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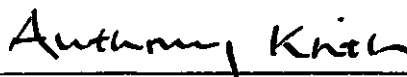
FOREWORD

This manual is for use by bird banders in North America. It was prepared jointly by the U.S. Fish and Wildlife Service and the Canadian Wildlife Service and is usable by both United States and Canadian banders. Instructions specific to banders in one nation are so noted.

In the United States, the bird banding office is called the Bird Banding Laboratory; its counterpart in Canada is called the Banding Office. The activities of both offices are coordinated, and the same kind of bands are used by each.

A handwritten signature in black ink, reading "John Turner", positioned above a horizontal line.

John Turner
Director, U.S. Fish and Wildlife Service
Washington, D.C. 20240
U.S.A.

A handwritten signature in black ink, reading "Anthony Keith", positioned above a horizontal line.

J.A. Keith
A/Director General
Canadian Wildlife Service
Ottawa, Ontario
K1A 0E7

TABLE OF CONTENTS

PART	TITLE	PAGE
1	INTRODUCTION	1-1
2	FEDERAL BIRD MARKING AND SALVAGE PERMITS	2-1
	U.S. - TYPES OF FEDERAL BIRD MARKING AND SALVAGE PERMITS	2-1
	U.S. - MASTER PERMIT - PERSONAL	2-1
	U.S. - MASTER PERMIT - STATION	2-1
	U.S. - SUBPERMITS	2-1
	CANADA - TYPES OF SCIENTIFIC PERMITS TO CAPTURE AND BAND MIGRATORY BIRDS	2-2
	CANADA - MASTER PERMIT - PERSONAL	2-2
	CANADA - MASTER PERMIT - STATION	2-2
	CANADA - SUBPERMITS	2-4
	HOW TO APPLY FOR PERMITS	2-4
	U.S. - MASTER - PERSONAL	2-4
	U.S. - MASTER - STATION	2-4
	U.S. - SUBPERMITS	2-4
	CANADA - MASTER	2-5
	CANADA - ALL BANDING PERMITS	2-5
	U.S. BANDERS WISHING TO BAND IN CANADA OR CANADIAN BANDERS WISHING TO BAND IN THE U.S.	2-5
	PROCESSING PERMIT APPLICATIONS	2-5
	BANDING OFFICE PROCEDURES	2-5
	TIME NEEDED	2-6
	DISTRIBUTION OF PERMITS FROM THE BIRD BANDING OFFICES	2-6
	DISTRIBUTION OF PERMITS FROM U.S. REGIONAL OFFICES	2-6
	PERMIT LIMITATIONS	2-6
	SPECIAL PROVISIONS	2-7
	AUTHORIZATION TO CAPTURE AND MARK WATERFOWL	2-7
	U.S. - AUTHORIZATION TO CAPTURE AND MARK EAGLES	2-7
	CANADA - AUTHORIZATION TO CAPTURE AND MARK RAPTORS AND OTHER PROVINCIALLY PROTECTED SPECIES	2-7
	U.S. - AUTHORIZATION TO CAPTURE OR MARK ENDANGERED SPECIES	2-8
	CANADA - AUTHORIZATION TO CAPTURE OR MARK ENDANGERED SPECIES	2-8
	PERMISSION TO BAND IN TWO OR MORE STATES/PROVINCES	2-8
	PERMISSION TO BAND IN A CANADIAN FEDERAL OR PROVINCIAL PARK OR BIRD SANCTUARY	2-9
	AUTHORIZATION TO USE MISTNETS	2-9
	AUTHORIZATION TO USE CHEMICALS TO CAPTURE MIGRATORY BIRDS	2-9
	AUXILIARY MARKING	2-9
	EXPIRY DATES AND RENEWALS	2-10
	UNITED STATES	2-10
	CANADA	2-11
	PERMIT SUSPENSIONS AND REVOCATIONS	2-11
	GENERAL	2-11
	PERMIT SUSPENSIONS	2-11
	PERMIT REVOCATIONS	2-12
	PERMIT INACTIVATIONS	2-12
	STATE PERMITS AND PROVINCIAL PERMITS	2-12
	SALVAGE OF DEAD BIRDS	2-12
	PRESERVATION AND SHIPMENT OF SALVAGED BIRDS	2-13
	APPENDIX A - U.S. AND CANADIAN REGIONAL OFFICES AND PROVINCIAL GAME OFFICERS	2-A-1
	APPENDIX B - U.S. - LIST OF ENDANGERED SPECIES OF BIRDS	2-B-1
	APPENDIX C - STATE NATURAL RESOURCE AGENCIES - ADDRESSES	2-C-1
	APPENDIX D - U.S. - DEPOSITORY LIST FOR DELIVERY OR SHIPMENT OF SALVAGED BIRDS	2-D-1
3	BANDS AND BANDING	3-1
	HOW TO ORDER BANDS	3-1
	BANDER'S RESPONSIBILITY UPON RECEIVING A SHIPMENT OF BANDS	3-2

TABLE OF CONTENTS (cont'd)

PART	TITLE	PAGE
3	BANDS AND BANDING (cont'd)	
	ACCOUNTABILITY	3-2
	TYPES OF BANDS ISSUED	3-2
	METAL TYPE AND BAND SPECIFICATIONS	3-2
	BUTT-END BAND - CLOSED	3-2
	BUTT-END BANDS - PRE-OPENED	3-2
	LOCK-ON BANDS	3-3
	RIVET BANDS	3-3
	HUMMINGBIRD BANDS	3-3
	SPECIALTY BANDS	3-3
	AUXILIARY MARKERS	3-3
	SIZE DESIGNATION AND BAND NUMBERS	3-3
	BAND NUMBERING SYSTEM	3-3
	HOW TO APPLY AND REMOVE BANDS	3-4
	POLICY AND PROCEDURE FOR UNUSUAL BANDING SITUATIONS	3-6
	BAND REPLACEMENT	3-6
	ANALYSING REBANDED BIRDS	3-6
	STATUS CHANGE	3-7
	DOUBLE-BANDING	3-7
	LOST OR DESTROYED BANDS OR DATA	3-7
4	REPORTS SUBMITTED TO AND RECEIVED FROM THE BIRD BANDING OFFICES	4-1
	REPORTS ABOUT BANDING SUBMITTED TO THE BANDING OFFICES	4-1
	THE BANDING SCHEDULE	4-1
	GAME BIRD REPORTING DEADUNES	4-1
	NON-GAME BIRD REPORTING DEADUNES	4-2
	INSTRUCTIONS FOR COMPLETING THE BANDING SCHEDULE	4-2
	CORRECTION OF DATA ALREADY SUBMITTED	4-6
	CANADA - NOTE FOR FILE	4-6
	CANADA - YEAR-END REPORT	4-6
	REPORTS ABOUT BANDING RECEIVED BY THE BANDER FROM THE BANDING OFFICES	4-6
	BANDING DATA INQUIRY	4-6
	BANDING SCHEDULE EVALUATION SHEET	4-6
	REPORTS ABOUT BAND ENCOUNTERS SUBMITTED TO THE BANDING OFFICES	4-7
	BIRD BAND RECOVERY FORM	4-7
	ENCOUNTERS THAT SHOULD BE REPORTED	4-7
	REPORTS ABOUT BAND ENCOUNTERS RECEIVED BY THE BANDER FROM THE BANDING OFFICES	4-8
	BANDING DATA REQUEST CARD	4-8
	WHAT HAPPENS WHEN A BAND IS ENCOUNTERED?	4-8
5	CODES	5-1
	SPECIES NUMBER, ALPHA CODES AND RECOMMENDED BAND SIZES	5-1
	STATUS AND ADDITIONAL INFORMATION CODES	5-1
	YEAR CLASS (AGE) CODES	5-1
	SEX CODES	5-2
	REGION CODES	5-2
	MEXICAN CO-ORDINATES AND STATE CODES	5-2
	CO-ORDINATES AND DIRECTION CODES	5-2
	INEXACT CO-ORDINATES CODES	5-2
	PRESENT CONDITION OF BIRD AND BAND CODES	5-2
	WHO REPORTED CODES	5-2
	WHY REPORTED CODES	5-2
	HOW OBTAINED CODES	5-3
	INEXACT DATE CODES	5-3
	HUNTING SEASONS SURVIVED CODES	5-3

TABLE OF CONTENTS (cont'd)

