighteen, including three excellent pictures of a mourning dove, two of a killdeer at her nest, one of a red-eyed vireo on its nest, five splendid pictures of black terns, both adult and young, and seven showing various phases in the life history of the long-billed marsh wren.

Henry C. Kyllingstad, Valley City, N. Dak.: Ten, showing the location of his trapping station, some of his traps, and birds (juncos, nuthatches, and chickadees) at the station.

Miss Ida L. Reveley, Aurora, N. Y.: Three, showing a windowsill substation from within and from the outside, and a group of the traps that she uses.

Carl Welty, Fairfield, Iowa: Six, five of which show a chimney-swift trap in place and other details in connection with the banding of these birds. The other is a picture of a banded ovenbird.

Mrs. Florence K. Daley, Oliverea, N. Y.: Four attractive winter pictures of her station "West Wind", showing the traps with birds feeding about them.

Mrs. Marjorie Lee Guest, Athens, Ohio: Four, two of a banded cardinal and two of a banded horned grebe.

Miss Louise J. Miller, Zion, Ill.: Two of a slate-colored junco that was seven-eighths "albino".

Rev. P. B. Frydrych, Dayton, Ohio: Four, three of an albino starling, the fourth of Mr. Frydrych himself, holding cages containing the starling and a pet parrot.

Miss Dorothy A. Baldwin, Hardwick, Mass.: One, a banded blue jay taking a final peck at her hand in protest against the banding operation.

Martin K. Nelson, Fertile, Minn.: One, of the duck trap, holding several mallards, that is operated by Mr. Nelson and Mr. Brattland at Thief Lake, Minn.

Victor Bracher, Pilot Knob, Oreg.: Two, showing a brood of four young prairie falcons.

Mrs. Effie A. Anthony, Bar Harbor, Me.: Seven, showing birds and traps at her station. One large drop trap, figured in one of the pictures, has caught at least 2,000 birds.

Allan C. Fraser, Ithaca, N. Y.: One, of the "Kellogg Trap", a single-celled device using the vertically sliding door released by a treadle trigger similar to the one on the Potter trap.

WORK AT BANDING STATIONS

In order to conserve space some station activities have been incorporated in the following table. It will be noted that a few stations listed in the table on pages 134-135 are included here with different figures. The figures in the following table, however, are those submitted by the stations and may include records not yet received at the Biological Survey.

Table Showing Banding Work of Certain Stations: Fiscal Year 1933

<u>Operator</u>	<u>Address</u>	<u>Birds banded</u>	<u>Species</u>	<u>Remarks</u>
Baily, Henry P. ^{1/}	Philadelphia, Pa.	2,146	15	Junco, 70; starling, 65.
Baldwin, Miss Dorothy	Hardwick, Mass.	742	21	Junco, 275; song sparrow, 106; white-throated sparrow, 78; tree sparrow, 88.
Blincoe, Mr. and Mrs. B. J.	Dayton, Ohio	101	13	Blue jay, 19; house wren, 10; song sparrow, 33.
Boardman, C. E.	Jamestown, N. Dak.	1,009	37	Junco, 481; clay-colored sparrow, 121; tree sparrow, 130; Lincoln's sparrow, 53.
Brentzel, W. E.	Fargo, N. Dak.	204	24	
Bryens, O. M. ^{1/}	McMillan, Mich.	301	20	Snow bunting, 174; savannah sparrow, 18; purple finch, 23.
Carter, R. H. ^{1/}	Muscow, Sask.	104	15	Junco, 47; tree sparrow 12.
Caughey, Mrs. R. E.	Antrim, N. H.	202	15	Song sparrow, 60; chickadee, 32; junco, 55; tree sparrow, 21.
Conklin, C.	Canal Winchester, Ohio	1,200	27	Starling, 962; chimney swift, 66.
Douglass, D. W. ^{2/}	Ann Arbor, Mich.	218	14	White-throated sparrow 82; towhee, 30; junco, 48.
Garland, Keahon	Demarest, N. J.	206	33	Song sparrow, 32; chickadee, 17; junco, 46.
Gorski, Arthur	Ephraim, Wis.	147	27	White-throated sparrow, 27; junco, 39.
Hann, Harry W.	Ann Arbor, Mich.	620	27	White-throated sparrow 294; catbird, 39; song sparrow, 45; towhee, 36.
Haskins, Vernon ^{1/}	East Durham, N. Y.	225	12	Starling, 107; song sparrow, 21; junco, 24; robin, 20.

