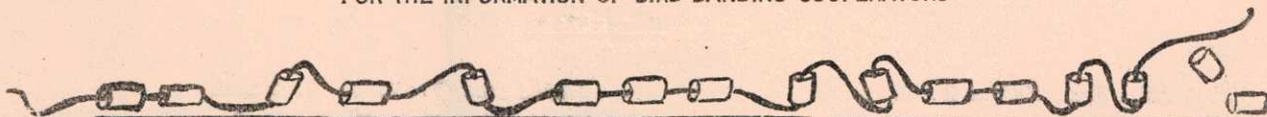


BIRD BANDING NOTES

ISSUED BY THE BUREAU OF BIOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF AGRICULTURE
FOR THE INFORMATION OF BIRD-BANDING COOPERATORS



Vol. 2

Washington, D. C., December, 1931

No. 5

"Watch for Series Designations on Your Bands"

GENERAL INFORMATION FOR COOPERATORS

Delayed Greetings.—Although it may seem somewhat late, the Biological Survey desires to extend Holiday Greetings to all bird-banding cooperators and to express the wish that everyone associated with the Survey, in this work will enjoy a successful year in 1932. Through the efforts and untiring energy of station operators, banding should continue to be one of the most reliable means for obtaining definite information about birds.

Corrections.—In Bird Banding Notes, Vol. 2, No. 4, August, 1931, the results of station activities during the fiscal year that ended June 30, 1931, were given. In listing the total number of birds banded by some cooperators a few errors were made, which it is desired to correct. The name of Wm. P. Wharton, of Groton, Mass., should have appeared in the list of those banding 1,000 or more birds. Mr. Wharton banded 2,039, of which 1,161 were banded at his station at Summerville, S. C., and 878 at his station at Groton, Mass. M. J. Magee, of Sault Ste. Marie, Mich., also should have been placed in this group, as during the fiscal year ending June 30, 1931, he banded 2,019 birds. It should be remembered that this tabulation each year includes only the banding records that are received at the Biological Survey on or before June 30, and for this reason they may not give a correct picture of the total amount of work done at a particular station. It is well, however, for cooperators to bear in mind, that if it is possible for them to do so, schedules concerning species that are not at the time being banded at the station should be mailed so that they will be received in Washington before June 30 of each year.

Inland Meeting.—The Tenth Annual Meeting of the Inland Bird Banding Association was held in Chicago, Ill., November 27 and 28, 1931. The sessions were held in the Lecture Hall of the Chicago Academy of Sciences and were participated in also by the Chicago Ornithological Society and the Illinois Audubon Society. Several interesting papers on the program are printed briefly in "Inland Bird Banding News," Vol. 3, No. 4, December, 1931.

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.

The election of officers for the ensuing year resulted as follows:

Honorary President, S. Prentiss Baldwin	Vice-President, Clarence Bretsch
President, Wm. I. Lyon	Vice-President, Edward S. Thomas
Vice-President and Treasurer, M. J. Magee	Secretary, Edward R. Ford

Councilors

Alabama, Mrs. Helen M. Edwards	Michigan, Prof. J. W. Stack
Alberta, Frank Farley	Minnesota, Mrs. Marie A. Commons
Arkansas, S. H. Weakley	Missouri, A. F. Satterthwait
Illinois, T. E. Musselman	Nebraska, Miss Agness Callaway
Indiana, Dr. Louis A. Test	North Dakota, Prof. O. A. Stevens
Iowa, Mrs. Marie Dales	Ohio, Mrs. Marjorie Lee Guest
Kansas, Frank W. Robl	South Dakota, Arthur L. Lundquist
Louisiana, E. A. McIlhenny	Texas, Dr. A. R. Shearer
Manitoba, Norman Criddle	Wisconsin, Dr. George Wagner

Northeastern Meeting.--The Annual Meeting of the Northeastern Bird Banding Association was held jointly with the Federation of Bird Clubs of New England, on January 15, in Boston, Mass. The meeting was held at the Hotel Statler and consisted of afternoon and evening sessions, with the presentation of an interesting series of papers. All cooperators who can do so should make it a point to attend these annual meetings of the regional associations, to meet and exchange ideas with others interested in the same lines of investigation.

Robin Notes.--Dr. Earl Brooks, president of the Indiana Audubon Society, is collecting a series of robin notes and would appreciate correspondence with anyone who has had interesting experiences with these birds. He may be addressed at Noblesville, Ind.

Posters.--The Biological Survey has had printed on heavy cardboard sheets, 11 by 14 inches in size, posters that are designed to acquaint the public with the purpose for which traps are operated. These posters will be sent upon request to station operators having trouble with uninformed persons who have interfered with the operation of their stations. The posters state: "These traps are operated in cooperation with the Biological Survey, U. S. Department of Agriculture. Birds caught are marked with aluminum bands and are released unharmed. All persons are requested not to interfere with equipment of this station. U. S. Biological Survey."

Endorsement of Applications for Banding Permits.--The Survey desires again to call to the attention of station operators the need to use great care in endorsing applications for persons who wish to band birds. It has been the policy of the bureau to accept as satisfactory the endorsement of persons already operating banding stations. If this practice is to continue, operators must use all precautions to satisfy themselves that the applicants are fully qualified. There are two essential qualifications: First, the applicant must be at least 18 years of age (no exceptions are made to this rule); and second, the applicant must have sufficient knowledge of birds to make accurate identifications of those that may be trapped for banding purposes.