PART	TITLE	PAGE
5	COOES (cont'd)	
	BAND TYPE AND MATERIAL CODES	5-3
	DAY CODES (Banding summary records only)	5-3
	PREFIX CODES (Banding summary records only)	5-4
	OBSOLETE AGE CODES	5-4
	OBSOLETE WHO REPORTED CODES	5-4
	BATCH CODE (RECOVERY RETRIEVAL RECORDS ONLY)	5-4
6	REQUESTS FOR DATA	6-1
	PURPOSE	6-1
	DATA SOURCE	6-1
	DATA RETRIEVAL FILES	6-1
	FORMS IN WHICH DATA CAN BE SUPPLIED	6-4
	INFORMATION REQUIREMENTS FOR DATA RETRIEVAL	6-4
	TRANSLATION OF DATA	6-4
	LIMITATIONS ON USE	6-4
	REQUESTS FOR VERIFICATION OF BANDING DATA	6-5
7	BANDING IN COUNTRIES OTHER THAN CANADA AND THE UNITED STATES	7-1
	GENERAL	7-1
	BANDING IN OTHER THAN NORTH AMERICAN COUNTRIES IN WEST LONGITUDE	7-1
	BANDING IN AREAS OUTSIDE WEST LONGITUDE	7-2
8	BANDING ASSOCIATIONS AND OBSERVATORIES	8-1
	GENERAL	8-1
	REGIONAL BANDING ASSOCIATIONS	8-1
	BIRD OBSERVATORIES	8-1
	APPENDIX A - GLOSSARY OF BIRD BANDING TERMINOLOGY	A-1
	APPENDIX B - REFERENCE TO BOOKS AND PERIODICALS USEFUL TO BANDERS	B-1

LIST OF ILLUSTRATIONS

FIGURE	TITLE	PAGE
2-1	BANDING LETTER OF AUTHORIZATION (U.S. only)	2-3
3-1	SIZE DESIGNATIONS AND BAND DIAMETERS	3-4
3-2	BAND NUMBERING SYSTEM	3-5
4-1	BANDING SCHEDULE	4-10
4-2	NOTE FOR FILE	4-12
4-3	YEAR-END REPORT	4-14
4-4	BANDING DATA INQUIRY	4-16
4-5	BANDING SCHEDULE EVALUATION	4-17
4-6	BIRD BAND RECOVERY FORM	4-18
4-7	BANDING DATA REQUEST CARD	4-20
4-8	CERTIFICATE OF APPRECIATION	4-22
4-9	REPORT TO THE BANDER	4-24
5-1	INDEX FOR LOCATING MAJOR BIRD GROUPS	5-5
5-1a	LIST OF SPECIES NUMBERS, ALPHA CODES AND RECOMMENDED BAND SIZES	5-6
5-2	STATUS CODES	5-43
5-3	ADDITIONAL INFORMATION CODES	5-44
5-4	YEAR CLASS (AGE) CODES	5-47
5-5	SEX CODES	5-48
5-6	REGION NAMES, CODES AND ABBREVIATIONS - ALPHABETIC	5-49
5-6a	REGION NAMES, CODES AND ABBREVIATIONS - NUMERIC	5-52
6-7	US FLYWAY CODES AND NUMERIC REGION CODES	5-55
5-8	CANADA AND ALASKA FLYWAY CODES AND NUMERIC REGION CODES	5-56
5-9	MEXICO AND CENTRAL AMERICA FLYWAY CODES AND NUMERIC REGION CODES	5-57
5-10	MEXICAN CO-ORDINATES AND STATE CODES	5-58
5-11	CO-ORDINATES AND DIRECTION CODES	5-58
5-12	INEXACT COORDINATES CODES	5-59
5-13	PRESENT CONDITION OF BIRD AND BAND CODES	5-60
5-14	WHO REPORTED CODES	5-61
5-15	WHY REPORTED CODES	5-62
5-16	HOW OBTAINED CODES	5-63
5-17	INEXACT DATE CODES	5-71
5-18	BAND MATERIAL AND TYPE CODES	5-71
5-19	OBSOLETE AGE CODES	5-72
5-20	OBSOLETE ADULT DESIGNATION CODES	6-72
5-21	OBSOLETE WHO REPORTED CODES	5-73
6-1	BANDING SUMMARY RECORD LAYOUT - MAGNETIC TAPE/DISKETTE	6-2
6-2	RECOVERY RECORD LAYOUT - MAGNETIC TAPE/DISKETTES	6-3
TABLE		
4-1	TIME-TABLE FOR SUBMISSION OF BANDING SCHEDULES	4-2

PART 1

INTRODUCTION

PURPOSES OF BANDING AND MARKING BIRDS

Bird banding and marking are important tools used in research. They help to provide the data required to answer questions regarding the biology and movements of individual birds.

Banding can give us information on the average survival and life expectancy of birds, the age at which breeding first occurs and the number of years of reproductive potential for each species. It can help to measure the annual variation in numbers of adults and young birds, and give insight into causes of avian mortality.

Banding helps researchers map the location of the summer and wintering grounds and rest areas as well as the routes followed by migrants. Recovery of banded birds yields information on the timing and duration of migration. It also helps us to determine which species are changing their migratory patterns.

THE ROLE OF THE BANDING LABORATORY/OFFICE

Systematic banding began in North America in the early 1900s. However, these efforts yielded few results because the public was unaware of banding and did not return many bands. At the same time, concern was growing over the disappearance of the Passenger Pigeon and species of shorebirds and waterfowl that were being hunted. It became evident to conservationists that there was a need for a continental plan for conserving and managing birds.

To address this need, the Migratory Birds Convention was finalized by Canada and the United States in 1916. The Convention set out a system for the protection of migratory birds and for the regulated harvest of birds in both countries. That system was extended to all of North America in 1936, when the United States signed a similar treaty with Mexico.

The U.S. Bird Banding Laboratory and the Canadian Bird Banding Office were established in 1920 and 1923 respectively, as the centers for the administration of banding. Since that time, the work of the Bird Banding Laboratory, now part of the U.S. Fish and Wildlife Service and the Bird Banding Office, now part of the Canadian Wildlife Service, Environment Canada, has been closely coordinated.

Each office is responsible for reviewing proposed banding projects, issuing permits and bands, and collecting the data for banding and marking of birds undertaken in its own country, irrespective of the banders' country of origin. Permits are issued primarily for research and management projects that will contribute to the conservation of bird populations. The bands that each office issues are identical and all carry the return address of the U.S. Bird Banding Laboratory in Washington, DC.

BANDERS' RESPONSIBILITIES

Banding or marking birds can have temporary or long term physical or behavioural effects on birds. When banders are issued permits, they also assume certain responsibilities towards the Banding Offices and towards the birds. Attention to the ethics of banding begins long before banders venture into the field and ends long after the completion of the field study.

CONSIDERATIONS FOR BANDING AND MARKING BIRDS

To minimize the effects of banding on birds and the costs of processing banding data, it is necessary to restrict the use of bands and markers to well-designed projects that will enable people to gain a better understanding of birds. Prior to undertaking the field study, banders should be sure that the use of bands in a study will help them to answer the questions they are interested in. They should select the most appropriate methods for marking the birds and collecting and analyzing the data. They should estimate the sample size required to do the statistical analyses. There are a number of methods available for the analysis of recapture data from carefully designed studies that allow for estimates of population size, survival and immigration rates.

The bander should mark the minimum number of birds necessary to provide an adequate sample size. This is for three reasons:

- (a) Banders should minimize the impact of banding and marking on birds.
- (b) The reporting of band encounters depends on public cooperation. Studies of hunters have shown that they lose interest in reporting bands when they report bands and find out that the birds were banded locally.
- (c) It is expensive and time-consuming to process data on bandings and encounters that will not provide useful results.

Researchers should consider whether banding birds is necessary for the purposes of the research and whether temporary markers such as a drop of paint or dye or trimmed feather tips, may serve their purposes equally as well. A banding permit is also required for temporary markers.

The success of the North American Bird Banding Program depends on complete and accurate record-keeping by banders and the Bird Banding Offices. Many banders and wildlife managers use banding and encounter data and depend on its accuracy and timeliness.

THE BANDING MANUAL

The banding manual is the key reference book for banders. It describes the responsibilities of banders, the procedures to obtain permits and bands, and the methods of reporting banding and encounter information. The manual also describes the computer system on which the data from bandings and encounters are stored and how the banders and wildlife managers can obtain these data.

PART 2

FEDERAL BIRD MARKING AND SALVAGE PERMITS

INTRODUCTION

1. Part 2 outlines the types of federal bird marking and salvage permits available in the U.S. and Canada. The qualifications required to apply for a permit, the procedures followed in making the application and the limitations and authorizations of a permit are also outlined. Instructions for the preservation and shipment of salvaged birds are also provided.

