

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF BIOLOGICAL SURVEY
Washington, D. C.

BIRD BANDING NOTES.

No. 1.

April 15, 1922.

ANNOUNCEMENT BY THE CHIEF OF THE BIOLOGICAL SURVEY.

To the Bird Banding Collaborators of the Biological Survey:

Realizing that our collaborators in bird banding work desire to keep in touch with any developments that will further this project, and to know of "returns" of exceptional interest that may be received, the Biological Survey has been considering what steps should be taken to this end. Station operators are frequently experimenting with new methods of trapping that might well be adopted at other points, and as the work becomes more thoroughly coordinated, the many stations will be obtaining results that should be explained in detail for the benefit of all. It has therefore been decided to issue a mimeographed circular under the present title whenever the information in hand is such as to make it advisable.

This is expected also materially to reduce the bulk of the correspondence that has developed since the bird banding work was taken over by the Biological Survey. A large part of this correspondence consists in acknowledging the schedules or records of bird banding that are sent in monthly. Special information will always be gladly furnished in individual cases, but these circulars will be relied on to supply some of the information that has heretofore been included in letters. Collaborators are invited to report the results of any experiments that have been found useful in advancing the work, so that these may be made available for the benefit of other operators.

E. W. Nelson

NOTE.-"Bird Banding Notes" is not a publication in any sense of the word, being issued merely for the information of our collaborators, not for general distribution. However, anyone using in a published paper any of the information contained in this circular will be expected to give full credit to the person named and to the Biological Survey.

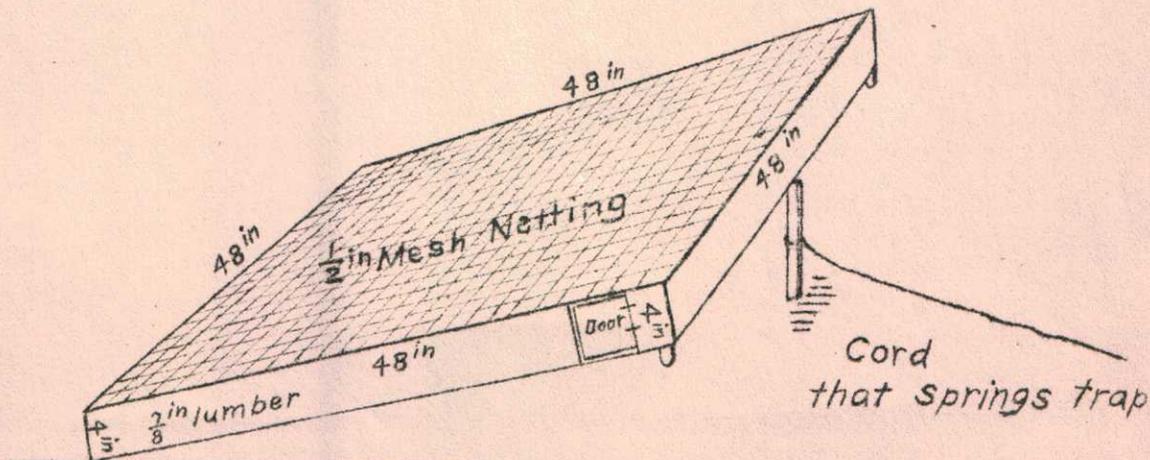
PERMITS.

Federal permits are necessary in all cases for bird banding work. State permits also are required by most States, some of which issue them without charge to the collaborator, when notified by the Biological Survey that the applicant has a Federal permit. Other States have taken the position that the Federal permit is sufficient authority. Each operator should be informed as to the attitude of his State game officials and be prepared to cooperate with them at all times, for the success of the bird banding work depends in a large measure upon complete cooperation between officials and collaborators.

DROP TRAP.

A device, which is merely an improved type of the old time "sieve trap," has been successfully used by some of our collaborators to capture birds for banding purposes, particularly during the summer months when many birds hesitate to enter the Government sparrow trap that is generally used. In view of the cheap construction and the assurance with which it may be used, we believe that station operators may well add it to their other equipment. As shown in the sketch, the trap consists of a frame about four feet square, made of $\frac{7}{8}$ inch boards cut four inches wide. This is covered on one side with netting (either wire or twine), tacked securely. A small door, five or six inches long, is provided near one corner, through which captured birds may be driven into a gathering cage or box for banding. Small knobs, not over an inch in length, should be attached at each corner to reduce the danger of the trap's falling on a bird that might be leaving as the trap is pulled. The tray thus made is supported on one side by a light stick, 8 or 10 inches long, with a string attached to it and running to a window or other convenient observation point. Bait, in the form of bread crumbs and small seeds, is sprinkled liberally under the trap. A sharp pull on the string will remove the supporting stick and drop the tray over any bird that has been enticed underneath.

