

BIRD BANDING NOTES

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

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GREETINGS TO ALL OLD BANDERS AND WELCOME TO NEW ONES

The opportunity for those whose responsibility it is to supervise the operation of the bird-banding program to greet the banders seems to come all too infrequently these days. The multitude of duties of operating the program and conducting research with that growing fund of records seems to take all of our time. This does not mean that we do not appreciate the services of the banders who supply the records which make the research possible.

As most banders realize, they are participating in a research project designed to obtain information on the movements and natural history of migratory birds in North America which will make possible the intelligent management of this wildlife resource under the terms of the migratory bird treaties between the United States and Canada and the United States and Mexico. During the past year an intensive analysis has been made of water-fowl migration routes through banding records. Planned projects call for analysis of records of other species in the immediate future. It is partly through this intensive use of the banding records that we have become aware of certain weaknesses in the existing methods of record keeping and which has made necessary the various changes in procedure that have been requested of the banders and which are discussed in detail in the following paragraphs.

ATTENTION OF ALL BIRD BANDING COOPERATORS

New Policies and Procedures.--In the past year and a half a great many changes have been made in the operating procedures and policies of the bird-banding program. These new procedures and changes were announced in the June 1948 issue of this publication and a special memorandum dated April 15, 1949, both of which amended and supersede the 1947 Manual. Announcement of procedures and policies to be followed by Canadian banders were announced in the memorandum of April 26, 1949, from the Dominion Wildlife Service.

This issue restates the numerous changes and summarizes all the current operating procedures and policies of the program. Additional new changes are included as well as a list of the A. O. U. numbers and a revised list of the correct size of band for each species of bird. Therefore, until such time as it will be possible to issue a new revised Manual, this issue will, for all practical purposes, be the current, operating Manual. READ THIS ISSUE CAREFULLY AND SAVE IT FOR REFERENCE.

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Change of Official Address.--The new address for correspondence pertaining to bird-banding is the Patuxent Research Refuge, Laurel, Maryland. All envelopes should bear the words "Bird-Banding" or "Bird-Banding Office."

Although this was called to attention in the June 1948 issue and co-operators were asked to correct all the envelopes and postcards which they had on hand, considerable mail, including recent schedules, continues to be sent by cooperators to Washington. Please again check the envelopes which you have on hand and see that every one has the Laurel, Maryland address and bears the words 'Bird-Banding'.

Among items which should be sent directly to the banding office are: banding schedules, return cards, reports of recoveries, applications for permits and endorsements of applicants, requests for change in permits, requisitions for band and supplies and correspondence pertaining directly to bird-banding.

WHERE DO WE STAND?

Just how and where does the banding program stand today. By "we" are included both the administrative office and you, the banders, in the field. If the program is to be successful both must pull on their respective oars with equal strength.

During the war years the administrative oar was admittedly a little weak but during the past 18 months a vigorous effort has been made to put the administrative end on a more efficient operating basis.

Additional personnel were appointed to provide a more adequate staff and a biologist was assigned to supervise the office. This past year the regular staff consisted of the biologist and five clerks. Two additional temporary clerks were hired for the rush season this past winter.

Very briefly the duties of the clerical force are: Clerk #1: processes the incoming schedules, handles all incomplete records, and types administrative correspondence; Clerk #2: handles incoming and outgoing mail, issues bands and supplies, and files letters and reports; Clerk #3: codes, punches, sorts, and files IBM return cards and extracts cards and data from files as needed; and Clerks #4 and #5: process recovery letters, prepare, and distribute recovery reports (3-624).

In December the entire Nelson Laboratory building on the Patuxent refuge was made available to the Section of Distribution and Migration of Birds with the banding functions receiving the majority of the additional space. A complete reshuffling of files and desks has resulted in the concentration of each phase of the work in a separate room and has eliminated trips to the overflow files in the basement and attic. The reorganization provides more convenience and efficiency for both the staff and visiting researchers and cooperators. Limited accommodations are now available in the building for visitors.

The office is fairly well equipped and provided with supplies for carrying on its functions. Old forms have been revised or replaced with new forms which better fill the needs of the program and result in more economy of operations. Bands are again in good supply and sufficient are on hand to carry the program well into the new year.

From the foregoing it should be apparent that from the administrative end during the fiscal year 1949 the program received all the backing and support that it was reasonable to expect. Nevertheless, the office staff has been barely able to keep abreast of the re-expanding program. Only the whole-hearted support of the majority of the cooperators in accepting and following the new procedures and policies has made it possible.

The extent to which the program is re-expanding in the field may be judged from a few figures. Schedules were received for the banding of birds as follows:

fiscal year	1946:	135,157
	1947:	203,846
	1948:	235,000 (approx.)
banding year	1949:	287,000 (approx.)

Although the past year (1949) was only 10 months long instead of the normal 12 months, 52,000 more birds were reported banded. Actually the increase was greater than the figures indicate for a large portion of the birds reported in fiscal year 1948 were actually banded during the war years.

Just prior to the war about 430,000 bandings were being reported each year. The indications are that we will reach that scale again in the very near future if no arbitrary curtailment of the program is necessary. During the past fiscal year, almost 450,000 bands were issued.

The number of active cooperators has almost doubled during the past year. Whereas before the war the cooperators were almost all volunteers, more and more professional wildlife workers are now utilizing banding. Many states now have Federal Aid projects specifically for the purpose of banding waterfowl, doves, and other species. As a single master permit is issued to Game Department and similar units, it is impossible to determine exactly how many individual employees are banding for these units but some have at least 20 a piece. The U. S. Fish and Wildlife Service alone has nearly 100 employees in its branches of research, wildlife refuges, and game management who do some banding. Among other agencies which have paid banders in the field are the Dominion Wildlife Service, Ducks Unlimited (Canada), Wildlife Management Institute, Austin Ornithological Research Station, and the Massachusetts Audubon Society.

We now have cooperators on Palmyra Island as well as the main Hawaiian group, in the Virgin Islands, and Cuba. Three expeditions are currently banding in the Arctic.