Operator	Address	Birds banded	Species	Remarks
Hayes, Dr. H. H.	Hubbard Woods, Ill.	435	17	White-throated sparrow, 256; blue jay, 32; junco, 72.
Laskey, Mrs. F. C.	Nashville, Tenn.	1,352	43	Field sparrow, 478; junco, 98; cardinal, 99.
^{1/} Magee, M. J.	Sault Ste. Marie, Mich.	1,164	-	Purple finch, 811; evening grosbeak, 244.
^{1/} Marsden, Prof. R.R.	Manchester Depot., Vt.	-	-	Purple finch--more than 400; junco--more than 100.
* Matlack, B. K.	Bridgeton, N. J.	865	33	Song sparrow, 216; white-throated sparrow, 163; starling, 204; savannah sparrow, 24.
McCann, H. D.	Paoli, Pa.	1,079	23	
Musselman, T. E.	Quincy, Ill.	-	-	More than 200 bluebirds from about 30 nest boxes.
Robinson, Maj. Geo. D.	St. Petersburg, Fla.	397	23	Florida blue jay, 74; laughing gull, 59; mockingbird, 60; lesser scaup duck, 54.
Robl, Frank W.	Ellinwood, Kans.	1,800	12	Pintail, 1,480; green-winged teal, 87; baldpate, 97; mallard, 65.
Saur, B. C.	Foster, Ohio	1,027	48	Junco, 189; tree sparrow, 75; song sparrow, 80; cardinal, 67.
Saxton, R. N.	Washington, D. C.	433	22	
Shearer, Dr. A. R.	Mont Belvieu, Tex.	4,447	10	Cowbird, 2,823; bronzed grackle, 1,501.
Smiley, A. K. and Daniel, Jr.	Mohonk Lake, N. Y.	1,565	37	(Also 106 returns of 11 species.)
^{1,3/} Stack, Prof. J. W.	East Lansing, Mich.	1,174	57	White-throated sparrow, 240; junco, 146; bank swallow, 192; robin, 140.

Operator	Address	Birds banded	Species	Remarks
Stevens, Prof. O.A.	Fargo, N. Dak.	483	42	White-throated sparrow, 97; Lincoln's sparrow, 51; Harris's sparrow, 73; junco, 44.
Stewart, Paul A.	Leetonia, Ohio	1,053	42	On May 8, took first record of Gambel's sparrow for Ohio.
Weeks, E. C. ^{1/}	Sanbornton, N.H.	131	13	
Wetherbee, Mrs. K. B.	Worcester, Mass.	2,324	56	White-throated sparrow, 387; song sparrow, 260; myrtle warbler, 274; purple finch, 234.
Wilson, Harold C.	Ephraim, Wis.	259	36	White-throated sparrow, 72; bank swallow, 21; junco, 28; robin, 18.

1/ Records for period Jan. 1 to June 30, 1933, only.

2/ Operations conducted at Sand Point, Huron County, Mich.

3/ With student assistance.

Mrs. F. C. Laskey, of Nashville, Tenn., reports a most interesting dispersal movement that has been suggested to her by studying some tabulations of repeats and return records obtained from banded field sparrows. During the 19-month period from Sept. 1, 1931, to March 31, 1933, she handled 367 individuals more than 3,000 times. She has prepared a paper on this subject that will soon appear in the Journal of the Tennessee Academy of Science.