U.S. - TYPES OF FEDERAL BIRD MARKING AND SALVAGE PERMITS

2. Three types of banding permits are available to ornithologists in the U.S. who need to band or otherwise mark migratory birds. For all three types the basic permit authorizes the trapping of birds with the most common live traps and the banding of nestlings. Additional authorization is necessary for work with auxiliary markers, mist nets, endangered species, etc.

U.S. - MASTER PERMIT - PERSONAL

- (a) This is the most commonly issued master permit. A master permittee is authorized to conduct banding operations independently within the limitations specified on the permit. The data are submitted directly to the Bird Banding Laboratory, where they are entered into the files under the bander's permit number. Reports of all band encounters are forwarded to the bander. This type of permit is issued to qualified persons whose bird-marking activities are part of their personal research.

U.S. - MASTER PERMIT - STATION

- (b) Such permits are issued when the banding is conducted by an organization rather than an individual. For example, this type of permit is used by national wildlife refuges, federal and state natural resource agencies, universities, and bird observatories. A member of the staff is designated as the "responsible individual" and is named on the permit. This person coordinates the activities of the "subpermittees", and is responsible for the accurate and timely submission of data to the Bird Banding Laboratory. In the event that the "responsible individual" is transferred, retired, or relieved, another qualified individual may be appointed. If a qualified person is not available, the permit is inactivated.

This type of permit is issued when it is desirable to maintain the continuity of a banding program despite personnel changes and the data from the banding program are of more value to the organization sponsoring the program than to the individual marking the birds. Reports of encounters with birds banded under a master-station permit will be forwarded to the station regardless of changes in "responsible individuals".

U.S.-SUBPERMITS

- (c) Subpermits are issued to persons who are not sufficiently experienced to qualify for a master permit or to qualified persons who assist master permittees. It is unnecessary to issue subpermits to persons assisting a bander while the bander is present or in the

immediate vicinity. Subpermits are issued only to persons who will be assisting a bander's project when it is likely that the master permittee will be absent for extended periods. A subpermittee's permit expiration date cannot exceed the expiration date of the permit granted to the master permittee. A subpermittee obtains all bands and banding supplies through the master permittee, and all records are submitted by and under the name and permit number of the master permittee, who is responsible for their promptness and quality. The name and address of the master permittee as well as the subpermittee are noted on the subpermit.

3. The U.S. Bird Banding Laboratory does not retain the names and addresses of subpermittees on its mailing list. The master permittee is required to transmit the subpermit, bands, and other information from the Banding Laboratory to the subpermittees. MTABs (Memoranda to All Banders) and forms for subpermittees will be issued to the master permittee, who will also receive notification of any encounters of birds banded by subpermittees.

4. Where practical, we encourage the issuance of subpermits to students whose research projects will be of relatively short duration and conducted under the guidance of faculty advisors who have master permits. A new bander serving an "apprenticeship" under an experienced bander is exposed to banding and the amount of paper work and record keeping involved.

5. In the U.S. only, a "letter of authorization" may be issued to state or federal conservation agency personnel or cooperators. The "responsible individual" for a master-station permit, issued either to state fish and wildlife conservation agencies or USFWS offices, is authorized to issue subpermits in the form of "letters of authorization" to ornithologically competent persons needed for assistance in the organization's banding program. Such letters should be worded as shown in Figure 2-1, but should not be issued to authorize the banding of species appearing on the Department of the Interior's list of endangered species (see Part 2, Appendix B). Figure 2-1, "Letter of Authorization" (U.S. only), is shown on a separate page so that it can be easily copied as a form. It is not necessary to issue letters of authorization to National Wildlife Refuge personnel who carry out all of their trapping and marking activities within the boundaries of the refuge.

CANADA - TYPES OF SCIENTIFIC PERMITS TO CAPTURE AND BAND MIGRATORY BIRDS

6. Canadian ornithologists wishing to band or mark migratory birds have two types of banding permits available. These permits authorize the trapping of birds with the commonly used cage traps, and banding of nestlings or flightless young. Additional authorization is necessary for work with auxiliary markers, mist nets, endangered species, etc.

CANADA - MASTER PERMIT - PERSONAL

- (a) Most banding projects require several banders working together, each of whom must have a banding permit to capture and band birds. The master permit holder is designated as the "responsible individual" and coordinates and is responsible for the activities of all subpermittees within the project. This includes recommending new subpermittees, issuing bands, reporting encounters and preparing schedules.

CANADA MASTER PERMIT - STATION

- (b) When the banding project is sponsored by an organization, such as a university or a bird observatory, the organization's address is used on all correspondence with the banding office. In this case, a "responsible individual" is named and given subpermit "A" within the project permit. The responsible individual has the responsibilities outlined for the master permit holder - personal.

North American Bird Banding

CONSERVATION AGENCY LETTER OF AUTHORIZATION	
<div style="border-bottom: 1px solid black; height: 1.2em; margin-bottom: 2px;"></div> <div style="border-bottom: 1px solid black; height: 1.2em; margin-bottom: 2px;"></div> <div style="border-bottom: 1px solid black; height: 1.2em;"></div>	<div style="border-bottom: 1px solid black; height: 1.2em; margin-bottom: 2px;"></div> <div>(Date Issued)</div>
<div>(Name and Address of Subpermittee)</div>	
<p>This letter authorizes the above-named individual to handle those Federally protected birds described below for the purpose of banding or salvaging under the provisions of Master-Station Federal Bird Marking and Salvage Permit Number _____, which is issued to:</p> <div style="border-bottom: 1px solid black; height: 1.2em; margin-top: 10px;"></div> <div style="border-bottom: 1px solid black; height: 1.2em; margin-top: 2px;"></div>	
<div>(Name and Address of Master-Station Permittee)</div>	
<p>The authority granted herein expires on _____, or upon termination of the subpermittee's employment or contract with this office, whichever occurs first.</p>	
<div>AUTHORIZED SPECIES:</div>	
<div>General Conditions:</div>	
<p>Unless specifically authorized by the Bird Banding Laboratory to the Responsible Individual of the above Master-Station Permit, the following are NOT ALLOWED:</p>	
<ol style="list-style-type: none"> 1. Authorization to hold live migratory birds more than 24 hours. 2. The use of any marker, paint, dye, transmitting device, or other devices other than the officially numbered leg bands issued by the Bird Banding Laboratory. 3. The use of drugs or chemicals for the purpose of capturing birds. 4. The handling or treatment of any PREVIOUSLY BANDED BIRD in any manner that may bias data on file in the Bird Banding Laboratory pertaining to that bird of that may alter the bird's survival potential, behavior or other normal characteristics. 5. Endangered species marking unless this Letter is accompanied by a special endangered species marking permit signed by the Chief, Branch of Permits, Office of Management Authority, U.S. Fish and Wildlife Service. 	
<div style="border-bottom: 1px solid black; height: 1.2em; margin-bottom: 2px;"></div> <div>(Signature and Title, Responsible Individual)</div>	

Figure 2-1. "Letter of Authorization" (U.S. only)

CANADA - SUBPERMITS

(c) Most banding permits issued in Canada are subpermits. These allow banders to have legal possession of birds for banding. Subpermittees band according to the project descriptions on file for the master permit, and data from subpermittee banding is filed in the Bird Banding Office under the master permit.

HOW TO APPLY FOR PERMITS

7. A person who wants to apply for a banding permit should ask for an application form from the appropriate banding office:

in the U.S.:

CHIEF, BIRD BANDING LABORATORY
OFFICE OF MIGRATORY BIRD MANAGEMENT
U.S. FISH AND WILDLIFE SERVICE
LAUREL, MD. 20708-9619

in Canada:

Canadian Bird Banding Office
Canadian Wildlife Service
Environment Canada
Ottawa, Ontario
K1A 0H3

When requesting application forms for subpermits, a master permittee should provide the names and addresses of the applicants.

U.S. - MASTER - PERSONAL

8. A holder of a master-personal permit must:

- (a) be at least 18 years of age,
- (b) provide the names of three active banders or recognized ornithologists who are able and willing to vouch for the applicant's ornithological, mist-netting, and record-keeping ability, and
- (c) provide a well-developed study plan showing a valid need for a banding permit.

U.S. - MASTER - STATION

9. The person designated as the "responsible individual" for a master-station permit must meet the criteria required of the holder of the master-personal permit and, in addition, the Bird Banding Laboratory must receive a written request that the applicant be designated the "responsible individual", from a senior individual in the organization sponsoring the permit.