How great an expansion in the program the office staff can continue to service depends on the further cooperation of all the banders; not just the majority. To service the program as efficiently as possible it has been necessary to institute a number of changes in policies and procedures. Some of these were announced in the June 1948 issue of BIRD BANDING NOTES and more

will be found in this issue.

Unfortunately there is a small minority of the cooperators who apparently either haven't read the June issue, or, if they have, are not going along with the majority. It is hoped that these banders will realize that banding is an international research program and that it must operate economically and in a business-like manner. Only on such a basis are the U. S. Fish and Wildlife Service and the Dominion Wildlife Service of Canada justified in supporting and operating the program.

Once the cooperators consisted almost entirely of volunteers who contributed freely of their own funds and time. The volunteers still purchase their own bait and equipment and donate their own time but the annual cash value of his contribution is more than matched by the government agencies operating the program. However, from preceding paragraphs it can be seen that it would be a misconception to assume that most of the people who now band birds are volunteers.

Lest the foregoing give the wrong impression, we wish to emphasize that the Service welcomes the participation of volunteer cooperators and highly values their contribution to the program. As proof of this may be mentioned the fact that permits are again being issued to all qualified applicants.

WORK STATUS IN THE BANDING OFFICE

Cooperators and researches will be pleased to learn that the clerical staff in the banding office has caught up with both the backlog and current work load.

In January 1948 there was a backlog of some 35,000 uncoded, unpunched, and unfiled return cards (3-137). Not only have these cards been taken care of but all the cards which came in the meantime have been punched and filed up through the first of June 1949. What we hope will be a temporary shortage of help recently has resulted in these cards piling up again.

Processing of recovery records and foreign retraps is now up-to-date and is being kept currently up-to-date. The report forms (3-624) have all been mailed out to the banders. Therefore, every bander now should have the complete data on all his recoveries and foreign retraps which have been reported to this office. If any cooperator finds that he or she still has some incomplete records, please bring them immediately to the attention of this office. Do it now while we have the time to give the matter attention. After the fall hunting season rush of recoveries starts, inquiries pertaining to particular records will have to be set aside until next summer.

In writing in regarding a particular record, always be sure to state the band number and, if known, the species. If an error is noted in the recovery report (3-624), please send in your copy of the form 3-624 with an appropriate notation. A corrected set of 3-624 will be prepared and redistributed to the same persons who received the original set. Such copies are marked at the top of the sheet.

PUBLICITY

Publicity Regarding Permits.--The Banding Office is usually acutely aware of each bit of publicity that the banding program receives. It may never know when or where the article was published or by whom it was written but the influx of mail leaves no doubt that somewhere someone gave the program some publicity. Much of this publicity comes directly or indirectly from the banders themselves, and some of these cooperators may be surprised to learn that much of this publicity causes the Banding Office considerable grief and unnecessary work.

Following each publication, talk, or broadcast, the Banding Office is deluged with letters from underaged children, unqualified adults, and persons expecting to be hired and paid to band birds. Each letter has to be answered. In many cases it is impossible to tell immediately from the letter whether the person is of age and qualified, so many application forms are needlessly mailed out. This time could be better used processing your recoveries; the funds better spent on more bands.

These difficulties arise from failure to include and adequately stress in every talk, broadcast, and article the following points:

1. Applicants must be 18 years of age.
2. Applicants must be thoroughly competent to identify positively all the local species of birds.
3. The foregoing ability must be vouched for by three recognized ornithologists or banders.
4. It is a voluntary program, the bander donates his time and pays for his equipment and receives neither compensation nor reimbursement from the government. The Service, however, provides at no cost to the bander, the bands, report forms, and franked envelopes.
5. Application blanks (form 3-481) are obtainable from the Bird-Banding Office, Patuxent Research Refuge, Laurel, Md., and in Canada from the Chief, Dominion Wildlife Service, Ottawa, Ont.

HELP SPREAD THE WORD

Everyone has an opportunity to be of great service to the banding program by spreading the word to the public as to where and how to report the finding (recovery) of a bird band.

Many, many recovery records are lost every year due to public ignorance of the "A, B, C's" of reporting a band. Some of these are undoubtedly for birds which you yourself banded and would like to have heard about.

One bander recently became acquainted with one of the policemen in his town and one day mentioned his banding activities. The policeman showed an immediate interest and said "So that's where those things come from. People bring them in now and then to the police station and we didn't know what to do with them and so we threw them away." Now the cooperator not only receives all these recoveries but his traps and station receive much closer

protection. Does the police department of your town, your local editor, the district game warden and your friends and neighbors know that you band birds and where and how to reach you to report a banded bird?

Too much publicity of the right kind is impossible. Let's start a campaign right now and keep it going at every opportunity to make the public band conscious. The following points particularly need to be stressed:

1. Print full number of band, including the series designation and the serial number. The series designation may be a single letter or a two or three digit number. It may be stamped to the left of or over the serial number and may be at right angles to the serial number. A designation such as "48" is not a date and should not be so interpreted. Samples of full numbers and the manner in which they should be written are: A-678901; 48-345920; 141-543678; 20-167; and 496-00517.
2. If the bird is alive, read the number without removing the band and release the bird again. If dead, remove the band, flatten it out, and fasten to letter with scotch tape. If it is desired as a souvenir, the band will be returned to the finder after being examined.
3. State the exact date, location (town, county, state) and manner in which the bird was obtained (i.e. shot, trapped, found dead, etc.).
4. Print your name and permanent address clearly on your letter. Keep a record of the band number and refer to it on all subsequent correspondence.
5. Address letter to:
Bird-Banding Office
Patuxent Research Refuge
U. S. Fish and Wildlife Service
LAUREL, MARYLAND
6. Bands may bear the inscription and address "Notify F. and Wildlife Service" or "Notify Biological Surveys" Washington, D.C. These are frequently abbreviated to "F & W Serv." or "Biol Surv Wash D.C."
7. All letters will be acknowledged and this acknowledgment will state the name of the bird, date and place banded, and the name and address of the bander.