Mrs. Marie Dales, of Sioux City, Iowa, has submitted a summary of her banding operations from May 1, 1924, to July 1, 1933. During this time she has obtained 299 returns from a total banding of 3,622 birds. Forty-six species are represented, the robin leading with 1,382. One of her banded cardinals was recovered at Santee, Nebr., fully 100 miles west of the banding station.

A. V. Harper, of McCreary, Man., while working near Fort Churchill, banded in the nest on July 10, 1933, a brood of young Harris's sparrows. He also banded on July 15, 1933, a few Smith's longspurs in this same region.

C. Brooke Worth, of St. Davids, Pa., banded during the present season, 57 ospreys on the coast of New Jersey.

Henry C. Kyllingstad, of Valley City, N. Dak., has sent in a map showing the location of his banding station, with reference to the surrounding country.

Both native and introduced trees and shrubbery are abundant, providing an excellent environment for a large variety of birds. He reports that during the past season Harris's sparrows were not as abundant as in 1932. A Brenckle water-trap is to be added to his station for fall operations.

Mrs. Blanche M. Getty, of Sioux Falls, S. Dak., has reported the death on June 30, 1933, of the rose-breasted grosbeak (571867) that she called "Arbee". This bird was banded on Sept. 1, 1928, and while accorded complete liberty had refused to leave Mrs. Getty's station, even when flocks of birds of its on species were passing through in migration.

Raymond J. Middleton, of Norristown, Pa., has transmitted a summary report from his banding station, which has recently completed its twelfth year of operation. During this time he has banded 8,612 birds, obtaining 310 station returns, while 53 of his birds have been reported from a distance. He has captured all of the species of thrushes that occur in his vicinity and 25 species of warblers, his total for this latter group being 570 individuals. During the past fiscal year he banded 212 warblers, of 19 species. Of these the redstart leads with 65, followed by the Maryland yellow-throat with 60.

Mrs. R. H. Gardner, of Columbus, Ind., reports that last spring she placed several hollow logs in trees for the use of cavity nesting birds. Two of the nest logs were subsequently occupied by screech owls, the female placing her nest in one while the male occupied the other. Mrs. Gardner comments that the owl notes were much like a muffled telephone ring; in fact, before she knew that owls were in the boxes she had called the telephone company and reported that there must be another party on their line who rang the phone at night every 12 to 20 seconds. The investigation of the telephone company revealed the presence of the screech owls. In the vicinity of her station she finds that yellow warblers, yellow-billed cuckoos, scarlet tanagers, red-winged blackbirds and house wrens have apparently increased. This season, however, she saw only one dickcissel, a species quite common in previous years.

Dr. Dayton Stoner, of Albany, N. Y., has continued his work with the bank swallow. He reports that he has now banded in that area a total of 1,560 young and adult bank swallows from which 22 live returns have been obtained.

Mr. and Mrs. John A. Gillespie, of Glenolden, Pa., have completed 11 years of bird banding, during which time they have banded 5,627 birds of 97 species. One of their birds, a white-throated sparrow (578074), has returned to the station for five consecutive winters. A nesting box placed on the side of their home has been occupied for many years by a pair of crested flycatchers, from which several interesting return records have been obtained.

R. Owen Merriman, of Kingston, Ont., banded more than 1,100 chimney swifts during May. He was prepared to band a much larger number of these birds, but reports that they behaved erratically, and gave him only three opportunities for group banding.

Prof. J. W. Stack, of East Lansing, Mich., reports that during the period from October 12, 1923, to July 1, 1933, the number of birds banded at his station has been 11,467.

Frank R. Smith, of Church Creek, Md., in submitting his report for the last fiscal year comments on the fact that although he has banded a fairly large number of red-winged blackbirds all of those taken have been males. His trap for these birds is set at the edge of a marsh where blackbirds breed in numbers. The males come readily to the trap but he states that the females are never seen in its vicinity, a circumstance he is unable to explain, since in the marsh the sexes seem to be about equal in numbers. He has been successful in banding many birds of prey.