U.S. - SUBPERMITS

10. A subpermittee must:

- (a) be at least 16 years of age, and
- (b) enclose a letter of support from the holder of a master-personal permit or the "responsible individual" for a master-station permit.

CANADA - MASTER

11. An application for a master permit must include a project description justifying the need for banding and any auxiliary marking, and provide details of the species and approximate numbers of birds to be banded, location(s), duration of the project, and intended use of the data. A list of banders and applications for any required subpermits is also required.

The person designated as the "responsible individual" for a master permit must meet the criteria for a banding permit (see below) if he/she will be banding. The Canadian Banding Office must also receive a request that the applicant be designated as the "responsible individual" from a senior individual in the organization sponsoring the permit.

CANADA - ALL BANDING PERMITS

12. A holder of a Canadian permit to capture and band migratory birds must:

- (a) be at least 18 years of age, and
- (b) provide testimonial letters from two active banders or recognized ornithologists, vouching for the applicant's ornithological, banding, and record-keeping abilities (one of these must be from the master permit holder for banders applying for subpermits).

U.S. BANDERS WISHING TO BAND IN CANADA OR CANADIAN BANDERS WISHING TO BAND IN THE U.S.

13. U.S. banders wishing to band in Canada should request permission from the Canadian Banding Office in Ottawa, and Canadian banders wishing to band in the U.S. should apply to the U.S. Bird Banding Laboratory in Laurel. Both offices coordinate banding and marking programs, so requests to band will be checked with the other office to ensure that the bander is in good standing. In order to expedite applications, indicate:

- (a) either the U.S. Federal Bird Marking and Salvage Permit number or the Canadian Scientific Permit to Capture and Band Migratory Birds number, as the permit to band in the other country will bear the same number,
- (b) the expiration date of the permit,
- (c) the geographic area in which banding is planned (special permits are required for certain areas),
- (d) the species involved in the planned study,
- (e) the time and duration of banding operations,
- (f) a brief description of the study, and
- (g) requests for use of any auxiliary marking techniques (colour markers, transmitters, etc.).

PROCESSING PERMIT APPLICATIONS BANDING**OFFICES PROCEDURES**

14. Requests for banding permits are acknowledged by a form letter listing any additional information required and an application form. The application for a U.S. Federal Bird Marking

and Salvage Permit is form 3-481, and for a Canadian Scientific Permit to Capture and Band Migratory Birds is form 1744 (1-81).

15. In the U.S., if the applicant appears to be qualified, letters of inquiry (form 3-1852) are sent to persons listed as references. If favourable comments are received, and the applicant has demonstrated a valid need to band birds, as well as provided a plan showing how banding will serve the need, that person is issued a Federal Bird Marking and Salvage Permit (U.S.) or a Scientific Permit to Capture and Band Migratory Birds (Canada).

TIME NEEDED

16. At least 90 days should be allowed for the processing of a master permit application, and at least 30 days for a subpermit, depending on the special provisions requested.

DISTRIBUTION OF PERMITS FROM THE BIRD BANDING OFFICES

17. In the U.S., the original permit goes to the bander and one carbon copy is retained in the Bird Banding Laboratory. In addition, listings of permittees are provided to each USFWS Regional Office, State Departments of Natural Resources and the appropriate Bird Banding Association.

In Canada, the original permit goes to the bander, a copy goes to the U.S. Bird Banding Laboratory, two copies to the appropriate regional director of CWS, one copy to the provincial game officer, and two for files at the Canadian Banding Office.

DISTRIBUTION OF PERMITS FROM U.S. REGIONAL OFFICES

18. When applicable, the various USFWS offices keep the state natural resource agencies and regional law enforcement officials informed of pertinent permit actions.

PERMIT LIMITATIONS

19. The authorized bird marking and salvage activities are limited to those described in the permit and any supplements. Further limitations may be imposed by the natural resource agency of the state(s) or province(s) within which a bander will be working. Exceeding the authorizations contained in the permit is grounds for the suspension or revocation of a permit.

20. Permission should be obtained from private landowners or administrators of any public land upon which banders wish to band birds. In the U.S., all banding sites should be posted with an identification poster (form 3-1155) available from the Bird Banding Laboratory.

21. Activities not authorized by a Federal Bird Marking and Salvage Permit or a Canadian Scientific Permit to Capture and Band Migratory Birds are listed below:

- (a) Collecting - Although banding permits authorize the bander to salvage dead birds for the purpose of donating them to a public, scientific, or educational institution, they DO NOT authorize the bander to collect (kill) protected species of birds. In Canada, as in the U.S., a separate Scientific Take Permit, issued by the appropriate regional office of CWS, is required. In the U.S., the appropriate U.S. Fish and Wildlife Service Law Enforcement should be contacted.
- (b) Possessing birds - Neither a U.S. nor a Canadian banding permit authorizes the bander to possess the carcass, eggs, nest, or parts thereof of any protected species of bird, except that in the U.S. the bander may possess for no more than 6 months, or within 60 days from the date a permit expires or is revoked, dead birds salvaged for

donation to a public, scientific, or educational institution. In Canada, the bander may possess salvaged birds according to conditions written on the permit.

- (c) Holding birds - A permit authorizes the bander to hold protected birds in captivity for no more than 24 hours. This limited authorization is intended to permit banders to legally hold birds that are wet, captured late in the evening, or those suffering from minor injuries, for a brief recuperation period prior to release.
- (d) Transporting - In the U.S., for transporting, holding for more than 24 hours and various other non-marking manipulations not included on the Bird Marking and Salvage Permit, requires a special use permit obtained through U.S. Fish and Wildlife Service Law Enforcement. In Canada, any non-marking manipulation of birds, including transportation, not specified on the banding permit requires a special use permit (depending on the activity) issued by the appropriate CWS Regional Office.

To obtain permits for some of the activities listed above, the bander should apply to the appropriate USFWS special agent-in-charge or CWS regional director (see Appendix A, Part 2).

SPECIAL PROVISIONS

AUTHORIZATION TO CAPTURE AND MARK WATERFOWL

22. In the U.S., authorization to capture and mark waterfowl is generally granted only to state or federal conservation agency employees or their assistants. Certain exceptions, such as graduate students or university faculty engaged in waterfowl research, can be made. Permits issued to other persons are worded to exclude authorization to capture or mark waterfowl.

23. In Canada, authorization to band and mark waterfowl can be given to any bander qualified to conduct research on waterfowl. This authorization must be requested by the bander and if granted, the authorization will be added to the permit.

24. The special waterfowl authorization is intended to prevent banders from trapping specifically for waterfowl, or pursuing and harassing nesting waterfowl or broods. It should not be interpreted so stringently as to prevent the banding of waterfowl captured incidentally to other banding operations.

U.S. - AUTHORIZATION TO CAPTURE AND MARK EAGLES

25. Authorization to capture and mark eagles is granted only to persons engaged in research dealing with these species. Each person requesting authorization to capture and mark eagles will be requested to provide a detailed outline of the research project, including sponsoring organization, need, objective, procedures, and cooperators.

26. The Bird Banding Laboratory provides the appropriate regional director with copies of pertinent correspondence, and will invite the director's comments prior to granting authorization to capture and mark eagles.

27. Banding permits ordinarily exclude authorization to trap or band eagles in order to discourage banding of nestlings or harassment of flying birds. This exclusion should not be interpreted so stringently as to preclude the banding of eagles captured incidentally to other banding, or, upon release, eagles that are otherwise legally held.

CANADA - AUTHORIZATION TO CAPTURE AND MARK RAPTORS AND OTHER PROVINCIALLY PROTECTED SPECIES

28. Birds that are protected by provincial legislation are: raptors including members of the orders Strigiformes (owls) or Faiconiformes (eagles, ospreys, vulture, buteos, accipiters, harriers, falcons, and kites) and cormorants, pelicans, kingfishers, crows, and jays.

29. All persons wishing to band raptors or other provincially protected species need authorization from the chief provincial game officer (or from a branch office of the appropriate provincial wildlife division) as well as from the Banding Office in Ottawa. It is the responsibility of the bander to ensure that he or she has current valid provincial authorization; without it, the federal banding permit may not be sufficient. Authorization to band the species concerned must be listed in the permit.

30. This restriction should not be interpreted so stringently as to prevent the banding of raptors or other provincially protected species captured incidentally to other banding operations, but the Canadian Banding Office and the chief provincial game officer must be notified of the circumstances.

U.S. - AUTHORIZATION TO CAPTURE OR MARK ENDANGERED SPECIES

31. Authorization to capture or mark species designated as endangered by the U.S. Secretary of the Interior will be granted only to persons engaged in research dealing with those species. Endangered species captured incidentally to other banding or those otherwise legally held may be banded upon release to the wild. If you band in a place where you have caught endangered species you should obtain an endangered species permit.