AGE TERMINOLOGY

New designations and definitions for showing age.--Recent studies of the waterfowl banding records by Service biologists have revealed that the age designations which have been in use on banding schedules and return cards for many years are quite inadequate for research purposes. The terms "juvenile" and "immature" have been loosely and interchangeably used and it has been impossible to determine from these terms whether the bird was or was not banded in the vicinity of where it was hatched.

By agreement between the Dominion Wildlife Service and the United States Fish and Wildlife Service, the following formula has been adopted for reporting, on the various report forms, the age of birds banded. This applies to all species, and is based entirely on the practical purposes to which the age designation will be put in anticipated research programs.

The letter N - designates a nestling and should apply only to birds banded in or at the nest.

The term Loc - meaning local, is to be applied to young birds hatched in the current breeding season which can definitely be associated with a specific nest or nesting area, such as a pond, slough or island, in the immediate vicinity of the location where the birds are banded. Banders are requested not to rely on pure assumption in this regard. If there is any uncertainty as to whether or not birds of the year, banded away from the nest, are local, they should be designated by the letter "I".

The letter I - is to be applied to immature birds identifiable as of the current season (less than a year old) that cannot be associated with a definite nesting area.

The letter A - will be used to designate adult birds or those that are determined not to be a young of the year.

If uncertain no age designation should be put on the schedule.

The letter "J" for juvenile or juvenal is eliminated entirely and is no longer to be used. The letter "I" for immature is now restricted to birds which are less than one (1) year of age. Some species do not attain full adult plumage until they are actually two or three years old. In applying the terms "immature" to all such birds in the past has made it impossible to determine whether the bird was actually only 6 months old or 3 years old. If the specific age in years can be determined, the age may be shown as A-1, A-2, A-3, etc.

The distinction between the new terms of "local" and "immature" needs to be clearly understood. In associating a bird with a nesting area it is not necessary to know the actual location of its nest. For example if a baby Chipping Sparrow is found hopping around the yard before it is able to fly, it is a foregone conclusion that it had to have been reared nearby. The correct term therefore would be "Loc." However, if the young Chipping Sparrow was already on the wing when banded, assumption is that it too was probably reared nearby but there isn't the slightest proof that it didn't fly in from many miles away, perhaps even from another state or province. The correct term in this case is "I" for immature.

PREPARATION OF SCHEDULES (FORM 3-860)

The following instructions supersede those printed on the schedules themselves or heretofore published in the MANUAL and BIRD BANDING NOTES.

List Bands in Numerical Order.--On the schedule bands should be listed in numerical order regardless of the chronological order that the bands were actually used. This should cause no difficulty for if bands are used in the same sequence as they come off the string, the schedules will be both numerically and chronologically in order.

If bands are not properly used in sequence, the numbers should nevertheless be arranged in order on the schedule. There is little need for using two series of the same size of band simultaneously or for using more than one size on a particular species. There is one proper size of band for each species (see list in this issue). However, if for a good reason or through an inadvertent error an odd band is used, this band should be listed first on the schedule. If this is not possible, then the number should be conspicuously underlined in red to catch the eye.

Cross References.--This was insufficiently explained in the last issue and has been overdone by many cooperators. Many cooperators are listing altogether too many cross references. Cross references should appear only on schedules containing long sequences and should pertain only to "odd" bands missing from this sequence. Normally there should not be any need for more than one or two references per hundred bands. Do not refer to species which you regularly band in small numbers.

Hereafter, all band numbers and notations which constitute a cross reference should be placed wholly in the 'Substation' column. DO NOT list cross reference numbers in the band number column.

If these instructions are not now clear, forget the entire subject and omit all cross references.

Permit Number.--The U. S. Federal permit number is to be shown after the name of the cooperator or unit in the upper right corner of the schedule. This number is used in coding the I.B.M. cards for automatic sorting of recovery records. Please do not show Canadian, state, or other permit number.

A.O.U. Number.--The official species number of the American Ornithologists' Union is to be shown on every schedule in the upper left corner in front of the common name. These numbers can be found in this issue.

Common and Scientific Names.--The full name of each species is to be shown in accordance with the latest edition of the A.O.U. Check-List. Incomplete or local names, such as Chickadee, Junco, and Sprig, are not sufficient.

File Designation and Permanent Address.--Schedules are filed according to the upper right hand block. It is extremely important, therefore, that this block be correctly filled out. This block should be filled out exactly the same on every schedule regardless of where and by whom the banding was actually done. Use only your permanent home address.

In the case of units (refuges, state game department, colleges, research units, etc.) the unit name is to be shown on the first line and the name of the master permittee (unit leader) on the second line.

SUBMISSION OF SCHEDULES (FORM 3-860)

The instructions in the June 1948 issue have not been well understood and have been very poorly adhered to. A revision and restatement of the instructions follows:

Banding Year (May 1 to April 30 inclusive).--By agreement with the Dominion Wildlife Service the banding year is now arbitrarily established as running from May 1 through the following April 30. These dates are selected for administrative convenience and it is readily acknowledged that they do not fit nesting and migration seasons.

By terminating the banding year on April 30, the cooperators will have two full months in which to complete their schedules and get them into the banding office at Laurel, Maryland, by June 30. However, it is hoped that the majority of the cooperators will send in their schedules as soon as convenient after April 30.

No schedules should be carried over from one year to the next as has been done in the past. No birds which are banded between April 30 and the date that the schedules are actually mailed should be shown on the schedules.

Time Table for Submission of Schedules.--Schedules should be submitted oftener than once a year for the following species and under the following circumstances:

GAME SPECIES (waterfowl, doves, quail, rails, snipe, woodcock, etc.):
If banded during May, June, July, and Aug., schedules due September 15.
If banded during Sept., Oct., Nov., or Dec., schedules due monthly.
If banded during Jan., Feb., Mar., and Apr., schedules due June 30.

COLONIAL NESTING SPECIES (pelicans, cormorants, gulls, terns, herons, etc.): Schedules due as soon as convenient after completion of banding but not later than September 1.

RAPTORES (hawks, owls, eagles, vultures):
Schedules due as soon as convenient after completion of the season's banding.