Mr. S. Prentiss Baldwin has used at his Cleveland station a modification of this trap which he describes in detail farther on in this issue of "Bird Banding Notes," and Mr. Wm. I. Lyon, of Waukegan, Ill., has built several traps of this type entirely of wire netting. For this, one piece of the netting is used, the edges being bent down to form the sides. We understand that Mr. Lyon is planning to manufacture this trap for the use of our collaborators, and it may be advisable for those interested to communicate with him on the subject.



At the request of several of our collaborators, and because of his extensive experience in this work, we have requested Mr. Baldwin to prepare a detailed account that will set forth his ideas as to the proper organization of a trapping station, and the methods of operation that he has so successfully used. Individual operators will probably work out other methods as their experience increases, but as Mr. Baldwin's system is the result of several years' experience and the handling of several thousand small birds, we believe that the beginner will do well to follow him closely.

BIRD BANDING METHODS.

By S. Prentiss Baldwin.

Bird banding as a means of bird study commends itself to all because it not only does not harm the birds, but protects them and increases their numbers. It is a method of investigation for those who have sufficient patience and scientific interest in birds to devote spare time to trapping, banding, and keeping accurate records.

One of the outstanding features of the work is that every locality where banding is done becomes of necessity a bird sanctuary, where birds find food and water, and freedom from natural enemies; and where they may thrive and increase, without fear or harm. The very purpose of the study is to examine and release the birds in the best possible condition, so that they may live naturally, and as long as possible. Bird banding therefore appeals to the amateur as a new field of wide opportunity to work out new methods and new facts. And it also commends itself to the professional ornithologist because of the opportunity afforded to compare a great number of living birds, under the best conditions, when no question exists of measurements having shrunk or colors changed; and thereby to obtain scientific results of the greatest importance, facts that could not be determined by former methods of study. This is the study of the individual bird, its life history, its travels, its domestic affairs, and the intimate details of its every-day life.

References.

Before starting operations, the beginner should become thoroughly familiar with the contents of the U. S. Department of Agriculture Circular No. 170, entitled "Instructions for Bird Banding," on page 18 of which will be found a list of the more important papers on American bird banding. Read all of these that are available, for they contain many hints that may save you numerous mistakes and a great waste of time.

Where to do Banding.

If possible, trapping and banding should be done at the same spot at the same season year after year; because the most interesting returns of birds will be those that are taken in consecutive seasons. The lo-

cality may be only a small space about the home, if it be near the edge of town, or near a park, where by means of feed and care birds can be induced to come.

Members of a bird club may operate sets of traps at near-by points, and divide among the members who hold bird banding permits the privilege of attending the traps. Such a series of stations should be baited daily, to teach the birds to come regularly; but the traps should be set to catch birds only on days when members can make regular visits several times a day.

Traps.

The Government sparrow trap is described and illustrated on page 4 and succeeding pages of Department Circular 170. This trap is easily constructed, or may be purchased from dealers, and is an excellent trap for the smaller ground-feeding birds, such as native sparrows. A fault with this trap is that some birds, if they remain inside for an hour or two, will scratch the forehead by constantly attempting to force the head through the wire mesh. While this may cause an appearance of blood on the forehead, it is not a serious injury; and it will be found quite healed if the bird is taken again a day or two later.

The trouble may be prevented by making the trap of smaller mesh than half-inch; or by placing a 4- or 5-inch strip of mosquito netting around the walls of the back chamber, so the birds can not force their heads through.

House trap.

This is described in Department Circular 170. It is an excellent trap for birds of larger size than sparrows, as the doors can be set for an opening of any width. Some smaller birds will learn to go into the trap and out again, but a majority will be retained. (See picture in "The Auk" for April, 1922.)

Drop trap.

This is a very simple form, easily constructed at home; just a light frame 4 feet square, or still better, 5 feet square, with a net or mesh of some kind over the top. The frame is easily made of 3/4-inch spruce lumber about 2 inches wide, and small legs should be secured to each corner so that they will project 4 inches. The top may be covered with either twine netting, wire netting, or even ordinary mosquito netting. A heavy cloth, such as duck or canvas, is hung along the sides, extending from leg to leg so that it will touch the ground as the trap stands down on its legs. The sides are thus made of cloth to prevent possible injury to a bird if it is just under the side as the trap drops. To operate the trap, one side is propped up with a stick 10 inches long; a string is fastened to this stick and carried to some observation point where it may be jerked by the operator when birds are well underneath.

Of course this trap may be used only when the operator is present to pull the string; but the birds will come if the place is kept constantly baited. (See picture in "The Auk," for April, 1922.)

Gathering cage.