32. Persons who need authorization to capture or mark endangered species should request an application form from the appropriate U.S. Fish and Wildlife Service regional office (see Appendix B, Part 2).

33. If the applicant's research project is valid and feasible, and the comments received are generally favourable, a permit will be issued to mark specific endangered species. The appropriate district offices, the Office of Endangered Species, and the Bird Banding Laboratory will receive copies of such permits.

34. In addition to this permit, banders must apply to the Bird Banding Laboratory for a modification of the Bird Marking and Salvage Permit to include the endangered species in question.

CANADA - AUTHORIZATION TO CAPTURE OR MARK ENDANGERED SPECIES

35. In Canada, banders wishing to mark species classed as endangered, threatened, or rare by COSEWIC (Committee on the Status of Endangered Wildlife in Canada) may be asked to provide additional justification for their project. Authorization to mark endangered species must be specified in the permit.

36. At least 60 days should be allowed for applications for Canadian endangered species permits to be processed.

PERMISSION TO BAND IN TWO OR MORE STATES/PROVINCES

37. Persons seeking authority to band in two or more states or provinces are asked for justification. A bander who is involved in a research project that requires working in additional states or provinces, is granted banding authority in additional states or provinces. The appropriate regional office(s) is notified of such supplemental authorizations. In Canada, province of residence is not considered, but permits are issued for province of banding.

PERMISSION TO BAND IN A CANADIAN FEDERAL OR PROVINCIAL PARK OR BIRD SANCTUARY

38. Permission to band in a Canadian federal or provincial park or a federal bird sanctuary must also be obtained. The federal park permits may be requested through the Canadian Parks Service office nearest you or through the Ottawa, Ontario office. Authority to band in provincial parks may be obtained from the provincial game officers. Authority to band in federal bird sanctuaries or national wildlife areas may be requested from the regional director of CWS.

AUTHORIZATION TO USE MIST NETS

39. Mist nets require a high degree of skill and manual dexterity if they are to be used without causing undue injury or mortality to birds. A greater knowledge of identification and aging and sexing techniques is also necessary than if the bander uses only traps.

40. A bander who wants authorization to use mist nets should provide justification. When possible, the bander will be requested to work with another bander who is experienced in the use of nets and to obtain a recommendation from that bander. In the U.S., each mist net (and trap) should bear a tag with the bander's name and permit number. As an alternative, the immediate vicinity of such devices may be posted (form 3-1155).

AUTHORIZATION TO USE CHEMICALS TO CAPTURE MIGRATORY BIRDS

41. Some chemical agents may be used to tranquilize birds and enable their capture for marking. This technique requires a high degree of skill. Authorization will be granted only in exceptional cases.

42. Before requesting such authorization from the U.S. Bird Banding Laboratory, write for a letter of permission. Write to or call Food and Drug Administration, Bureau of Veterinary Medicine, 5600 Fishers Lane, Parklawn Building, Room 6B-12, mail drop HFV-130, Rockville, Md. 20857. Phone (301) 443-1414. The Bird Banding Offices will review requests with the appropriate regional offices.

At least 60 days should be allowed for such applications to be processed.

AUXILIARY MARKING

43. The use of color markers, transmitters and other auxiliary markers is not authorized unless specifically noted on the banding permit, or, in the U.S., a supplementary "Letter of Authorization" (form BLL-23.3). These markers can affect survival and encounter rates and some markers are discouraged. Spiral and wrap-around plastic bands can shrink with time and should be uncoiled and recoiled in reverse, as well as sealed with acetone. Radio transmitters should not exceed 3% of total body weight. Wing tags are discouraged on hole-nesting species; neck collars and nasal saddles have potential icing problems.

44. Before requesting auxiliary authorization, consideration should be given to the following questions:

- (a) Is auxiliary marking really needed for the purposes of the study?
- (b) Will the marker be readily visible to observers?
- (c) Is the marker colorfast and sturdy enough to last the duration of the study?
- (d) Will the marker significantly change predation or hunting pressures?

(e) Will the marker injure or affect the behavior of the bird in any way?

In Canada, all projects involving neck collars, nasal saddles, wing tags and radio-transmitters must be reviewed and approved annually by an Animal Care Committee. Researchers must submit reports on incidents of icing, injury, death and observed behavioral changes due to the markers to the Animal Care Committee and to the Bird Banding Office in Ottawa, Ontario.

45. Receiving an Auxiliary Marking Authorization includes an obligation to the public. The chances are high that someone will see marked birds and report them to one or both Bird Banding Offices. We will forward such reports to the bander for a response, informing the person reporting the sighting about the bird(s) and the project. This applies whether or not the project solicits input from the public. Banders soliciting reports from the public should identify the Bird Banding Laboratory, Office of Migratory Bird Management, Laurel, MD 20708-9619 as the address to which reports from the U.S. are sent, and the Canadian Wildlife Service, Bird Banding Office, Department of the Environment, Ottawa, Ontario, K1A 0H3 for observations in Canada. Banders may include their own address as well.

46. Please remember that there are a limited number of colors, so plan projects with the fewest colors possible. Existing color-marking authorizations have priority if there are potential conflicts. It may, therefore, be necessary for the Bird Banding offices to inform other researchers of a proposed project or require banders to do so. In this way potential conflicts can be worked out ahead of time. Protocols have been established for marking certain species of waterfowl, raptors, shorebirds, etc. Banders may have less flexibility when marking such birds, and should contact the appropriate Banding offices prior to submitting a request to determine available colors or marker types.

47. Auxiliary-marked birds also require special "status and additional information codes" on banding schedules. Please refer to Part 5 to become familiar with these codes, particularly in the case of two or more marker types on one bird. Do not add an auxiliary marker to any previously banded birds. This constitutes a status change and places a serious recordkeeping burden on the Bird Banding Laboratory.

48. Banders who wish to use auxiliary markers should indicate the following information in their requests:

- (a) species and estimated number to be marked,
- (b) type(s) of markers to be used on each species,
- (c) colors for each marker type and species,
- (d) geographic location of project (nearest town, county, state),
- (e) date study will begin and probable duration,
- (f) a project proposal explaining the need and goals, and
- (g) a brief summary of the bander's experience with the markers.

EXPIRY DATES AND RENEWALS

UNITED STATES

49. Most U.S. Federal Bird Marking and Salvage Permits are valid for a period of 2 years with some exceptions, such as those for national wildlife refuges and state natural resource agencies.

Renewals should be requested well in advance of the expiration date, and requests should include permit number and daytime telephone number.

A notation is entered on each permit to indicate the action taken. These notations are defined as follows on U.S. permits:

<u>Notation</u>	<u>Definition</u>
Issue	Initial issue of a new permit.
Renewal	Renewal of a permit that was in good standing. No changes were made.
Revision	Revision of a permit that was in good standing. New permit differs from old permit (special provisions added or deleted, etc.).
Reactivation	Reactivation of a permit that was placed on inactive status due to permittee's not needing to band for an extended period.
Reinstatement	Reinstatement of a permit suspended due to permittee's failure to submit usable records or for other reasons. Also used to indicate reinstatement of permits that banders have allowed to expire. Permittees who request reinstatement should be prepared to provide a detailed outline of their need for a Federal Marking and Salvage Permit.
Replacement	Permit issued to replace a lost or destroyed permit.

CANADA

50. Canadian Bird Banding Permits are valid for 2 calendar years. Auxiliary marking authorizations are issued for 1 year. Banders who wish to have the authorization for auxiliary markers renewed must submit their projects annually to an Animal Care Committee for review, and must submit the approval from the Animal Care Committee when requesting renewal of the permit (see Part 2 paragraph 44). Renewal is made by request in response to a questionnaire sent to each master permittee in December.

No permit will be renewed without completion of that questionnaire or until all completed schedules have been submitted. The appropriate regional office receives copies of any pertinent correspondence transmitted to a bander with the permit.

PERMIT SUSPENSIONS AND REVOCATIONS

GENERAL

51. Occasionally a bander does not submit data in a usable form or otherwise creates serious problems warranting the suspension or revocation of banding privileges. Banding stations or operations are subject to inspection at any time by USFWS, CWS, or Royal Canadian Mounted Police personnel.

PERMIT SUSPENSIONS

52. The Banding Offices will notify the bander by mail of proposed suspension of banding privileges. Suspended permits may be reinstated upon correction of problems prompting suspensions.