ALL OTHER SPECIES:
Schedules are required once a year, as soon after April 30 as convenient but they must actually be received in the banding office at Laurel, Md., not later than June 30.

However, groups of full schedules may be sent in oftener than once a year. A full schedule will contain a minimum of 70 new bandings if written and 140 if typed.

Also at some stations, especially in the north, some species will not arrive until after May 1 and will be gone again before winter. Schedules for such species may be submitted in one group after all the individuals of these species have left in the fall.

RETURN CARDS (3-137)

When to Use.--The form 137 return card is used to report (a) station returns (see definitions in MANUAL), (b) 'foreign' retraps, and (c) trap casualties and recoveries of the operator's own birds in the immediate vicinity of the banding station. These cards are no longer to be used to report recoveries away from the banding station (see below under "Reporting Recoveries").

Preparation.--Please print in ink or type but do not use indelible pencils or ballpoint pens. Show dates in following order: month, day, year. Give A.O.U. number and full common name. Operators in the United States can assist the clerks by showing their U. S. permit number after their name. The locality of banding and/or recovery should specify the nearest town, the county, and state or province. When retaken at the same location, the word 'same' is sufficient. On cards for 'foreign retraps' do not fill in the following spaces: age, date banded, where banded, or operator.

Submission.--Cooperators are requested to hold the return cards and to submit them in groups not oftener than once every three months. This applies to 'foreign retraps' as well as returns. Although this request was previously made in the June 1948 issue, every mail continues to bring in an envelope with a single card in it. Normally cards should be submitted with the schedules.

Precautions.--Whenever cards are not folded inside the schedules, care should be taken to protect the cards from damage in the mails by wrapping them between two stiff pieces of cardboard. Cards sent loose are invariably damaged and have to be replaced. DO NOT USE PAPER CLIPS, STAPLES, RUBBER BANDS, OR ANY KIND OF TAPE DIRECTLY ON THE CARDS. The slightest imperfection or marring causes the card to foul in the electric IBM sorting machine.

REPORTING RECOVERIES

All recoveries of bands at localities other than the banding station by persons other than the bander should be reported immediately by letter directly to the Bird Banding Office, Patuxent Research Refuge, Laurel, Md.

Many recoveries are reported by hunters, neighbors, and friends to the nearest banding station, game warden, state conservation department, or office of the Fish and Wildlife Service. Such reports should be transmitted by means of a letter and not by means of a 3-137 card. Recent research studies have revealed that the use of cards for this purpose does not provide adequate and sufficient data.

Persons who transmit recovery reports could materially assist the program by observing the following points:

- a. Forward report directly to Bird-Banding Office, Patuxent Refuge, Laurel, Md.
- b. State full number of band (prefix and serial number).
- c. If possible secure band, flatten it out, and attach with scotch tape. Advise if finder wishes band returned as a souvenir.
- d. If band cannot be obtained, state if band was examined and number verified.

- e. If report received by letter, please attach original letter for filing in Banding Office in support of the record. If report was received by telephone or personal contact, please advise in letter of transmittal.
- f. Be sure that report contains full information on the following:
 - date band found;
 - species (if known);
 - where found (nearest town, county, state or province);
 - how bird was obtained (i.e. shot, trapped, found dead, injured, etc.);
 - full NAME AND ADDRESS of the finder.

IF ANY OF THE ABOVE DATA ARE LACKING, ENDEAVOR TO OBTAIN THEM BEFORE SENDING THE REPORT IN. Many potential recovery records are lost every year for lack of adequate data. For lack of a name and address, this office is unable to notify the finder regarding the history of the bird. Too many reports come in second hand from 'unknown hunter'. If the finder does not hear from us, we cannot expect him to turn the next band in that he finds.

FORM LETTER 3-624 - REPORT OF RECOVERY

The new form for reporting a recovery has been in use now for several months. The first carbon copy of this form is sent to the bander to notify the bander of the recovery of one of his or her birds. These are sent out in groups about once a month.

One feature of this new system over the old method of reporting on recoveries should be noted by the bander. Previously the bander had no means of checking on the information which this office sent out to the person who found the band. Now the bander receives an exact carbon copy of the report sent to the person who found the band. It is intended and desired that you carefully check this form for discrepancies, errors, and omissions; especially, with respect to the original banding data, your name and address.

Whenever a discrepancy is noted in the form 3-624 report, please return your copy with your letter calling attention to the error. A corrected copy will then be prepared and copies redistributed to you and all others concerned.

However, bear in mind that the data on the form letter (3-624) will be shown as you gave it on your schedules.

NEW POSTCARD REQUEST FOR ORIGINAL BANDING DATA

In attempting to process a recovery report in the banding office, the clerks frequently fail to find the desired number on the cooperator's schedule. There are two reasons for this: first, the desired schedule may not have come in yet; or, second, the number may have been inadvertently overlooked in scanning the schedules.

When the original data are not readily found, a postcard is mailed to the cooperator. Each card is to be filled in completely, signed, and

promptly mailed back to the office. These cards have the office address printed on them and require no postage.

The card will have only your name and the band number typed on it and bear a number in pencil or ink. Do not obliterate this number as it is the file reference to the letter containing the recovery data.

Regardless of the circumstances, every card should be returned to the banding office promptly. If for some reason the data cannot be filled in, an appropriate notation should be made and the card signed.

At the bottom of the card is a place to indicate whether or not the schedule in question has been submitted. If past due, submit the schedule immediately; if not due, submit the schedule promptly at the appropriate time.

If a schedule has already been submitted or is submitted at the time; it does not cancel the need for filling out and returning the post card.

Please do not make special requests for the recovery data on the band in question; when the record is completed and processed, you will receive your copy of form 3-624.

BANDS

The Supply.--A good stock of all sizes of bands are on hand in the office. Keep your requests within reason but don't hesitate to order as many as you feel that you need. There should be no excuse for running out of any particular size.