Early Bird Marking.--We are indebted to Mrs. Alice C. Ward, of South Pasadena, Calif., for a bird-marking record dated in 1866. Mrs. Ward discovered the item in the book entitled "Overland through Asia," by Thomas W. Knox. The statement is made that a booby was caught with a hook and line while the ship bearing the narrator was somewhere on the Pacific Ocean. Before the bird was released a medal was attached to its neck, bearing the date, location, and name of the ship. The comment is added that if these birds (boobies) are kept an hour or more on the deck of a ship they become seasick and manifest their illness just as landsmen would.

Subspecies.--Sometimes a station operator requests information as to the total number of birds of a certain subspecies that have been banded, or the total number that have been banded in his State. Without a great amount of labor, it is impossible to furnish these data as all subspecies of a species are listed together. For example, the eastern and western mourning doves are listed under mourning doves, and all the geographic races of the song sparrow are grouped together.

PHOTOGRAPHS

The collection of photographs taken incidental to the bird-banding work continues to grow. Since acknowledgments were last made in Bird Banding Notes the bureau has received the following interesting pictures:

Henry P. Baily, of Overbrook, Philadelphia, Pa.: A view of his second-story porch banding station, which is operated during the summer at Northeast Harbor, Me.

Herbert Buckalew, of Milford, Del., 8: Adult ospreys captured for banding, a nest containing young Cooper hawks, and views of chimney swifts, robins, flickers, and rough-winged swallows captured for banding.

Mrs. Effie A. Anthony, of Bar Harbor, Me.: A series of four of a dovekie that she banded on January 7, 1932. (See further account of this bird under "Work at Banding Stations.")

Mrs. Mack Short, of Wayland, Mich.: An interesting picture of an immature green heron wearing a band.

Ben J. Blincoe, of Dayton, Ohio: A photograph of a blue jay, which remained lying on its back for at least five minutes after it was banded.

Herman F. Koerber, of the State Game Farm, Chino, Calif.: A picture showing his daughter and himself banding an adult barn owl. (Mr. Koerber believes that his daughter, who is 3 years old, is the youngest assistant at any banding station.)

R. A. Johnson, of Oneonta, N. Y., 2: One of Dr. Harrison F. Lewis, of the Canadian National Parks, and an assistant banding double-crested cormorants at the Wolf Bay Sanctuary, located on the north shore of the Gulf of St. Lawrence; and the other of part of a colony of common murrelets on a rock in that sanctuary.

C. J. Goetz, of Cincinnati, Ohio, 2: Showing a brood of barn owls banded by him on the late date of November 26, 1931.

Paul W. Hoffmann, of Milwaukee, Wis.: An attractive series of ten, most of which relate to his work with the black tern. Views of some of Mr. Hoffmann's traps, and of such birds as purple martins, kingfishers, and the nest and eggs of a phoebe are also included. Two of the pictures show Mr. Hoffmann; in one of these he has a purple martin on his knee, and in the other a hermit thrush is perched on one finger.

C. C. Yeomans, of Chicago, Ill.: A series of five, illustrating his use of celluloid in trap construction.

E. C. Weeks, of Sanbornton, N. H., 2: One showing a series of bird houses of several types, and the other an attractive bird bath.

Fred Gallup, of Escondido, Calif., 3: Showing a young screech owl, an immature red-tailed hawk, and two young turkey vultures, all of which are wearing bands.

WORK AT BANDING STATIONS

Charles Livingston Bull, of Oradell, N. J., has transmitted a four months' report covering the banding of 239 new birds, representing 26 species. Mr. Bull states that he is now beginning to get some of the rarer birds, such as the water-thrush and the Connecticut and blue-winged warblers. He has been much surprised at the number of blue jays (47) that he has banded. It seems probable that some of these birds taken at his station were migratory birds en route to winter quarters. The tunnel trap used by Mrs. Clary (see Bird Banding Notes, Vol. 2, No. 3, p. 35) has given exceptional success at Mr. Bull's station. He has four of them in operation.

Frank N. Carroll, New Orleans, La., has conducted a series of interesting banding operations, chiefly on Isle au Pitre off the Louisiana Coast. In the course of his work he banded more than 500 black skimmers and two or three species of terns, together with herring gulls, willets, and herons. A concrete monument with a copper plate imbedded in the top was placed to mark the camp at which this work was done. The tablet is inscribed "F. N. C. Bird-Banding Expedition, 5/12/31 to 7/12/31, member - Inland Bird Banding Association."

Mrs. Effie A. Anthony, of Bar Harbor, Me., has recently had a most interesting experience with a dovekie. This particular bird was first observed on New Year's Day, when it came up to several persons in a fearless manner, even eating from their hands. On January 7 it was found wandering around in grass and bushes, apparently unafraid of a near-by collie dog or a large fire maintained by workmen who were tearing down an old building. It was taken to Mrs. Anthony, who banded it, obtained photographs, and returned it to the ocean. Mrs. Anthony reports that it was in excellent condition.