PERMIT REVOCATIONS

53. If banders whose privileges have been suspended have not corrected the problems within a reasonable, specified time, their permits may be revoked. Regional Offices and States and Provincial Wildlife Offices will be informed via copies of pertinent correspondence prior to the

revocation of a banding permit. In the U.S., a permit that has been revoked will not be reinstated for a period of at least 12 months from the date of revocation.

PERMIT INACTIVATIONS

54. If any master permit holders feel that they no longer need to band birds, they may request that their files and permits be placed in an inactive status. These permits may be later reactivated with justification.

STATE PERMITS AND PROVINCIAL PERMITS

55. Federal Bird Banding and Salvage Permits are not valid unless banders also possess any permits or licences required by the state(s) or province(s) involved. In most states, the possession of a valid Federal Bird Marking and Salvage Permit is the prerequisite for the issuance of a state permit. At present, there are no provincial banding permits, except for those persons wishing to band raptors (see Part 2, paragraph 28 to 30 inclusive).

56. A bander applying for a state permit (U.S.) should indicate:

- (a) the number of the federal permit,
- (b) the expiration date of this federal permit, and
- (c) any special provisions in the federal permit.

57. Addresses of the various state natural resource agencies are listed in Appendix C to this part.

SALVAGE OF DEAD BIRDS

58. In the U.S., as published in the U.S. *Federal Register*, bird banders are authorized to "...salvage, for the purpose of donating to a public scientific or education institution, birds killed or found dead as a result of the permittee's normal banding operations, and casualties from other causes...".

The authorization covers only the salvage of dead birds. It does not include collecting or holding federally protected birds, for which a federal collecting permit is required. Most states require permits for possessing, salvaging, or banding protected birds.

59. In Canada, the *Migratory Bird Regulations* provide that a bander "may salvage birds found dead, or killed as a result of normal banding operations, and shall dispose of such birds in accordance with the conditions set out in the permit".

60. No matter how conscientiously banders conduct their activities, some birds die in their possession. Banders should record and save every banding casualty or dead bird that comes into their possession, provided the bird is not badly mutilated or decomposed. These birds, if accompanied by the appropriate data, are potentially valuable museum specimens. If the birds are banded, and can be accurately aged, they may be especially valuable additions to a museum's collection. A list of institutions in the U.S. that have expressed an interest in accepting salvaged specimens sent to them by banders is given at the end of this section. They should be contacted before any shipment is made.

In Canada, the banding permit specifies that salvaged birds be sent to the National Museum of Natural Sciences, Vertebrate Zoology Division, Ottawa, Ontario. An alternate qualified Canadian institution may be specified, if so requested by the bander.

61. The receiving institution can decide whether or not a specimen should be saved. Specimens are used not only for the standard study skins, but also are preserved in fluid, as skeletal material, or used in special preparations for scientific purposes. Birds of all ages and plumage stages are important in research collections. Any bands should be removed and sent to the appropriate banding office along with the recovery information.

PRESERVATION AND SHIPMENT OF SALVAGED BIRDS

62. Recording data - The following data are essential and should be recorded in pencil or India ink (other ink blurs) on a label that is firmly secured to the bird's foot or on a paper that is in a bag with a single bird. Recovery information should be recorded on one side of the label and banding information on the other:

(a) Recovery data:

- (1) Locality - give direct distance and direction- from a town or other prominent landmark. Include the county and state or province, and the map coordinates if known.
- (2) Date - record date of death if known or record the date found and estimate the time of death. Abbreviate the month (Jan., Feb., etc.). Do not use numerals.
- (3) Name of finder - record the name of the finder as well as your name in full. Do not use just initials.
- (4) Weight - if possible, record the weight of fresh birds to the nearest 0.1 g.
- (5) Soft part colour - the colour of the iris, mouth lining, bill, legs, feet, and exposed skin may be important and should be recorded if the specimen is fresh (use Palmer, 1962, colour standard if available. Refer to Bibliography, Appendix B, pgB-1).
- (6) Ecological notes - notes on the habitat, unusual circumstances at capture or death, behaviour, etc. may be useful to researchers. Ectoparasites collected should be noted.

(b) Banding data - the following should be entered on the reverse of the tag if the bird was banded:

- (1) band number,
- (2) species,
- (3) age at time of banding, if known,
- (4) sex at time of banding, if known,
- (5) banding location and coordinates, if known,
- (6) date banded, if known, and
- (7) statement - "Recovery reported to the Bird Banding Laboratory".

- (c) If a specimen is banded with one of your bands and the banding schedule has been sent to the Bird Banding Laboratory, report the recovery on form 3-1807 (Bird Band Recovery Form, Fig. 4-6) with the band attached. Indicate in the "Remarks" section the name of the institution to which you plan to send the specimen.
- (d) Indicate on the label that you have reported the band to the Bird Banding Laboratory. Also include a note requesting the museum to record this information on the permanent label they attach to the specimen. If this is not done, people who examine the specimen in future years may again report the band number to the Bird Banding Laboratory.
- (e) If a banded bird is salvaged before the schedule has been submitted, simply remove and destroy the band and indicate "Band destroyed" on the appropriate line of your schedule. The label should still carry the above banding data.

Shipping Specimens:

- (a) Preservation of birds - Place a bit of hardwood sawdust, cotton, paper towel, or tissue on any bloody areas and in the bill and throat. Place the bird and data tags in a plastic bag (one bird per bag) and seal the bag to prevent drying. Arrange the birds with feathers smooth and straight. Avoid breaking or ruffling the feathers. Freeze the birds (in a home freezer or on dry ice) as soon as possible, keeping them cool until they can be frozen. If possible, avoid thawing and refreezing the specimens. If it is necessary to put more than one bird in a bag, BE SURE EACH BIRD IS INDIVIDUALLY LABELLED and that the label is very securely attached to the bird's leg.
- (b) Preparation for shipment - Pack the birds in plastic bags, in sufficient dry ice to withstand shipment (remember that birds deteriorate quickly when thawed). Small birds thaw more rapidly than large ones, so the specimen should be placed in an insulated container or wrapped well in newspapers. Use crumpled newspapers as packing material because dry ice sublimates, leaving space, and the subsequent shifting of the birds may damage them. Be sure the shipping container is strong enough to withstand rough handling.
- (c) Dry ice safety precautions:
 - (1) Extreme care must be taken to ensure that shipping containers are adequately vented.
 - (2) As dry ice sublimates, carbon dioxide is formed and a dangerous explosion can occur if the specimen is in a sealed, unventilated container. Also, there is the danger of asphyxiation if large amounts of carbon dioxide are given off in a small, closed area. ANY PACKAGE CONTAINING DRY ICE SHOULD BE LABELLED VERY PLAINLY, "BIOLOGICAL SPECIMENS PACKED IN DRY ICE".
 - (3) Direct contact of dry ice on bare skin, even briefly, can result in a painful "frostbite". Check with the supplier concerning proper handling instructions.
 - (4) Canada - shipping specimens with dry ice:

In Canada, dry ice is classified as a Dangerous Good by Transport Canada. If shipping dry ice by air, obtain a Class 9 Label from the air carrier. If shipped via ground transportation, label package "CARBON DIOXIDE - DRY ICE UN 1845" and obtain a Shipping Safety Document.

The SHIPPING SAFETY DOCUMENT should be placed on the outside of the package by the sender. It should contain the following information:

- a) name of consignor (sender),
- b) address of consignor (sender),
- c) name of consignee (receiver),
- d) address of consignee (receiver),
- e) name of initial carrier (eg. name of air/railway/courier company),
- f) description: DRY ICE
CLASS 9.1
product identification number: UN1845
packing group: III
total mass or volume of dry ice: _____, and
- g) 24 hour emergency telephone number (number of consignee or consignor).

(d) Delivery or shipment of specimens:

- (1) In general, specimens in the U.S. should be sent to the museum closest to the bander's home (see Appendix D, Part 2). However, they may be sent to other qualified institutions if desired. Make advance arrangements, because some institutions may not want certain specimens and do not have funds to reimburse shipping expenses. It is essential that salvaged specimens be deposited in a licensed, public, scientific, or educational institution where they will be cared for and utilized in a proper manner. In the U.S., contact the Bird Banding Laboratory for clarification if you have any doubts as to the propriety of depositing materials in any collection not on the attached list
- (2) ALWAYS CONTACT A MUSEUM BY LETTER OR TELEPHONE BEFORE SHIPMENT. This will give them an opportunity to provide you with special instructions or requests, and lessen the chances of specimens thawing and spoiling because of delays in transit. Ship prepaid or ask in advance about payment of shipping costs. One means is to deliver the specimens in person if at all possible, or to ship several specimens at one time rather than ship each one as it is collected. By sending the material to the closest museum, you reduce both the expense of shipping and the time the specimen is in transit. Do not retain material longer than 6 months, which is the time limit specified by the *Federal Register* for retention of specimens by banders without a special permit authorizing possession for a longer period of time.
- (3) Services available for shipments include regular or overnight Postal Service, United Parcel Service, Federal Express, Purolator Courier, Airborne, and individual airlines. For information about service and charges, call locally and contact the institution to which you plan to donate your specimens.
- (4) Send specimens early in the week, preferably on Monday, and avoid shipping during a holiday period.
- (5) An invoice listing the specimens in a shipment must be placed in an envelope attached to the package marked "Scientific specimens - Invoice enclosed".