Every trap of the above forms should have at the back a small door which can be fastened open, through which the birds from the trap may be driven into a "gathering cage." The gathering cage is to confine the bird to a small space, easily accessible to the hand; for every bird trapped will be handled for examination. This may be any convenient box of small size, say a foot or more long, and 8 inches in width and height; the top and one or two sides of the box should be removed and replaced with mosquito mesh wire, with at one end a slide door that can be fastened open.

To remove the birds from a trap, place the door of the gathering cage against the outlet door of the trap; open both doors and, by going to the opposite end of the trap, drive the birds from the trap into the gathering cage and close the door. Obviously the gathering cage must have sufficient open wire top and sides not to be dark; for the birds will not go into a dark box.

Do not drive large and small birds together into a gathering cage if it can be prevented, lest the small birds be hurt by the flutter of the larger ones.

Trap doors for box or hole nests.

With a small piece of stiff wire and a piece of tin, zinc, or a block of wood, anyone can easily make a "trap door perch," which can be attached under the entrance hole of the nest by means of a couple of staples. The metal or wooden perch is fastened to the wire so that a loop of the latter will project at right angles on one side, thus forming a bracket or brace and holding the perch in a horizontal position. The ends of the wire should project at each side to form the axle, one end being given a right angle bend to form a crank. To this a string is attached which when pulled will raise the perch from the horizontal to a vertical position and thus close the opening to the nest. This device is excellent for capturing the adult birds in the nest. (For a picture see Proceedings of the Linnaean Society, Apr., 1919, page 26.)

With nest boxes or hole nests it is not practicable to drive the bird into a gathering cage. Use a small butterfly net, with a deep bag of mosquito netting on a wire hoop fastened to a long handle. Slip the net over the opening of the nest box, and open the door; usually the bird will fly out at once and into the net. If the bird does not readily come out there is no other way than very carefully to put the hand into the nest for it. Bird boxes should have top or side on hinges so that they may be opened for cleaning.

Baits.

For the small seed-eaters use a variety of grain finely ground (what is sold as finest chick feed, for day-old chicks), a variety of weed seeds or white bread, using the softer parts by rolling between the hands into fine particles. Scatter this fine stuff sparingly around the trap to a distance of 3 or 4 feet and more liberally inside or under the trap itself. The larger crusts of bread should also be placed in the trap, where they are more conspicuous. Bread is eaten by many of the soft-billed birds that are not usually classed as seed-eaters.

For robins and other fruit-eating birds use small fruits, especially mulberries, wild haws, or other small wild fruits. For worm-eating birds try meat that has been brought to worm shape and size by putting through a sausage grinder. For winter trapping suet will be found an excellent bait as it is taken readily by many birds at this season.

All trap locations should be baited constantly whether traps are being operated at the time or not, so as to keep the birds coming to that location for food.

Handling birds.

The following suggestions are for birds of the size of doves and smaller. A quiet, gentle, but firm movement should always be used. Never grasp suddenly at a bird that is escaping from you; let it escape rather than risk injuring it in your haste.

Holding.

As your hand approaches a bird in the gathering cage he will be headed away from the hand in his endeavor to escape; let your hand slide over his back, without touching, with your first and second fingers slightly separated; slip the two fingers over the neck of the bird and close them so that you feel the bird's neck between them; the thumb and other fingers may then be gently closed over the folded wings to prevent flutter. Never forget that your prime hold on the bird is the two fingers on the neck; the bird seems at once to realize that it can not push forward or backward, and quickly gives up the struggle.

Having this hold of the neck, you may allow the bird to close its feet on the little finger, which helps bring it to a feeling of rest. (Position 1.) By retaining this neck-hold, you can open the other fingers to examine the bird, spread the wings, or turn it over to examine the underparts, with seldom a struggle.

Change of position.

To change the position of the bird, slip the fingers of the other hand over the head, and close them upon the neck, then pick the bird up in that way, by the head. (Position 2.) This looks like hanging it; but

it is not hurt, and will seldom even flutter. For banding it is convenient thus to pick up, and reverse the bird, laying it in the hand on its back, with the head toward the operator's wrist, and taking the neck-hold by bending the little finger over the neck. (Position 3.) This leaves the thumb and forefinger of that hand free to hold the leg and the band, while the latter is being adjusted.

Release.

Gently open the hand, and allow the bird to discover that it is free, and to depart in its own way. Often the bird will lie for some moments on the open hand without realizing that it is free; (Position 4) then will suddenly jump and go like a flash.

Bands.

The band is a ring cut on one side so that it may be opened; it is then placed on the leg of the bird, closed, and adjusted by means of a small pair of pointed pliers. On very small birds such as wrens even the No. 1 size band may be a little large but it can be readily reduced by overlapping the ends. Use a size of band that will, when closed on the leg, slip freely up and down and nowhere bind the leg; yet try to have it sufficiently snug so that twigs and thorns will not slip through inside and perhaps catch the bird. This is important as you will jeopardize the life of the bird if the band is not properly attached. With the pointed pliers, the adjustment can be made with a fine degree of nicety. Don't try to close bands on the legs of small birds with the unaided fingers.