Johnson Neff, of Sacramento, Calif., with several assistants, made a drive for the banding of tricolored redwings. Bands were placed on 1,400.

Glenn L. Berner, of Jamestown, N. Dak., reports that the Harris's sparrow migration of last season fell much short of his expectations. He believes that this is characteristic of them at times. This past spring Mr. Berner reports he was pleased to handle five rose-breasted grosbeaks which was a new species for him. He noted, however, that while these birds were persistent feeders at the traps they were careful not to enter after their first experience.

Mrs. Effie A. Anthony, of Bar Harbor, Me., reports that while last year she had literally thousands of song sparrows passing through during migration, this season she had very few. She also comments on the fact that the red-breasted nuthatch seems to have disappeared from her vicinity and she has learned that similar observations have been made at other points in New England. At present she is studying chickadees by means of colored bands. She has three broods of these birds marked with different colors, and also two different groups that were taken in winter. She has found that groups seem to stay together from one winter to another and that the fledglings evidently go elsewhere to live, as she has never taken them as returns. This is an indication of the many interesting facts that may be determined at banding stations. Mrs. Anthony started banding in 1929; her grand total is now 2,300 birds of 39 species.

Miss Dorothy A. Baldwin, of Hardwick, Mass., also studying chickadees by means of colored bands, reports that of the 20 returns for this species that last fall reported at her station, five had been banded previous to the winter of 1931-1932, but did not appear during that season. While we may think that we know all about the friendly little chickadee, the operations of banding stations are showing that we still have much to learn. Miss Baldwin has had some high return percentages for chickadees, tree sparrows, and song sparrows.

Dr. Frederick C. Test, of Chicago, Ill., reports that there has been a decided comeback of the birds that visit his station. It will be recalled that a year ago he reported that the number had fallen off materially. Dr. Test advises that his brother, Dr. Louis A. Test, and his son, Frederick, Jr., who operate at Purdue University, Lafayette, Ind., are visiting Honduras collecting for the Purdue Museum. Their headquarters are at the Lancetilla Laboratory of the United Fruit Co., near Tela.

Work with Colony Birds.—While reports are not complete to show the total number of gulls, terns, herons, and other colonial birds that have been banded during the summer, enough statements have been obtained to indicate

the extent to which these birds have received attention. W. L. Lyon, of Waukegan, Ill., made an extensive trip for this purpose, going northwest into North Dakota and working also through northern Lake Michigan and Lake Huron. Through the courtesy of the Canadian authorities, and with the cooperation of the U. S. Coast Guard, Mr. Lyon was able to extend his activities into Canadian waters. His report shows the banding of 2,096 herring gulls, 727 ring-billed gulls, 824 common terns, 323 Caspian terns, 80 black-crowned night herons, 34 great blue herons, 139 double-crested cormorants, 136 white pelicans, and many other birds of the smaller groups.

Paul W. Hoffman, of Milwaukee, Wis., banded 115 black terns. He also was able to band 102 long-billed marsh wrens.

Mrs. Ethel M. Crowell and Sears Crowell, of Wood's Hole, Mass., visited the Weepeket Islands and banded 525 common terns, 74 roseate terns, and 30 herring gulls.

R. J. Eaton, of Boston, Mass., banded 349 herring gulls and 2 great black-backed gulls at Egg Rock, Manchester, Mass.

L. B. Fletcher, of Cohasset, Mass., banded 394 common and 300 roseate terns at Penikese Island, Mass.

C. B. Floyd, of Auburndale, Mass., also visited Penikese Island, and banded 2,000 common terns.

Dr. Winsor M. Tyler, of Boston, Mass., a third member of the Penikese Island party, banded 800 common terns, and 200 roseate terns.

United States Reservation Protector H. M. Worcester, of Merrill, Oreg., banded 800 California and ring-billed gulls and 260 white pelicans at Clear Lake, Calif.