Floyd B. Chapman, of Columbus, Ohio, in transmitting his report for the period from March 28, 1929, to August 25, 1931, attached thereto an interesting summary of his operations, with many comments relating to various phases of his banding activities. During this period he banded 320 birds representing 32 species, the bronzed grackle heading the list with 87 birds. Fifteen returns were obtained during this time. From a map attached to the report it is easy to see why Mr. Chapman attracts many birds to his station. Seven traps are in use.

Arthur W. Clausen, of Blue Island, Ill., states that birds were very scarce in the vicinity of his station during the fall migration. Because of the drought that still prevails over a large part of the country, it is believed that the conditions referred to are by no means confined to Mr. Clausen's locality. It is well, however, for all banding operators to keep their traps baited and in use. In this way they will be able to maintain a check on the relative numbers of birds in their particular sections and to supply food to birds at a time when it is needed most.

Samuel J. Shellhorn, of Rush, Colo., has transmitted an interesting report of his banding activities. The desert horned lark has received particular attention, and Mr. Shellhorn supplements his banding records with comments concerning the actions of these birds toward each other, particularly when feeding. According to his observations they are decidedly pugnacious.

Rev. James Cosbey, jr., of Buffalo, N. Y., in a recent communication expressed a desire to give some attention to the banding of small shore birds. Much additional experimental work with methods of capturing these species is necessary, though some success has been attained through the use of sparrow traps with a funnel at each end. One of these is shown in Plate 2, Technical Bulletin No. 32, entitled "Returns from Banded Birds, 1925 to 1926."

Mrs. Ethel M. Crowell, of Woods Hole, Mass., continued her work with the terns on Weepeeket Island during this last season. She noted a gratifying increase in their numbers, and estimated that this last season there were about 5,000 adult birds as compared with 2,000 in 1930. During the year she banded 2,511, an increase of 1,428 over the number banded in 1930. Two adult birds that she had banded in 1930 were captured.

Charles H. Feltes, of Modesto, Calif., reports that from the time he banded his first bird, on July 10, 1930, to July 10, 1931, he banded a total of 810 birds. He hopes to exceed 1,000 for his second year's record.

E. L. Summer, of Berkeley, Calif., banded 1,634 birds of 33 species during 1931. Golden-crowned sparrows head his list with 350 banded, followed by fox sparrows with 235, and San Francisco towhees with 191.

E. Earl Bell, of Water Valley, Miss., reports a total of 852 birds banded during his first year as a bird-banding cooperator. There are very few banding stations in the Southern States, so it is a matter of much satisfaction to note the activity that is being shown by Mr. Bell.

Richard Gordon, superintendent of the Paul J. Rainey Wild Life Sanctuary in Louisiana, has reported that he expects to band at least 2,000 ducks during the present season. He reports that there is an abundance of duck food on the sanctuary and that to help this along he has purchased 27 tons of rice, which will be fed during the season.

Mrs. Hannah R. Gray, of Wilton, N. Dak., who is working in close cooperation with Prof. O. A. Stevens, of Fargo, N. Dak., included in her first banding report the records of 348 birds of 31 species. Mrs. Gray reports that she finds banding activities to be interesting and enjoyable, as well as instructive. There are about 2,000 others in the United States and Canada who have the same feeling.

Lyndon L. Hargrave, of the Museum of Northern Arizona, Flagstaff, Ariz., recently banded a fairly large number of Merriam turkeys that were released in the San Francisco Mountains in a restocking program. A result of his banding operations with small birds was the discovery that the red-backed junco breeds at a much lower altitude in the San Francisco Mountains than was previously known.

Mrs. E. Louise Hathaway, of West Bridgewater, Mass., has transmitted an interesting report dealing with a brood of young bluebirds raised by her. It appears that the mother was killed in a storm at a time when the young were about 14 days old. The male bird continued to feed the young for five days and with Mrs. Hathaway's assistance succeeded in rearing them to maturity. In contrast to some of the stations that have reported a scarcity of birds it is gratifying to note Mrs. Hathaway's statement that this year she observed more kinds of birds with many more young than for several years past.

R. A. Johnson, of Oneonta, N. Y., made a trip in August to some of the islands off the coast of Quebec, where he was successful in banding 55 common murrelets, 26 razor-billed auks, 24 great black-backed gulls, and 4 puffins.

Egbert R. Jones, of Ceres, Calif., has sent in a report showing a large number of waterfowl banded by him, including widgeons, cinnamon and green-winged teal, mallards, gadwalls, coots, and two swans.

Clarence Jung, of Milwaukee, Wis., has continued his work with shore birds and this past season he was successful in banding 79 spotted sandpipers, together with several semipalmated, least, and Baird's sandpipers, and a few piping plovers.

F. E. and C. C. Ludwig, of Lansing, Mich., visited several islands in Lake Huron, during the past season and banded 1,975 common terns, and fourteen herring gulls.

Charles P. Lyman, of Canton, Mass., during the summer visited Duck Island, where he banded 155 herring gulls and 18 Leach's petrels. In general the work with gulls and terns was highly successful during the past season, and it is believed that under the direction of Mr. Wm. I. Lyon, president of the Inland Bird Banding Association, practically all of the colonies of these birds in the lower Great Lakes were visited by at least one bird-banding operator.

Raymond O. Marshall, of Leetonia, Ohio, in transmitting a recent bird-banding report comments on the fact that he was able to band two Lincoln sparrows, which is one of the rarest of the sparrows in his locality. It is, of course, true that this sparrow seldom occurs in such numbers as to be called "plentiful," but nevertheless it has been taken repeatedly at banding stations in regions where it was supposed to be very rare.