Bands Not To Be Transferred.--Two rules with respect to the transfer of bands have been in effect for many years: (1) To avoid transfer except in emergencies; and (2) when a transfer is made, to notify the Banding Office immediately. This was again stressed in the June 1948 issue of Bird Banding Notes but very little improvement has been noted.

It is now requested that banders do not transfer any bands for any reason whatsoever without first obtaining the approval of the Bird-Banding Office. This applies to individuals as well as units and to volunteers as well as federal and state personnel.

For most banders there is now only one source from which bands may be obtained; namely, the Bird-Banding Office, Laurel, Maryland. Volunteer co-operators only in the far west may, in emergencies only, draw bands from the W.B.B.A. Emergency Pool. Federal and state employees, master permittees, and Canadians may not draw from this pool.

In the event of an unauthorized transfer, henceforth both the transferrer and the transferee will become ineligible to receive additional bands until such time as schedules correctly accounting for all the transferred bands are received in the Banding Office.

Return of Surplus Bands.--Active cooperators are requested to correspond

with the office before proceeding to return any bands which are deemed surplus, idle, or obsolete.

Minimum Quantity.--For some months now bands of all sizes have been issued in full strings of 100 bands each. This policy will continue until further notice. Therefore, please order bands in multiples of 100.

Avoid Frequent Orders.--Frequent orders multiply the clerical work in the office. Cooperators should be able to estimate their needs so that it will not be necessary to order bands more than once or twice a year.

Working Stock.-- The question has arisen as to how large a supply of bands it is now considered reasonable for a cooperator to keep on hand as working stock. The minimum stock for most stations should be a full string in reserve in addition to the string being used of sizes 0 through 3. On the larger sizes, when the current string is reduced to 50, another full string of 100 may be ordered.

Stations having need for large quantities of certain sizes should order these bands in multiples of 500 or 1,000 in advance of the season in sufficient quantities to fill a normal season's need. Every station and every cooperator should always stock every size of band even though some sizes may rarely or never be used. The Service frequently receives requests from individuals who are not cooperators but who desire a single band for a 'pet' robin, a few for a nest of owls, or one hundred or more for some hand-reared ducks or geese which are to be liberated. The procedure of handling these requests is to determine which cooperator lives closest to the origin of the request and the person is referred to this cooperator. In such cases, the cooperator will receive a carbon copy of the letter from this office. The Service will appreciate whatever assistance you can give but does not expect you to inconvenience yourself. Do not give bands to these individuals, allow them to attach the bands, trust their identification, or rely on them to report the use of the bands. Band the birds yourself and report them on your own schedules just as you do your own birds.

In view of this policy it would be unfortunate if a person were referred to you and you did not have a band of the appropriate size on hand. So, if you do not have a few bands of each of the 14 sizes on hand, please send in a post card requisition right now before you forget.

Screening of Orders.--The policy of screening orders for bands has proved so worthwhile that it is being continued as a standard procedure. This screening consists of two checks: (1) To see if schedules have been submitted currently up-to-date; and (2) to ascertain if the requisition is in keeping with the quantity of bands which the cooperator has on hand. The latter is determined by subtracting the total number of birds banded (as reported on schedules) from the total number of bands issued. If schedules or a report of inactivity are not received at the last due date, the request will be held pending a clarification of the cooperator's status. If the bands on hand or unreported seems unreasonably large, a reconciliation of our records is effected before more bands are supplied.

OTHER SUPPLIES

Requisitions.--All requests for bands and supplies should be made on post card form 3-644. If a form 3-644 is not available, use a regular post card or write a special letter or memorandum which is limited to this subject only. Requests for supplies receive immediate attention. However, if a request for bands is included in or attached to schedules, letters pertaining to other matters etc., it may not receive attention until the other matters are taken care of.

Request cards (3-644).--Orders for supplies of this card will not be filled. With each shipment of bands and/or supplies, one of these cards is enclosed, for the use of the cooperator in placing the next requisition. LOOK FOR THIS CARD AND SAVE IT; in large envelopes it may slip to the bottom and be overlooked. If the clerk fails to include one, advise this office immediately.

The present cards do not list the following sizes of bands and should be corrected to include: 3A, 7A, 7B, and 9. (See below "Band Sizes").

Please print your name and full address clearly on the bottom of the request card. Every day the issue clerk has to take time to look up names and addresses which are incomplete or illegible.

Envelopes.--Requests are frequently received for 10, 20, 30 or even more franked envelopes. Such requests are completely out of reason. Unless schedules for game species are being submitted monthly, a cooperator has no need for more than 3 or 4 envelopes per year. These envelopes cost money, are specially printed, and a daily accounting of the use of all franked mail has to be maintained by government offices. It should be unnecessary to remind cooperators that these franked post cards and envelopes must not be used for any purpose except to mail reports and letters pertaining to bird-banding to this office.

PERMITS

Check Your Permits.--The indications are that some U. S. cooperators do not have up-to-date permits and that others do not fully understand the scope and limitations of their federal permit and are unintentionally banding species not covered by the permit and in states not authorized by the permit. It is suggested that all cooperators review the following paragraphs.

Current Permits.--Current and valid permits for banding in the United States are a small card (form 3-475a) issued by the Fish and Wildlife Service of the U. S. Department of the Interior. Old permits issued by the Biological Survey or Department of Agriculture should be replaced with new cards.

Area Covered.--Banding is authorized only in the state or states, refuge, park, or area which is or are stated on the face of the permit. If a cooperator moves to, or visits another state, the permit must be changed or extended to

cover the new area before banding is undertaken.

Types of Permits.--The type of permit is stated on the face of each permit card. The types now in use are as follows:

- Migratory non-game: This permit does not authorize the banding of any migratory game species such as geese, ducks, doves, wild pigeons, rails, coots, shorebirds, woodcock, snipe, etc. Quail, grouse, etc., are not migratory birds and come under the jurisdiction of individual states. The Service has no objection to bands being placed on individuals of these species which are taken incidental to trapping operations, providing such banding is authorized by your local state permit.
- Migratory non-game and doves: Same as above but includes doves and wild species of pigeons.
- Migratory non-game doves, shorebirds, rails, and allies: Same as foregoing but includes all sandpipers, snipe, woodcock, plovers, rails, gallinules, coots, etc.
- Migratory (game) birds: (unrestricted) All species of birds, including ducks and geese. (However, these so-called game permits are usually restricted to specific areas such as refuges, parks, and sanctuaries where no shooting or hunting is permitted at any time).