Wm. H. Johnson, of Waukegan, Ill., banded 37 common terns, and 4 ring-billed gulls in Delta County, Mich., and 10 great blue herons in Brown County, Wis.

Wm. B. Wright, of Haddon Heights, N. J., banded 89 common terns and 15 black skimmers at Brigantine Beach and Brant Beach, N. J.

Geo. D. Eustis, of Vineyard Haven, Mass., during June and July banded 129 black-crowned night herons.

E. Milby Burton, of Charleston, S. C., working at various points along the coast of that State, banded 3,081 royal terns, 20 Cabot's terns, 140 snowy egrets, 386 Louisiana herons, 260 little blue herons, and several green herons, black-crowned night herons, oyster-catchers, and other birds.

The O. L. Austin Ornithological Research Station, on Cape Cod, Mass., as usual has been conducting an active campaign for the banding of terns on the Massachusetts coast, but final reports on this phase of the work there have not been received.

BANDS

Dr. Harold H. Hayes, of Hubbard Woods, Ill., reports that he has perfected his banding pliers so that one tool will handle bands of any size. It is hoped that sometime it will be possible to describe in Bird Banding Notes this highly efficient tool.

R. O. Merriman, of Kingston, Ont., reports that returns obtained this past season definitely indicate that bands of size 1A are not suitable for chimney swifts. This conclusion has been borne out by the experience of other cooperators, so in future all station operators working with these birds should remember to order bands of size 1.

Samuel M. Batterson, of Mohler, Oreg., recently sent in three badly worn bands that he took from ducks recaptured at his station. He asks whether it is not possible to perfect a band that will last for a longer period. Fortunately all of the bands returned by Mr. Batterson are of a type issued several years ago, and it is believed that the present hard-tempered bands, particularly those of the larger sizes, will last for many years, possibly for the entire life of the bird. The Survey has done much experimental work in efforts to develop a band that would resist the corrosive effect of the strong alkaline waters so prevalent in many parts of the West. It was thought that copper bands would be more satisfactory than aluminum, but actual test indicated that they did not wear as well as the aluminum. Bands made from monel metal would be ideal were it not that this metal is quite expensive and is moreover so stiff that it is extremely difficult to adjust the bands without danger to the birds that carry them.

TRAPS

Edward M. Davis, of Shirley, Mass., has had excellent success during the past year in capturing barn swallows by using butterfly nets with various lengths of handles, and a spotlight. He reports that he has been unable to discover any harm to the nestlings as a result of night capture of the parent birds. He banded 417 barn swallows, of which 82 were adults. Among these were 17 returns from the 159 swallows that he banded last year, a remarkably high percentage.

C. Brooke Worth, of St. Davids, Pa., finds that a quart milk bottle is an excellent gathering cage for the capture of house wrens that are using nesting boxes. He waits until the bird has entered the nest, then puts the mouth of the milk bottle over the hole and taps the box lightly, when the bird will fly out into the bottle. Mr. Worth states that when the bird has gone into the bottle the latter may be held upside down, when the wren will try to climb upward with the result that it becomes wedged in the neck of the bottle. In this position it is easy to apply a band held between small pliers. Then the bottle may be placed on the ground in a slightly inclined position and the wren will soon scamper out. He claims that this method has the advantage of being rapid and of eliminating the necessity for handling the bird.

Malcom Davis, of the National Zoological Park, Washington, D. C., has reported an accidental way in which birds are sometimes caught in fruit-growing sections of the country where it is customary to cover the trees to protect the fruit from attacks of birds. While on a bird walk in nearby Maryland he passed a small orchard of cherry trees which the owner had draped with mosquito netting. On one tree the netting had a large hole near the bottom, and through this several birds had entered and gone to the top of the tree to eat the fruit. They were then unable to escape. Mr. Davis climbed through the opening, stood erect in the lower branches of the tree, and caught four tanagers, two catbirds, and a starling.