E. A. McIlhenny, of Avery Island, La., has resumed the operation of his waterfowl banding station. By the close of the calendar year he had banded nearly 2,000 ducks of several different species. In connection with speculations relative to the sex ratio of waterfowl, it is interesting to note that the drakes far outnumber the hens.

Mrs. Elenora S. Morgan, of Northeast Harbor, Me., who, it will be recalled, has been making a study of hummingbirds at that place, reports that she has found this to be a very strange bird year. Very few hummingbirds have been seen, and for the first time in five years she has not recaptured a single hummingbird banded by her during previous seasons. This has been a most interesting study, and it is to be hoped that Mrs. Morgan will be able to continue her investigations.

L. C. Nielson, of Battle Creek, Mich., has reported banding records for 173 birds. His list is headed by bronzed grackles, of which he banded 121. Because of the fact that grackles and other blackbirds are frequently killed by farmers many interesting return records are being obtained. Mr. Nielson also banded 24 blue jays.

Carl A. A. Pedersen, of Montvale, N. J., has recently submitted his first bird banding report. He is starting out with a good record, which it is hoped will be continued in succeeding years. In commenting upon the activities of his station he states that he was troubled all summer by honey bees lining the rim of the bath and apparently frightening the birds.

Thomas F. Power, of Worcester, Mass., banded 134 laughing gulls at Muskeget Island, Mass., during the past summer.

A. F. and E. A. Satterthwait, of Webster Groves, Mo., in their report of bird-banding operations for the period January 1 to August 31, 1931, reported the banding of 116 birds, representing 19 species. Two return records were obtained. According to their report, this season has not been as lively as the last one. Although they had many birds feeding in their garden, a comparatively small proportion of them came to the traps.

Orion O. Smith, of Rockford, Ill., a new cooperator, has recently submitted his first banding report. Mr. Smith stated he was somewhat discouraged because of the fact that he did not band a larger number of birds. In spite of the fact, however, that his station is located within a short distance of a business section of Rockford, it is believed that by continuous operation he will be successful in attracting an increasingly large number of birds. Other station operators who have established stations under similar conditions have had this experience.

Stanley F. Stein, of Shakopee, Minn., is another new cooperator who has recently transmitted his first station report, from which it is noted that he has banded 85 birds of 20 species. His station is located on the banks of the Minnesota River on property owned by the local Boy Scout troop. During the past five years birds have been attracted to and protected on this piece of property, so it would seem that he has an excellent opportunity for banding work.

Prof. O. A. Stevens, of Fargo, N. Dak., made a trip to Ontario and New York in August 1931, in the course of which he had an opportunity to visit the banding stations of Oscar M. Bryens, McMillan, Mich.; M. J. Magee, Sault Ste. Marie, Mich.; S. Prentiss Baldwin, Gates Mills, Ohio; Dr. M. D. Pirnie, at the Kellogg Bird Sanctuary, Augusta, Mich.; and W. I. Lyon, at Waukegan, Ill. The Survey believes that contacts established in this way are decidedly helpful to all concerned, and station operators planning trips to various parts of the country are urged to supply a list of the towns and cities that they expect to visit so that the bureau can advise them whether or not banding stations are operated at those places.

Paul A. Stewart, of Leetonia, Ohio, has banded 119 barn swallows during the past season. He writes that he hoped a flash light could be used to take the birds from their nests at night. Thus far, however, he has had very little success, though he still believes that there are possibilities for the use of such equipment. He suggests that the nights selected may not have been dark enough, and he plans to continue his experiments in another season. He also reports finding a large number of bird flies on birds handled late in the summer. Some of these were collected and sent to Harold Peters of the United States Bureau of Entomology.

Lony B. Strabala, of Leetonia, Ohio, also made a special effort to band barn swallows, and he has reported 330 of these birds. He states that about 35 barns were visited, some of which contained as many as 25 or 30 nests.

A. W. Higgins, of Rock, Mass., has on at least one occasion built a trap that was successful in capturing barn swallows.

Henry E. Wagner, of Detroit, Mich., reports banding 133 birds of 18 species during 1931. From these, 31 repeats and 5 returns were obtained. Of special note in his report are the banding records of three cardinals, the first Mr. Wagner has seen in his yard.

N. Harold West, of Wichita, Kans., banded a cormorant that was obtained in an unusual manner. An elevator workman hearing an unusual noise on the top of a ten-story building investigated and found the bird lying on the roof. It was a young one, and probably was flying so low that it struck the elevator shaft, and was partially stunned. It was banded and the following morning taken to the river bank and liberated.

J. P. Wetherill, jr., of Winter Harbor, Me., has transmitted an interesting report covering 171 birds. It is noted that, while in 1930 immature birds made up 55 per cent of the white-throated sparrows taken at his station, more than 89 per cent of the white-throated sparrows taken during 1931 were immature birds. Attached to the report is an interesting series of graphs, prepared to show the relation at Mr. Wetherill's station between the numbers of birds trapped on different days and the state of the weather. These graphs seem to indicate a definite connection. During or immediately before periods of rainfall, for instance, they show a decided increase in the number of birds taken.