Procedure for Amending Permits.--Request for changes in permits should be sent directly to the Bird-Banding Office and must be accompanied by the old permit card. It will expedite matters if the subject matter of the letter is confined to the permit. Two to three weeks should be allowed for the processing and issuing of a new permit. The new permit will bear the same number as the old permit.

Banding in Canada.--U. S. cooperators who desire to band while visiting in Canada should apply to the Chief, Dominion Wildlife Service, Ottawa, Canada, for a permit application. It is advisable to do this at least a full month in advance of the scheduled departure from home. Visiting cooperators will be required to furnish to the Dominion Wildlife Service, Ottawa, Canada, the following reports on their bandings: (1) N.P. No. 9 cards; and (2) exact carbon copies of the U. S. schedules.

State Permits.--In addition to the federal permit, most states require banders to hold an appropriate state permit. The cooperator is responsible for ascertaining and fulfilling such requirements. A federal permit is not valid without the required state permit.

LIST OF A.O.U. NUMBERS AND BAND SIZES

The A.O.U. Numbers.--The American Ornithologists' Union Check-List number is to be shown in every schedule (3-860) and every return card (3-137) in front of the common name. A list of the numbers and species names will be found on the following pages.

The order of the A.O.U. Check-List changes from one edition to the next but the numbers have not and will not change. All filing in the Banding Office follows the order of these numbers and much time is saved if these are on the schedules. Many banders have a list of just the species which they handle regularly which they keep available for ready reference. The A.O.U. numbers can be added to such lists to aid in placing them on schedules.

Band Sizes.--On the following pages is a revised list showing the appropriate size of band to use on each species of birds. This list takes the place of the one in the 1947 MANUAL but no claims are made to it being 100 percent correct. The new list is necessitated by the introduction of new sizes of bands and new designations for old sizes. The new size 3A was designed for mourning doves but cooperators may find that it provides a better fit than either a 3 or a 4 for some other species. The same is likely in the cases of the new 7A and new 8. Cooperators are asked to study this list and advise us of further changes which should be made in it.

A. O. U. NUMBERS AND BAND SIZES

A.O.U. No.	Species	Band Size	A.O.U. No.	Species	Band Size
1	Western Grebe	7A	129	Am. Merganser	7A
2	Holboell's Grebe	6	130	Red-breasted Merganser	6
3	Horned Grebe	6	131	Hooded Merganser	5
4	Eared Grebe	6	132	Mallard (wild)	7A
6	Pied-billed Grebe	6		(hand-reared)	7B
7	Common Loon	8	133	Black Duck (wild)	7A
11	Red-throated Loon	8		(hand-reared)	7B
12	Tufted Puffin	6	134	Mottled Duck	7A
13	Atlantic Puffin	6	135	Gadwall	6
27	Black Guillemot	4	137	Baldpate	6
29	Pigeon Guillemot	4	139	Green-winged Teal	4
30	Murre	6	140	Blue-winged Teal	5
32	Razor-billed Auk	6	141	Cinnamon Teal	5
34	Dovkie	2	142	Shoveller	6
38	Long-tailed Jaeger	4	143	Pintail	6
40	Kittiwake	4	144	Wood Duck	5
44	Glaucous-winged Gull	7B	146	Redhead	7A
47	Great Black-backed Gull	7B	147	Canvas-back	7A
49	Western Gull	6	148	Greater Scaup	6
51	Herring Gull	6	149	Lesser Scaup	6
53	California Gull	5	150	Ring-necked Duck	6
54	Ring-billed Gull	5	151	Am. Golden-eye	6
58	Laughing Gull	5	152	Barrow's Golden-eye	6
59	Franklin's Gull	4	153	Buffle-head	5
60	Bonaparte's Gull	4	154	Old-squaw	5
63	Gull-billed Tern	3A	160	Am. Eider	7B
64	Caspian Tern	5	165	White-winged Scoter	7A
65	Royal Tern	5	167	Ruddy Duck	5
67	Cabot's Tern	3A	169	Lesser Snow Goose	7B
69	Forster's Tern	3	169.1	Blue Goose	7B
70	Common Tern	3	170	Ross's Goose	7B
71	Arctic Tern	3	171	White-fronted Goose	8
72	Roseate Tern	3	172	Canada Goose	8
74	Least Tern	1A	172.1	Hutchins Goose	7B
77	Black Tern	2	172.3	Cackling Goose	7B
80	Black Skimmer	4	180	Whistling Swan	9
81	Black-footed Albatross	9	181	Trumpeter Swan	9
82.1	Laysan Albatross	9	184	White Ibis	6
95	Sooty Shearwater	5	187	White-faced Glossy Ibis	6
96.1	Wedge-tailed Shearwater	4	190	Am. Bittern	6
106	Leach's Petrel	1A	191	Least Bittern	4
116	Red-footed Booby	7B	194	Great Blue Heron	7B
117	Gannet	9	196	Am. Egret	7B
118	Water-turkey	6	197	Snowy Egret	6
119	European Cormorant	8	199	Louisiana Heron	6
120	Double-crested Cormorant	8	200	Little Blue Heron	6
122	Brandt's Cormorant	8	201	Green Heron	5
125	Am. White Pelican	9	202	Black-crowned Night Heron	7A
126	Brown Pelican	9	203	Yellow-crowned Night Heron	7A