Dr. Harold B. Wood, of Harrisburg, Pa., reports that he has had success in capturing bank swallows by driving small stakes above the nest holes and hanging thereon small nets made of black mosquito netting. He states that the hammering should be done gently and it is best to drive in the stakes when the sand is damp.

Gus Domitz, Jr., of Pequannock, N. J., has submitted a sketch of a trigger arrangement that eliminates any chance of the door of the Higgins auto-trip trap being released by the elements, or by a bird alighting on the usual trigger arrangement. The Domitz trigger is made from a bicycle spoke, in two parts, the parts being held together with a small bolt. A short "L" bent at right angles at one end serves to hold the door up when the trap is set. A piece of cord attached to the middle of the trigger goes through a wire loop on the side of the trap and is attached to the door side of the bait pan. Thus when the trap is set the cord is tight from the bait pan to the trigger, the last slanting to the interior of the trap. A bird alighting on the edge of the bait pan forces it down, pulling the cord and dislodging the trigger from the door.

Glenn L. Berner, and C. E. Boardman, of Jamestown, N. Dak., have this past season done considerable experimental work in capturing birds in modified steel traps of small size. They used small single-spring traps and with a pair of pliers squeezed the spring at the bend so that almost all of the strength was taken out of it. Both jaws were then removed, covered with a piece of soft rubber tubing, and replaced. The trigger of the trap had to be bent so that it would go over the rubber tubing. Mr. Boardman states that he set three traps so arranged on fence posts being used by burrowing owls. He captured two meadowlarks, a nighthawk, a flicker, a red-winged blackbird, and a burrowing owl. In no case could he detect the slightest injury to the bird. He states that not even were any scales disturbed on the legs of the captured birds. Such traps must not be used unless they can be kept under observation. The traps should not be fastened; they should be placed so that when sprung the trap, with the bird, will fall to the ground. Mr. Boardman states he is satisfied that with a little time and patience he will be able to capture upland plovers through the use of these traps.

Mr. Berner also reports that he has been able to improve the efficiency of the cloverleaf trap, by adding a chamber similar to the second part of the double funnel sparrow trap. This additional part largely eliminated the escape of birds through the funnels of the cloverleaf trap. It was made of fine mesh netting to protect the bird's bill from injury. He found that about 75

percent of the captured birds were in this holding chamber. The funnel entrance to the holding chamber was made rather conspicuous to enable the captured birds to find it readily. It also was made a little higher, thus providing more room for the funnel. The door for removing the captured birds was arranged in the same manner as on the Government sparrow trap. Since the entire affair seemed rather awkward and cumbersome he fixed the extra chamber so that it was removable by attaching two hooks which fitted into two loops placed one on either side of the chamber.

BAIT

Mrs. F. C. Laskey, of Nashville, Tenn., reports that during cold weather millet seed is a favorite food for juncos, field, chipping, and other sparrows, but from May until October it does not seem to have any attraction. At her station apples cut in halves proved to be the best bait for mockingbirds; large pieces of bread soaked so that they could not be carried away were effective for brown thrashers and grackles; while, as usual, sunflower seed attracted cardinals and towhees. Mrs. Laskey asks for suggestions as to how to capture robins when water is plentiful and also for information on effective baits for goldfinches and meadowlarks. She will be glad to establish contact with any station that has had success in taking these birds.

Edward M. Davis, of Shirley, Mass., reports that at his station he uses large quantities of left-over white and graham bread obtained from a restaurant, and also half a dozen kinds of biscuits. He toasts the bread. No preference for either kind of bread has been noticed. A few warblers taken on this bait seemed to get the bread habit as they returned and gave several repeats. Hermit thrushes, catbirds, towhees, and quail, also were attracted by it. Mr. Davis reports that quail would come to the bread at any time even though there was an abundance of other kinds of food in the vicinity. At one time he caught ten of these birds in a sparrow trap baited only with bread, while on another occasion there were so many quail in his cloverleaf trap that when he approached they actually carried the trap several feet.