Banding

63. Reporting requirements - Until you receive more specific instruction, you should keep a record of:

- (a) species number and common name,
- (b) band number (if banded),
- (c) how the bird died or came into your possession,
- (d) date and location of death,
- (e) institution to which the specimen was sent,
- (f) date on which it was sent.

Permittees shall maintain their salvaged bird records on a calendar-year basis for a period of 5 years following the end of the calendar year covered by the records. These records will be furnished to the Banding Offices upon specific or individual request only.

APPENDIX A

U.S. AND CANADIAN REGIONAL OFFICES
AND PROVINCIAL GAME OFFICERS

ADDRESS	GEOGRAPHICAL AREAS COVERED	
<u>U.S. REGIONAL OFFICES</u>		
Assistant Regional Director Law Enforcement U.S. Fish and Wildlife 500 N.E. Multnomah St. Suite 1692 Portland, Oregon 97232 503-231-6125	California Hawaii Idaho Nevada Oregon Washington	
Assistant Regional Director Law Enforcement U.S. Fish and Wildlife Service PO Box 329 Albuquerque, New Mexico 87103 505-766-2091	Arizona New Mexico Oklahoma Texas	
Assistant Regional Director Law Enforcement U.S. Fish and Wildlife Service PO Box 45 Twin Cities, Minnesota 55111 612-725-3530	Illinois Indiana Iowa Michigan Minnesota Missouri	Ohio Wisconsin
Assistant Regional Director Law Enforcement U.S. Fish and Wildlife Service 75 Spring Street Room 1218 Atlanta, Georgia 30303 404-221-5872	Alabama Arkansas Florida Georgia Kentucky Louisiana Mississippi	North Carolina Puerto Rico South Carolina Tennessee
Assistant Regional Director Law Enforcement U.S. Fish and Wildlife Service One Gateway Center, Room 400E Newton Corner, Massachusetts 02158 617-965-2298	Connecticut Delaware Maine Maryland Massachusetts New Hampshire New Jersey	New York Pennsylvania Rhode Island Vermont Virginia West Virginia

Cont'd

ADDRESS	GEOGRAPHICAL AREAS COVERED	
Assistant Regional Director Law Enforcement U.S. Fish and Wildlife Service Denver Federal Center PO Box 25486 Denver, Colorado 80225 303-234-4612	Colorado Kansas Montana Nebraska North Dakota South Dakota Utah	Wyoming
Assistant Regional Director Law Enforcement U.S. Fish and Wildlife Service 1011 E. Tudor Rd. Anchorage, Alaska 99503 907-786-3311	Alaska	

CANADIAN REGIONAL OFFICES

Canadian Wildlife Service Environment Canada 5421 Robertson Canada PO Box 340 Delta, British Columbia V4K 3Y3 604-946-8546 FAX: 604-495-2615	British Columbia Yukon
Canadian Wildlife Service Environment Canada Twin Atria No. 2 4999 98 th Avenue, Suite 210 Edmonton, Alberta T6B 2X3 403-468-8903 FAX: 403-495-2615	Alberta Manitoba Northwest Territories Saskatchewan
Canadian Wildlife Service Environment Canada 49 Camelot Drive Nepean, Ontario K1A 0H3 613-952-2417 FAX: 613-952-8995	Ontario

North American Bird Banding

Cont'd

ADDRESS	GEOGRAPHICAL AREAS COVERED
Canadian Wildlife Service Environment Canada 1141 Route de l'Eglise PO Box 10100 Ste-Foy, Quebec G1V 4H5 418-648-4078 FAX : 418-649-6475	Quebec
CanadiaN Wildlife Service Environment Canada PO Box 1590 Sackville, New Brunswick E0A 3C0 506-536-3025 FAX: 506-536-3028	New Brunswick Newfoundland Nova Scotia Prince Edward Island

PROVINCIAL GAME OFFICERS

Alberta

Director of Wildlife
Fish and Wildlife Division
Petroleum Plaza, North Tower
9945 108th Street
Edmonton, Alberta
T5K 2G6
403-387-9731
FAX: 403-422-9557

British Columbia

Director, Wildlife Branch
Ministry of Environment
Parliament Buildings
780 Blanchard Street
Victoria, British Columbia
V8W 2H1
604-387-9731
FAX: 604-356-9145

Manitoba

Director, Wildlife Branch
Department of Natural Resources
1495 St. James Street
PO Box 24
Winnipeg, Manitoba
R3H 0W9
204-945-7761
FAX: 204-945-3077

New Brunswick

Director, Fish and Wildlife Branch
Whitney Block, Room 2327
PO Box 6000
Fredericton, New Brunswick
E3B 5H1
506-453-2433
FAX: 506-453-6699

Newfoundland

Director, Wildlife Division
Department of Environment and Lands
PO Box 8700
St. John's, Newfoundland
A1B 4J6
709-576-2817
FAX: 709-576-6629

Northwest Territories

Director, Wildlife Management Division
Department of Renewable Resources
Government of the Northwest Territories
PO Box 1320
Yellowknife, Northwest Territories
X1A 2L9
403-873-7411
FAX: 403-873-0293

Nova Scotia

Director, Wildlife Division
Department of Lands and Forests
The Provincial Building
136 Exhibition Street
Kentville, Nova Scotia
B4N 4E5
902-679-6091
FAX: 902-679-6176

Ontario

Director, Wildlife Branch
Ministry of Natural Resources
Whitney Block, Room 4620
Queen's Park
99 Wellesley Street West
Toronto, Ontario
M7A 1W3
416-965-4252
FAX: 416-965-4001

Cont'd

Prince Edward Island

Director, Fish and Wildlife Branch
Dept. of the Environment
PO Box 2000
Charlottetown, Prince Edward Island
C1A 7N8
902-368-4683
FAX: 902-368-5471

Saskatchewan

Director, Wildlife Branch
Parks & Renewable Resources
3211 Albert Street
Regina, Saskatchewan
S4S 5W6
306-787-2309
FAX: 306-787-9544

Quebec

Directeur general de la ressource faunique
Direction de la Gestion des Especies
et des Habitats
Ministere du Loisir, de la Chasse et de la
Peche
150, boulevard Saint-Cyrille est
Quebec, PQ
G1R 4Y3
418-644-2823
FAX: 418-643-3330

Yukon

Director, of Fish and Wildlife
Department of Renewable Resources
PO Box 2703
Whitehorse, Yukon
Y1A 2C6
403-667-5715
FAX: 403-667-3641

APPENDIX B

U.S. - LIST OF THREATENED OR ENDANGERED SPECIES OF BIRDS
ALPHABETICAL BY COMMON NAME

Code of Federal Regulations, Revised 04/29/81 (Out of context from Title 50, Part 17, Subpart B, Subchapter 17.11[H])