BANDS

To meet requests from many cooperators, the bureau now has a supply of colored celluloid bands to furnish to those station operators who are conducting special investigations. The bands are made in sizes corresponding to numbers one, two, and three of the aluminum bands and are red, blue, green, yellow, or lavender, these colors having been adopted upon the recommendation of Mrs. Margaret M. Nice, Dr. Wilbur K. Butts, and others who have had experience in color banding. The colored bands are to be used only in connection with special studies, to keep certain birds under observation without the necessity of frequent re-trapping. When used they should be attached in addition to the regular aluminum band.

The No. 1 bands that are being issued this year are slightly smaller than those previously in use. The reduction in size has been made so that these bands will fit better when used on kinglets, warblers, and other birds with extremely small tarsi. All cooperators should take notice also that the larger sparrows and some of the other birds on which No. 1 bands were formerly used must now be banded with No. 1-A. Actually there is very little difference between the sizes No. 1 and No. 1-A, No. 1 measures .083 inch, while the latter measures .125. The difference in diameter in these two bands is accordingly only .042. This is, however, sufficient to allow the operator to exercise some choice for the smaller birds.

In planning future operations with chimney swifts station operators should remember that these birds require bands of Size 1-A. Size 1 is too small and can not be used.

In reducing the size of the No. 1 bands the entire length of the piece of metal is now occupied by the legend and number. This means that occasionally the band-making machine will spread the metal so that the part of the number or legend will be omitted or stamped only in part. Station operators should examine every band and destroy all imperfect bands. It is not necessary to report the destruction of imperfect bands.

Although the Manual for Bird Banders specifies certain sizes of bands for the different species of birds the Survey expects every station operator to use his own judgment in this matter as it occasionally happens that a bird will have a tarsus that is decidedly smaller or larger than the average. Grackles and blue jays, for example, usually take No. 3 bands, but occasionally one will be found with a tarsus so large that a No. 4 band is required. Attention should be paid to this as it is important that all bird banding be done in such a way that the bands will in no way injure the birds. A properly placed band should be loose and free to turn easily, but it should not be so loose that there is any danger of its slipping down over the toes when the bird's foot is closed.

In the manual the No. 6 band is specified for crows, but as the No. 5 bands are now made of heavier metal it is believed that they will be better suited for these birds. Floyd B. Chapman, of Columbus, Ohio, has made tests and has found that No. 5 is entirely satisfactory. It is not believed that they can be removed by the crows.

Mrs. Effie A. Anthony, of Great Head, Bar Harbor, Me., has found that No. 2 bands are too large for downy woodpeckers. She has been using size one, but it is believed that the new No. 1 will be much too small for these birds and that size 1-A may be better.

Bands by Air Mail.—Requests for orders of bands to be sent by Air Mail should be carefully considered. This is an expensive matter and the bureau can not undertake to establish the practice, although special cases will always receive consideration.

TRAPS

Charles J. Spiker, of Canastota, N. Y., has submitted an interesting report of the method used by Verdi Burtch and himself in capturing barn swallows for banding. They go out after dark in a rowboat in the marsh of Keuka Lake, at Branchport, N. Y., equipped with flash lights and butterfly nets. As is well known the swallows after leaving the barns roost at night on the cattails and other marsh vegetation and are easily blinded by glaring lights. These operators have taken as high as 40 birds in one night. Mr. Spiker suggests that a list of the species of birds that have never been banded be published in Bird Banding Notes. This would be of much interest, and the matter will be kept in mind so that when an opportunity is presented such a list can be prepared.

Rudolph F. Nunnemacker, of Nashotah, Wis., reports that he has had no success in his attempts to capture robins and other birds through the use of the aerial clap net that is described in the Manual. This net was originally designed by Herbert L. Stoddard and his associates and was successfully used by them at Milwaukee to capture robins, grackles, and other birds. The Survey would be glad to receive reports from others who have used this net.

E. Earl Bell, of Water Valley, Miss., makes an important contribution with reference to the chimney swift trap. He built one and used it on a large chimney but found that the swifts came out so fast that they choked up the lower end of the funnel. At one time it was packed full of birds, and by the time the stovepipe was disconnected from the funnel and the birds unpacked, several of them had been smothered. As a result of this experience Mr. Bell states that a stovepipe is not large enough where there are many birds in a large chimney. He believes that it will work all right on small chimneys, but if he repeats his work next year with this species he plans to have a pipe at least twelve inches in diameter.

C. C. Yeomans, of Chicago, Ill., has conducted some interesting experiments with sheet celluloid for trap construction. He has used it as a lining for gathering cages and as material for the walls of single-celled Potter traps, woodpecker traps, and even the Government sparrow trap. Because of the transparency of celluloid traps, he believes that birds enter them more readily than they do wire traps. He also reports that the use of celluloid definitely prevents any injuries to heads and bills, and greatly facilitates the operator's observation of the birds. Mr. Yeomans states, however, that traps made of celluloid are extremely fragile and probably will not stand much hard usage.

Dr. W. Bruce Large, who operates a waterfowl banding station in the city of Rochester, N. Y., has furnished a description and diagram of the trap that he uses. This is designed particularly for use where operations are conducted almost entirely in view of the public and where it is difficult or impossible to avoid the presence of spectators. One of the principal features of the trap is the means by which the captured birds in the trap are separated into small groups so that there is less confusion when they are being banded. The bureau will be glad to furnish details to waterfowl operators who have need of a trap of this character.