RETURNS

Clarence S. Jung, of Milwaukee, Wis., has transmitted an interesting sketch map on which are plotted return records for ducks banded at Moon Lake Wild Life Refuge, near Campbellsport, Wis. The map shows the distribution of records obtained for wood ducks, mallards, black ducks, and coots. It is interesting to note that all of the coots were recovered either on the Atlantic seaboard or in localities indicating that they were enroute thereto. One of them was taken as far north as Maine.

Mallard duck 555414, returned again last spring to her unusual nesting site on the roof of a barn at the game refuge of F. J. Keller, Antioch, Nebr. She returned on March 12, 1933, this being the sixth consecutive return of this bird, which was banded on November 29, 1927.

Two additional longevity records for the herring gull are available. Both of the birds were banded as juveniles by F. C. Lincoln, in the Beaver Islands, Mich.-- 236928 on July 24, 1923, and 237082, on July 25, 1923. The first was found dead at Naubinway, Mich., on August 10, 1932, and the second was found dead at Manistique, Mich., about April 15, 1933.

A longevity return for the purple finch is provided by 135603, banded as an adult male on June 21, 1924, at Northeast Harbor, Me., by Mrs. Eleonora Morgan. It was retrapped at Bar Harbor, Me., on April 28, 1933, by Mrs. Effie A. Anthony.

Richardson's merlin A420558, banded July 6, 1931, at Rosebud, Alta., Canada, by Walter R. Salt, was killed near Tucson, Ariz., on January 28, 1933.

Richardson's merlin A416122, also banded by Mr. Salt, at Rosebud, Alta., July 8, 1930, was shot near Stafford, Ariz., on December 12, 1930 (record only recently received).

Robin 265461, banded July 22, 1929, at Delaware, Ohio, by Harry H. Hipple, was retrapped by Mr. Hipple, on July 7, 1933.

Least tern 62662, banded in Chatham County, Ga., on June 18, 1923, by Gilbert R. Rossignol, was shot on July 9, 1933, near Savannah, Ga.

Brown thrasher 459866, banded at Waseca, Minn., on July 8, 1927, by Constance A. Everett, was retrapped at that station on June 13, 1933.

Harris's sparrow 176079, banded at Fairbury, Nebr., on December 23, 1925, by the Misses Agness and Susie Callaway, was retrapped by them on February 23, 1933.

Harris's sparrow C155332, banded at Aberdeen, S. Dak., on May 9, 1933, by F. W. George, was trapped and released at Winnipeg, Man., on May 14, 1933, by Joseph P. Kennedy.

Duck hawk B661961, banded at Treasure Island, N. J., on September 3, 1932, by Joseph V. Sparmaker, was found with a broken wing at McClure, Ill., on September 22, 1932.

Fox sparrow C197277, banded at Concord, N. H., on April 17, 1933, by Francis B. White, was found dead at Port aux Basques, Newfoundland, on May 13, 1933.

Golden-crowned sparrow C102908, banded at Hayward, Calif., on March 15, 1932, by Helena E. Lindsey, was found dead on May 3, 1933, at Angoon, Alaska.

Vesper sparrow B168632, banded as a fledgling at Smithville, Ohio, on August 17, 1932, by Mrs. Gertrude Rennecker, was killed at Camak, Ga., on December 27, 1932.

Lesser scaup duck 504495, banded on December 29, 1932, at Avery Island, La., by E. A. McIlhenny, was shot in the autumn of 1932, at Clearwater, Man.

Starling B241612, banded on January 25, 1933, at Cincinnati, Ohio, by C. J. Goetz, was recovered at East Fairfield, Vt., on April 15, 1933.

Bluebird C122773, banded at Manchester, N. H., on July 26, 1932, by Fr. Eugene Goellner, was killed at Sharpsburg, N. C., on February 14, 1933.