A. O. U. NUMBERS AND BAND SIZES

A.O.U. No.	Species	Band Size	A.O.U. No.	Species	Band Size
206	Sandhill Crane	9	300	Ruffed Grouse	6
208	King Rail	5	305	Greater Prairie Chicken	6
211	Clapper Rail	5	308	Sharp-tailed Grouse	6
212	Virginia Rail	3	309.1	Ring-necked Pheasant	6
214	Sora Rail	3	310	Wild Turkey	9
218	Purple Gallinule	6	312	Band-tailed Pigeon	4
219	Florida Gallinule	6	315.1	Chinese Spotted Dove	4
221	Coot	6	316	Mourning Dove	3A
223	Northern Phalarope	2	319	Western white-winged Dove	4
224	Wilson's Phalarope	2	320	Ground Dove	2
225	Avocet	4	321	Inca Dove	2
226	Black-necked Stilt	4	325	Turkey Vulture	9
228	Woodcock	3	326	Black Vulture	9
230	Wilson's Snipe	3	328	White-tailed Kite	5
231	Dowitcher	2	329	Mississippi Kite	5
233	Stilt Sandpiper	2	331	Marsh Hawk	5
239	Pectoral Sandpiper	2	332	Sharp-shinned Hawk	4
240	White-rumped Sandpiper	1A	333	Cooper's Hawk	5
241	Baird's Sandpiper	1B	334	Goshawk	7B
242	Least Sandpiper	1	337	Red-tailed Hawk	7B
243a	Red-backed Sandpiper	1A	339	Red-shouldered Hawk	6
246	Semipalmated Sandpiper	1	342	Swainson's Hawk	7B
247	Western Sandpiper	1	343	Broad-winged Hawk	5
248	Sanderling	1A	347a	Rough-legged Hawk	7B
249	Marbled Godwit	4	348	Ferruginous Rough-leg	7B
254	Greater Yellow-legs	3	349	Golden Eagle	9
255	Lesser Yellow-legs	2	352	Bald Eagle	9
256	Solitary Sandpiper	2	355	Prairie Falcon	6
258	Willet	4	356	Duck Hawk	7B
261	Upland Plover	3	357	Pigeon Hawk	4
263	Spotted Sandpiper	1A	360	Sparrow Hawk	3
264	Long-billed Curlew	4	364	Osprey	9
270	Black-bellied Plover	2	365	Barn Owl	6
272	Golden Plover	2	366	Long-eared Owl	6
273	Killdeer	2	367	Short-eared Owl	6
274	Semipalmated Plover	1A	368	Barred Owl	7B
277	Piping Plover	1A	372	Saw-whet Owl	3
280	Wilson's Plover	2	373	Screech Owl	5
283	Ruddy Turnstone	2	375	Great Horned Owl	9
284	Black Turnstone	2	376	Snowy Owl	9
286	Oyster-catcher	5	378	Burrowing Owl	5
289	Bob-white Quail	4	385	Road Runner	5
290	Hungarian Partridge	4	387	Yellow-billed Cuckoo	2
292	Mountain Quail	4	388	Black-billed Cuckoo	2
293	Scaled Quail	4	390	Belted Kingfisher	4
294	California Quail	4	393	Hairy Woodpecker	2
295	Gambel's Quail	4	394	Downy Woodpecker	1B

A. O. U. NUMBERS AND BAND SIZES

A.O.U. No.	Species	Band Size	A.O.U. No.	Species	Band Size
399	White-headed Woodpecker	2	494	Bobolink	1A
402	Yellow-bellied Sapsucker	2	495	Cowbird	1A
405	Pileated Woodpecker	3	497	Yellow-headed Blackbird	2
406	Red-headed Woodpecker	2	498	Red-winged Blackbird	2
407	Ant-eating Woodpecker	3	500	Tricolored Red-wing	2
408	Lewis's Woodpecker	3	501	Eastern Meadowlark	3
409	Red-bellied Woodpecker	2	501.1	Western Meadowlark	3
411	Gila Woodpecker	2	505	Hooded Oriole	1A
412	Yellow-shafted Flicker	3	506	Orchard Oriole	1A
413	Red-shafted Flicker	3	507	Baltimore Oriole	1A
414	Gilded Flicker	3	508	Bullock Oriole	1A
416	Chuck-will's widow	3	509	Rusty Blackbird	2
417	Whip-poor-will	1A	510	Brewer's Blackbird	2
418	Poor-will	1A	511	Purple Grackle	3
420	Nighthawk	2	511.9	Bronzed Grackle	3
421	Texas Nighthawk	2	513	Boat-tailed Grackle	4
423	Chimney Swift	1B	514	Evening Grosbeak	2
428	Ruby-throated Hummingbird	*	515	Pine Grosbeak	2
443	Scissor-tailed Flycatcher	1A	517	Purple Finch	1
444	Eastern Kingbird	1A	518	Cassin's Purple Finch	1
447	Arkansas Kingbird	1A	519	House Finch	1
452	Crested Flycatcher	1A	521	Red Crossbill	1A
454	Ash-throated Flycatcher	1A	522	White-winged Crossbill	1A
456	Eastern Phoebe	1	524	Brown-capped Rosy Finch	1B
457	Say's Phoebe	1	527a	Hoary Redpoll	0
458	Black Phoebe	1	528	Common Redpoll	0
459	Olive-sided Flycatcher	1B	529	Am. Goldfinch	0
461	Eastern Wood Pewee	1	530	Arkansas Goldfinch	0
462	Western Wood Pewee	1	531	Lawrence Goldfinch	0
463	Yellow-bellied Flycatcher	0	533	Pine Siskin	0
464	Western Flycatcher	0	534	Snow Bunting	1
465	Acadian Flycatcher	0	536	Lapland Longspur	1
466	Alder Flycatcher	0	537	Smith's Longspur	1
467	Least Flycatcher	0	538	Chestnut-collared Longspur	1
471	Vermilion Flycatcher	1	539	McCown's Longspur	1
474	Northern Horned Lark	1A	540	Vesper Sparrow	1
475	Am. Magpie	4	542	Savannah Sparrow	0
476	Yellow-billed Magpie	4	545	Baird's Sparrow	0
477	Blue Jay	3	546	Grasshopper Sparrow	0
478	Steller's Jay	3	547	Henslow's Sparrow	1
481	California Jay	2	548	Leconte's Sparrow	1
484	Canada Jay	3	549	Sharp-tailed Sparrow	1
486	Raven	6	550	Seaside Sparrow	1B
488	Am. Crow	5	552	Lark Sparrow	1A
490	Fish Crow	5	553	Harris's Sparrow	1A
491	Clarke's Nutcracker	3	554	White-crowned Sparrow	1B
493	Starling	2	554.9	Gambel's Sparrow	1B

* Use cut-down size 0 but do not alter the number.