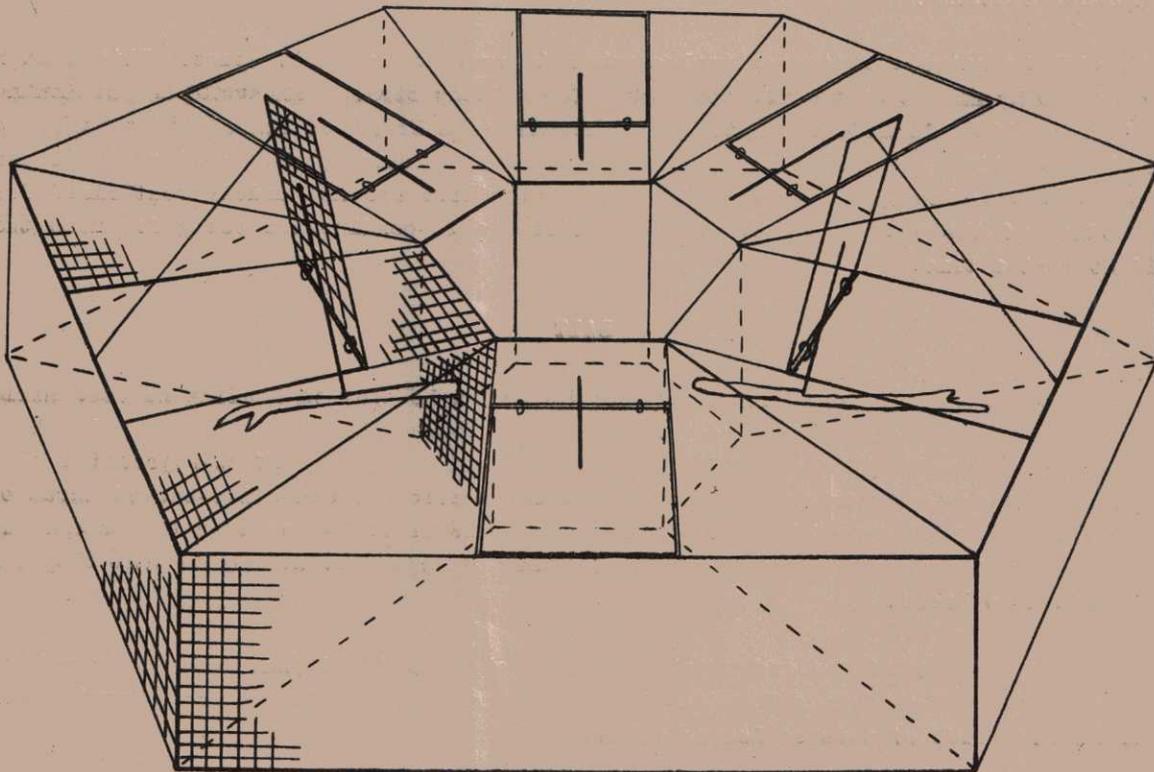
Dr. Harold B. Wood, of Harrisburg, Pa., calls attention to the fact that 3/4" chicken wire can be obtained from the Buffalo Wire Works Co., 308 Terrace Street, Buffalo, N. Y. This company also has a branch office at 99 Seventh Street, Philadelphia, Pa. He advises us that their present prices for this netting are: 5 cents per linear foot for the 1-foot width, 9 cents for the 2-foot width, 12 cents for the 3-foot width, and 17 cents for the 4-foot width.

John H. Davidson, of Wilmette, Ill., has reported that this winter he is making several additional traps, one of which embodies the features of the Cohasset warbler trap and the Potter trap. In other words the trap will be baited by dripping water and will have both a top funnel entrance and a ground entrance operated by the sliding door and treadle. It would seem that this trap should be quite useful; but as the bureau has advised Mr. Davidson, it may be desirable to have a partition in the trap so that birds that have entered through the top funnel will not be able to escape through the side entrance.

Raymond O. Marshall, of Leetonia, Ohio, has had some difficulty with mice that enter his traps and destroy the bait. These animals can usually be caught in the ordinary spring mouse traps, but in setting them in the vicinity of banding traps it is advisable to place them in sections of sewer-pipe tile or small boxes that are open at both ends and are not likely to be entered by birds. In setting traps of this kind, one should always exercise special care if there is any likelihood of such birds as the Carolina wren or towhee getting into them.

Carl Welty, of Fairfield, Iowa, has sent in an account and sketch of a modification that he has made for the ordinary funnel trap. As made by him, this trap is in effect the front-section of the Government sparrow trap with the funnel set back about 4 or 5 inches from the front and a piece of netting extended across the front, making the trap more box-like. A small funnel is placed in one corner of the front and another funnel is placed on the side, thus giving two entrances by which birds may enter the area enclosed by the main funnel, through which they then enter the rear compartment.

A New Warbler Trap.—We are indebted to Dr. J. F. Brenckle of Northville, S. Dak., for the ideas embraced in the accompanying figure for a warbler trap based upon the principle of the Chardonneret trap.