A few species, such for example as the cardinal and other grosbeaks, have so strong a beak that the bird may bend the band and pinch it tight on the leg. To band such birds, use a large band bent twice around the leg in such way that the bird can not possibly bend it.

Young birds in the nest are best banded when nearly grown, but at least three days before ready to fly, and before the sense of fear is developed; or they will refuse to remain in the nest after being handled, and are likely to be destroyed. In most species the legs of young birds about ready to fly are as large or larger than the legs of adults of the species.

Protect your Traps.

Remember that birds that have entered your traps are in your care until you have released them, so guard them from all natural enemies. Cats, dogs, squirrels, rats, sharp-shinned hawks, and shrikes are all serious enemies to the successful operation of a trapping station. A guard fence made of poultry netting 3 feet high and about 60 feet in circumference will protect the trap in the center from all except winged enemies. These must be dealt with as the circumstances demand.

When to Visit the Traps.

Set your traps before daylight in the morning if you can persuade yourself to get up at that hour, for the birds look for breakfast at daylight. Or you can set them at dusk the night before; but be sure always to visit them at dusk to make sure that no bird remains in a trap overnight. An early morning visit to the traps is advised, as rats, chipmunks, or other small mammals sometimes get into them in the night.

In the nesting season operate the traps only when they can be visited every half hour, or constantly watched from the house so that no sitting bird will be long kept from her eggs. At other seasons three or four visits a day will do.

Danger to Operator.

In attaching bands to herons, gulls, terns, hawks, or other powerful birds with pointed beaks, the operator should guard his eyes. The stroke of a heron's beak is extremely rapid and is almost invariably aimed at the eyes, because of their brightness. It is also advisable to wear gloves when working with such birds, for a scratch from bill or claw may result in blood poisoning.

Tools and Supplies.

A pocket size pasteboard box is useful to carry the needed tools and supplies, which are as follows: Bands, of suitable sizes; small pointed pliers, to aid in making careful adjustment of bands; a small tapering steel point, very useful to open the bands; record card, card system size (3 x 5 inches) for the day's records; pencil; small mirror, to reflect light into nests in holes to examine them; and a spool of dark linen thread or string, with a small wire hook on one end, to use with trap perches on boxes or nest holes.

The butterfly net previously mentioned may be made of mosquito netting with the hoop opening not over 8 inches in diameter, and the bag at least 20 inches deep, so that a half turn will close the top, leaving the bird in the bottom. This net may be very handily used to take birds from nest boxes, or holes, by simply approaching quietly and clapping the net over the opening, without the necessity of first closing any trap perch door.

Records.

Identify the bird.

Before you release a bird, be absolutely sure that you have named it correctly; go to your reference books, and compare every feature, colors, measurements, and all, with the description. If you can not be absolutely sure, band and release the bird, but put a question mark after the name that you have attributed to it, and describe the bird carefully. It is better to question than to make a wrong identification.

Day card.

As the whole value of trapping and banding lies in the accuracy of records, the greatest care must be taken to make complete every record pertaining to the bird in hand, before the bird is released. On the day card enter at once the date, number of the band, name of bird, and from what trap or station or nesting box it is taken; and with migrating birds enter the exact hour when taken. Enter thus every bird taken on that day, in fact, every time the bird is taken, even though the same bird be captured several times on the same day; and that will very frequently happen, for many birds form the trap habit, come regularly for feed, and are taken over and over again; but you can not know which record of a bird may be the last, and may become the most important one of all.

Record the age of the bird if you know it; the condition of plumage, any unusual color or circumstance; the individual characteristics, if the bird squeals, or bites, if it has any deformity, or disease. The bird is in your hand for you to learn all you can about it to-day; but not only to-day, but for you to compare it with what it may be to-morrow, next week, next year, or perhaps five years from now; and you may next hold it in your hand only after several years.

Permanent files.

A simple way to keep your permanent files is to use sheets of foolscap size, and enter upon them each day the date, temperature, and weather conditions (since these facts are often important in relation to the movements of migrating birds); then enter in regular order each new bird banded on that day, or new "Returns" from a previous year. Having thus taken from the day card these new records, go over your day card for every entry of a "repeat," that is, a bird that is already on your list as having been in the traps recently; carry these entries back to the day when the bird first appeared, and record there all subsequent entries of the bird. In this way the complete record for that bird for the season is kept in one place.

Copies of all your records and entries should be filed with the United States Biological Survey, Washington, D. C., at least once a month, using report Form Bi-473 for the purpose.

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