A.O.U. NUMBERS AND BAND SIZES.

A.O.U. No.	Species	Band Size	A.O.U. No.	Species	Band Size
554.8	Nuttall's Sparrow	1B	620	Phainopepla	1A
557	Golden-crowned Sparrow	1B	621	Northern Shrike	2
558	White-throated Sparrow	1B	622	Loggerhead Shrike	2
559	Tree Sparrow	1	624	Red-eyed Vireo	1
560	Chipping Sparrow	0	626	Philadelphia Vireo	0
561	Clay-colored Sparrow	0	627	Warbling Vireo	0
562	Brewer's Sparrow	0	628	Yellow-throated Vireo	1
563	Field Sparrow	0	629	Blue-headed Vireo	1
566	White-winged Junco	1	631	White-eyed Vireo	1
567	Slate-colored Junco	0	632	Hutton's Vireo	0
567.9	Oregon Junco	0	633	Bell's Vireo	1
570.9	Red-backed Junco	1	636	Black and White Warbler	1
570.8	Grey-headed Junco	1	637	Prothonotary Warbler	1
573	Black-throated Sparrow	1	639	Worm-eating Warbler	1
575	Pine-woods Sparrow	1	641	Blue-winged Warbler	0
580	Rufous-crowned Sparrow	1	642	Golden-winged Warbler	0
581	Song Sparrow	1	645	Nashville Warbler	0
583	Lincoln's Sparrow	1	646	Orange-crowned Warbler	0
584	Swamp Sparrow	1	647	Tennessee Warbler	0
585	Fox Sparrow	1A	648	Parula Warbler	0
587	Red-eyed Towhee	2	650	Cape May Warbler	0
588	Arctic Towhee	2	652	Yellow Warbler	0
591	Brown Towhee	2	654	Black-throated Blue Warbler	0
592	Abert's Towhee	2	655	Myrtle Warbler	0
592.1	Green-tailed Towhee	2	656	Audubon's Warbler	0
593	Cardinal	2	657	Magnolia Warbler	0
594	Pyrrhuloxia	2	658	Cerulean Warbler	0
595	Rose-breasted Grosbeak	2	659	Chestnut-sided Warbler	0
596	Black-headed Grosbeak	2	660	Bay-breasted Warbler	1
597	Blue Grosbeak	1A	661	Blackpoll Warbler	1
598	Indigo Bunting	1	662	Blackburnian Warbler	0
599	Lazuli Bunting	1	663	Yellow-throated Warbler	1
601	Painted Bunting	1	665	Black-throated Gray Warbler	0
604	Dickcissel	1B	667	Black-throated Green Warbler	0
605	Lark Bunting	1A	668	Townsend's Warbler	0
607	Western Tanager	1B	669	Hermit Warbler	0
608	Scarlet Tanager	1A	670	Kirtland's Warbler	1
610	Summer Tanager	1A	671	Pine Warbler	1
611	Purple Martin	1A	672	Palm Warbler	1
612	Cliff Swallow	1	673	Prairie Warbler	0
613	Barn Swallow	1	674	Oven-bird	1
614	Tree Swallow	1	675	Northern Water-thrush	1
615	Violet-green Swallow	1	676	Louisiana Water-thrush	1
616	Bank Swallow	1	677	Kentucky Warbler	1
617	Rough-winged Swallow	1	678	Connecticut Warbler	1
618	Bohemian Waxwing	1A	679	Mourning Warbler	1
619	Cedar Waxwing	1B	680	Macgillivray's Warbler	1

A. O. U. NUMBERS AND BAND SIZES

A.O.U. No.	Species	Band Size	A.O.U. No.	Species	Band Size
681	Yellow-throat	0	727	White-breasted Nuthatch	1B
683	Yellow-breasted Chat	1A	728	Red-breasted Nuthatch	1
684	Hooded Warbler	1	729	Brown-headed Nuthatch	1
685	Wilson's Warbler	0	730	Pygmy Nuthatch	1
686	Canada Warbler	1	731	Tufted Titmouse	1B
687	Redstart	0	733	Plain Titmouse	1
688.2	English Sparrow	1B	735	Black-capped Chickadee	0
688.3	European Tree Sparrow	1B	736	Carolina Chickadee	0
697	Am. Pipit	1	738	Mountain Chickadee	0
700	Sprague's Pipit	1	740	Hudsonian Chickadee	0
701	Dipper	1A	741	Chestnut-backed Chickadee	0
702	Sage Thrasher	1A	742	Wren-tit	1
703	Mockingbird	1A	743	Bush-tit	0
704	Catbird	1A	746	Verdin	0
705	Brown Thrasher	2	748	Golden-crowned Kinglet	0
707	Curve-billed Thrasher	2	749	Ruby-crowned Kinglet	0
708	Bendire's Thrasher	2	751	Blue-grey Gnatcatcher	0
710	California Thrasher	2	754	Townsend's Solitaire	1A
712	Crissal Thrasher	2	755	Wood Thrush	2
713	Cactus Wren	1A	756	Veery	1A
715	Rock Wren	1	757	Grey-cheeked Thrush	1A
717	Canon Wren	1	758	Russet-backed Thrush	1A
718	Carolina Wren	1B	758	Olive-backed Thrush	1A
719	Bewick's Wren	0	759	Hermit Thrush	1A 1B
721	House Wren	0	759.8	Dwarf Hermit Thrush	1
722	Winter Wren	0	761	Robin	2
724	Short-billed Marsh Wren	0	763	Varied Thrush	2
725	Long-billed Marsh Wren	0	766	Eastern Bluebird	1A
726	Brown Creeper	0	767	Western Bluebird	1A
			768	Mountain Bluebird	1A