As made by Doctor Brenckle the trap measures 30 inches in diameter and 8 inches in height. It is in effect a 6-celled Chardonneret in which the water in all cells is energized by one water-drip; that is, the shallow pan for bathing and drinking (not shown in sketch), should be large enough to extend into all trap chambers. The sketch shows the trap in a hexagonal shape, but in actual construction it might be simpler to make it round. No. 2 hardware cloth is used throughout. Rubber bands are used to make the doors close more quickly. For an account of the action of the Chardonneret trap see "Manual for Bird Banders," pages 37 and 38.

The chief advantage in a multiple-celled trap is that it is not necessary to disturb the birds present in the trap area by resetting so frequently as it is when one and two-celled traps are used. Doctor Brenckle reports that he set the first trap of this type on August 27 and that by September 25 it had caught more than 200 birds, mostly warblers, flycatchers, thrushes, and other nonseed eaters. It also caught the usual run of ground-feeding birds.

In using water-drip traps, particularly for warblers, it is a fact that most success results from sets placed under fruit trees. This has been demonstrated at several stations. Also, in adjusting the drip it is desirable to have the frequency high enough to keep the water surface in the trap chambers in constant agitation. About two drops per second is usually right.

The Survey recommends that all stations in a position to work with warblers add one of these traps to their equipment in anticipation of the spring migration. It will serve as an excellent starting point for further experimental work. Doctor Brenckle reports that a local shop (in Northville) is ready to manufacture a few of his new traps if they are desired at other stations.

It will be noted that the central chamber is apparently waste space. This must be put to good use by making it a confinement cell for a decoy bird. This would be particularly useful when effort is made to capture the parents of a brood of banded young as one or more of the juveniles might be placed in this chamber. In using young to attract the parents, one must exercise great care to see that the adults are not unduly restrained from proper feeding of the young. It is rarely justifiable to confine the young for more than one-half hour at a time.

BAIT

Carl Eggert, of Rockford, Ill., reports that when he started banding he used millet seed, cracked corn, and sunflower seeds with little success. He then tried crumbled bread fully dried or toasted. This he found attracted practically all of the ground feeding birds and in addition nuthatches, ovenbirds, Baltimore orioles, and olive-backed thrus es. He believes that possibly the birds were able to see the bread better than the seeds. The birds he was trapping, however, were in a residential district and it may be that they were more accustomed to bread.

Mrs. Mack Short, of Wayland, Mich., reports she has found that butternuts make an excellent bait for chickadees and nuthatches. She finds that walnuts are a good second choice and other kinds of nuts of lesser value.

Floyd B. Chapman, of Columbus, Ohio, states that the red berries of the bush honeysuckle when in season, make an excellent bait for robins, catbirds, and brown thrashers. The latter also are fond of white bread, and he has noted that sprigs of ripe elderberries make an excellent bait. In catching robins in the spring he had success by making a small

artificial mud puddle covered by a drop trap to which the robins came for nesting material. In a few cases, robins caught in this way were back for more mud within a half hour after banding.

RECORDS

Occasionally some station operator still reports new banded birds on schedules and also upon the return cards (Bi-137). Every bird-banding station should have a copy of the Survey memorandum of February 15, 1930, which contains instructions for the use of these return cards. Copies of this will be supplied to any cooperater who does not have one.

In handling her bands and records, Mrs. Arch Cochran, of Nashville, Tenn., uses an efficient method that may be useful for anyone obliged to fit banding activities in with an otherwise busy program. Each band, she reports, is kept already opened in a piece of folded paper with the number of the band written on it. In this way at the time of banding it is necessary only to write the date, species, and other pertinent information on the slips, from which her records are made up at her convenience. The bands and their individual paper slips are held together with paper clips in packages of ten.

Reports of return records for birds that may be residents in the vicinity and that have repeated a number of times subsequent to banding or to the last reported recapture should include the last date of repeat from which the return date is calculated. This information may be noted on the back of the return card at the left hand end, or it may be placed on the front of the card under the heading "Where Retaken" or "Where Banded." In other words, return cards for such birds should show why the return date is considered an actual return. For example, assume that a song sparrow banded on February 1, 1931, repeated 12 or 15 times up to and including May 1, 1931, then disappeared and was recaptured on August 10, 1931. On Form Bi-137, there is space only for the date of banding and without a statement that the bird had repeated several times up to May 1, the report would give an erroneous impression of the bird's activities. If, however, a statement is made either on the face or on the back of the card that the bird repeated several times up to and including May 1, the significance of the recapture on August 10 is shown truly.

RETURNS

Because of the fact that in some cities and towns there are several active bird-banding stations that recapture one another's birds, it has become necessary to define a bona fide station to station return. It is assumed that the operators of these stations will be in contact with one another and can with little difficulty ascertain whether a particular bird was banded at a neighboring station. With this in mind, the ruling is here made that station to station returns suitable for report upon the usual return cards must be from a station at least 5 miles in an air line from the banding station. If the station to station distance is less than 5 miles, such records will be considered as repeats; and while it is desirable to keep a record of such cases at the individual stations, they need not be reported to the bureau. Of course, if a period of 3 months or more has elapsed since the birds were last trapped at either station their capture at the neighboring stations would become returns even though the stations were close together, assuming that both stations had been in continuous operation.

The above rule also will apply in cases where station operators have moved from one locality to another in the same general region and have recaptured birds banded at the former place.

Some station operators are still in doubt when it comes to deciding whether or not the recapture of a banded bird that belongs to a resident species should be considered as a return. It is not yet known whether individual birds are resident in all localities and accordingly the Survey rules that if a banded bird has been absent for a period of three months or more, during which time traps have been in operation, the recapture should be reported as a return regardless of the species.

Among many interesting returns received during the past few months, the following are particularly noteworthy:

Louisiana heron No. A517175, banded June 11, 1931, at Heron Island, S. C., by E. Milby Burton, was found dead on October 1, 1931, at Ponce, Porto Rico.

Louisiana heron No. A517274, banded June 15, 1931, at Heron Island, S. C., by E. Milby Burton, was shot about November 24, 1931, near Havana, Cuba.

Louisiana heron No. A51732-, banded June 15, 1931, at Heron Island, S. C., by E. Milby Burton, was shot on October 23, 1931, at Matthew Town, Inagua, Bahama Islands.

Black-crowned night heron No. A675440, banded July 3, 1931, at Rush Lake near Webster, S. Dak., by A. R. Lundquist, was killed on October 25, 1931, at Ariguanabos Lagoon, 30 miles west of Havana, Cuba.

Mallard No. A684863, banded during the spring of 1930, at Phoenixville, Pa., by Frank B. Foster, was shot on November 19, 1931, 25 miles west of Pittsburg, Kans.

Black duck No. 5180, banded September 15, 1921, at Lake Scugog, Ontario, by H. S. Osler, was shot on October 1, 1930, at Jolicure, New Brunswick.

Pintail No. A692360, banded at Lake Merritt, Oakland, Calif., on January 20, 1931, was shot on December 8, 1931, at Lake Charles, La.

Pintail No. A658589, banded at Avery Island, La., on February 13, 1930, by E. A. McIlhenny, was shipped to the Biological Survey at Washington, D. C., and released on the Potomac River. It was killed about October 30, 1931, at Leonard, Mo.

Blue-winged teal No. A510183, banded at Ellinwood, Kans., on April 24, 1930, by Frank W. Robl, was shot on November 7, 1931, at Corocito, Honduras.

Redhead No. A 687079, banded in Box Elder Co., Utah, on July 29, 1931, by Geo. E. Mushbach, was shot on August 26, 1931, at El Descanso, Lower California.

Ruddy duck No. B600420, banded as an immature at Big Suamico, Green Bay, Wis., on September 25, 1931, by L. H. Barkhausen, was shot on December 9, 1931, at Raspenburg, Md.

Red-tailed hawk No. 204810, banded at Muscow, Saskatchewan, on June 30, 1924, by R. H. Carter, was "found" at Balcarres, Saskatchewan, on August 15, 1931.

Ferruginous rough-leg No. A709881, banded at Rosebud, Alberta, on July 1, 1931, by Walter R. Salt, was found injured at Alpine, Tex., on November 8, 1931.

Ferruginous rough-leg No. A709877, banded on July 8, 1930, at Rosebud, Alberta, by Walter R. Salt, was caught in a steel trap on October 27, 1931, at Tatum, N. Mex.

Coot No. A666392, banded at Avery Island, La., on January 26, 1931, by E. A. McIlhenny, was shot on August 29, 1931, at Ochre Pit Cove, Bay de Verde District, Newfoundland.

Herring gull No. 385539, banded at St. James, Mich., on June 27, 1925, by F. C. Lincoln was captured about August 18, 1931, at Silver Water, Ontario.

Common tern No. A389005, banded on July 11, 1921, at Lone Tree Island, Lake Huron, Mich., by F. E. Ludwig, was found dead about November 15, 1931, at Cristobal, Panama.

Royal tern No. A531533, banded at Cape Romain, S. C., on July 18, 1931, by E. Milby Burton, was found dead about November 13, 1931, on the Higuamo River, Dominican Republic.

Mourning dove No. 528639, banded at East Lansing, Mich., on May 24, 1928, by Prof. J. W. Stack, was shot at Sharpsburg, Md., on September 4, 1931.

Barn swallow No. F35418, banded at North Eastham, Cape Cod, Mass., on June 28, 1931, by Dr. O. L. Austin, was found dead caught in asphalt on the roof of a building in Panama City, Florida, about September 9, 1931.

Bluebird No. F35321, banded at North Eastham, Cape Cod, Mass., on June 23, 1931, by Dr. O. L. Austin, was found dead about December 18, 1931, at Merry Hill, N. C.

Chipping sparrow No. C79688, banded at North Eastham, Cape Cod, Mass., on September 4, 1930, by Dr. O. L. Austin, was killed at Grand Crossing, Fla., on November 27, 1931.

White-crowned sparrow No. A196315, banded May 18, 1930, at Woodland, Ulster County, N. Y., by Mrs. Inez M. Haring, was killed about December 10, 1931, at Moody, Tex.

Gambel's sparrow No. B84846, was banded February 28, 1929, at the station of Mrs. Ben L. Clary, at Coachella, Calif. It repeated the same day and returned on November 18, 1929, repeating on November 25, 26, and 27, January 30, 1930, and on March 9 and 27. It again returned on October 13, 1930, and repeated on October 20 and 28, November 11 and 21, January 13, 17 (2), and 18, 1931, and February 11, 12, and 13. It returned for the third time October 24, 1931.