<u>Common name</u>	<u>Scientific name</u>
Akepa, Hawaii (honeycreeper)	<i>Loxops coccineus coccineus</i>
Akepa, Maui (honeycreeper)	<i>Loxops coccineus ochraceus</i>
Akialoa, Kauai (honeycreeper)	<i>Hemignathus procerus</i>
Akiapolaau (honeycreeper)	<i>Hemignathus munroi (=wilsoni)</i>
	<i>Agelaius xanthomus</i>
Blackbird, Yellow-shouldered	
Bobwhite, Masked (quail)	<i>Colinus virginianus ridgwayi</i>
Broadbill, Guam	<i>Myiagra freycineti</i>
Caracara, Audubon's (Florida) Crested	<i>Polyborus plancus audubonii</i>
Condor, California	<i>Gymnogyps californianus</i>
Coot, Hawaiian (=alae keo keo)	<i>Fulica americana alai</i>
Crane, Mississippi Sandhill	<i>Grus canadensis pulla</i>
Crane, Whooping	<i>Grus americana</i>
Creeper, Hawaii	<i>Oreomystis mana</i>
Creeper, Molokai (=Kakawahie)	<i>Paroreomyza flammea</i>
Creeper, Oahu (=Alauwahio)	<i>Paroreomyza maculata</i>
Crow, Hawaiian (=Alala)	<i>Corvus hawaiiensis (=tropicus)</i>
Crow, Mariana	<i>Corvus kubaryi</i>
Curlew, Eskimo	<i>Numenius borealis</i>
Duck, Hawaiian (=Koloa) Duck,	<i>Anas wyvilliana</i>
Laysan	<i>Anas laysanensis</i>
Eagle, Bald	<i>Haliaeetus leucocephalus</i>
Falcon, American Peregrine	<i>Falco peregrinus anatum</i>
Falcon, Arctic Peregrine	<i>Falco peregrinus tundrius</i>
Falcon, Northern Aplomado	<i>Falco femoralis septentrionalis</i>
Falcon, Peregrine	<i>Falco peregrinus</i>
Finch, Laysan (honeycreeper)	<i>Telespyza (=Psittirostra) cantans</i>
Finch, Nihoa (honeycreeper)	<i>Telespyza (=Psittirostra) ultima</i>
Goose, Aleutian Canada	<i>Branta canadensis leucopareia</i>
Goose, Hawaiian (=Nene)	<i>Nesochen (=Branta) sandvicensis</i>
Hawk, Hawaiian (=Lo)	<i>Buteo solitarius</i>
Honeycreeper, Crested (Akohekohe)	<i>Palmeria dolei</i>

U.S. - LIST OF ENDANGERED SPECIES OF BIRDS
ALPHABETICAL BY COMMON NAME (cont'd)

Jay, Florida Scrub*	<i>Aphelocoma c. coerulescens</i>
Kingfisher, Guam Micronesian	<i>Halcyon c. cinnamomina</i>
Kite, Everglade Snail	<i>Rostrhamus sociabilis plumbeus</i>
Mallard, Mariana	<i>Anas oustaleti</i>
Megapode (=micronesian La Perouse's)	<i>Megapodius laperouse</i>
Millerbird, Nihoa	<i>Acrocephalus familiaris kingi</i>
Monarch, Tinian	<i>Monarcha takatsukasae</i>
Moorhen, Hawaiian Common	<i>Gallinula chloropus sandvicensis</i>
Nightjar, Puerto Rican	<i>Caprimulgus noctitherus</i>
Nukupu'u (honeycreeper)	<i>Hemignathus lucidus</i>
'O'o, Kauai (=Oo Aa) (honeyeater)	<i>Moho braccatus</i>
O'u (honeycreeper)	<i>Psittirostra psittacea</i>
Palila (honeyeater)	<i>Loxioides bailleui</i>
Parrot, Puerto Rico	<i>Amazona vittata</i>
Parrotbill, Maui (honeycreeper)	<i>Pseudonestor xanthophrys</i>
Pelican, Brown**	<i>Pelecanus occidentalis</i>
Petrel, Hawaiian Dark-rumped	<i>Pterodroma phaeopygia sandwichensis</i>
Pigeon, Puerto Rican Plain	<i>Columba inornata wetmorei</i>
Plover, Piping	<i>Charadrius melodus</i>
Poo-uli (honeycreeper)	<i>Melamprosops phaeosoma</i>
Prairie Chicken, Attwater's Greater	<i>Tympanuchus cupido attwateri</i>
Rail, California Clapper Rail,	<i>Rallus longirostris obsoletus</i>
Guam	<i>Rallus owstoni</i>
Rail, Light-footed Clapper	<i>Rallus longirostris levipes</i>
Rail, Yuma Clapper	<i>Rallus longirostris yumanensis</i>
Shearwater, Newell's Townsend's	<i>Puffinus auricularis newelli</i>
Shrike, San Clemente Loggerhead	<i>Lanius ludovicianus mearnsi</i>
Sparrow, Cape Sable Seaside	<i>Ammodramus (=Ammospiza) maritimus mirabilis</i>
Sparrow, Dusky Seaside	<i>Ammodramus (=Ammospiza) maritime nigrescens</i>

* Florida population

**The Brown Pelican has been removed from the list in Alabama and Florida and along the Atlantic Coast

U.S. - LIST OF ENDANGERED SPECIES OF BIRDS
ALPHABETICAL BY COMMON NAME (cont'd)

<u>Common name</u>	<u>Scientific name</u>
Sparrow, Florida Grasshopper	<i>Ammodramus savannarum floridanus</i>
Sparrow, San Clemente Sage	<i>Amphispiza belli clementeae</i>
Starling, Ponape Mountain	<i>Aplonis pelzelni</i>
Stilt, Hawaiian (= Aeo)	<i>Himantopus mexicanus</i> (= <i>himantopus</i>) <i>knudseni</i>
Stork, Wood	<i>Mycteria americana</i>
Swiftlet Mariana Gray (=Vanikoro)	<i>Aerodramus vanikorensis bartschi</i>
Tern, California Least	<i>Sterna antillarum</i> (=albifrons) <i>browni</i>
Tern, Least (Midwest Pop)***	<i>Sterna antillarum</i>
Tern, Roseate	<i>Sterna d. dougallii</i>
Thrush, Large Kauai (=Kamao)	<i>Myadestes</i> (- <i>Phaeornis</i>) <i>myadestinus</i>
Thrush, Molokai (=Olomao)	<i>Myadestes</i> (=Phaeornis) <i>lanaiensis</i> (= <i>obscurus</i>)
Thrush, Small Kauai (-Puaiohi)	<i>Myadestes</i> (-Phaeornis) <i>palmeri</i>
Towhee, Inyo California (=brown)	<i>Pipilo crissalis</i> (=fuscus) <i>eremophilus</i>
Vireo, Black-capped	<i>Vireo atricapillus</i>
Vireo, Least Bell's	<i>Vireo bellii pusillus</i>
Warbler, Nightingale Reed	<i>Acrocephalus luscini</i>
Warbler, Bachman's	<i>Vermivora bachmanii</i>
Warbler, Kirtland's	<i>Dendrocia kirtlandii</i>
White-eye, Bridled	<i>Zosterops c. conspicillatus</i>
White-eye, Ponape Greater	<i>Rukia longirostra</i> (=sanfordi)
Woodpecker, Ivory-billed	<i>Campephilus principalis</i>
Woodpecker, Red-cockaded	<i>Picoides</i> (=Dendrocopos) <i>borealis</i>

*** Excludes 50 miles of coast in Texas and Louisiana

APPENDIX C

STATE NATURAL RESOURCES AGENCIES - ADDRESSES

Alabama

Director
Department of Conservation and
Natural Resources
64 N Union Street
Montgomery, Alabama 36130
205-242-3486

Alaska

Commissioner
Department of Fish and Game
PO Box 3-2000
Juneau, Alaska 99802
907-465-4100

Arizona

Director
Game and Fish Department
2222 West Greenway Road
Phoenix, Arizona 85023
602-942-3000

Arkansas

Director
Game and Fish Commission
2 Natural Resources Drive
Little Rock, Arkansas 72205
501-223-6300

California

Director
Department of Fish and Game
1416 Ninth Street
Sacramento, California 95814
916-445-3531

Colorado

Director
Division of Wildlife
6060 Broadway
Denver, Colorado 80216
303-297-1192

Connecticut

Commissioner
Department of Environmental
Protection
State Office Building
165 Capital Avenue
Hartford, Connecticut 06106
203-566-5599

Delaware

Secretary
Department of Natural Resources
and Environmental Control
89 Kings Highway
PO Box 1401
Dover, Delaware 19903
302-736-4403

Florida

Director
Game and Fresh Water Fish
Commission
620 South Meridian
Tallahassee, Florida 32399-1600
904-488-1960

Georgia

Commissioner
Department of Natural Resources
Floyd Towers East 205 Butler Street
Atlanta, Georgia 30334
404-656-3530

STATE NATURAL RECOURSES AGENCIES - ADDRESSES (cont'd)

Hawaii

Director, Division of Forestry and
Wildlife
Department of Land and Natural
Resources
Box 621
Honolulu, Hawaii 96809
808-548-6550

Idaho

Director
Fish and Game Department
600 South Walnut Street
PO Box 25
Boise, Idaho 83707
208-334-3700

Illinois

Director
Department of Conservation
Lincoln Tower Piazza
524 South Second Street
Springfield, Illinois 62706
217-782-6302

Indiana

Director
Department of Natural Resources
608 State Office Building
Indianapolis, Indiana 46204
317-232-4020

Iowa

Director
Department of Natural Resources
E Ninth and Grand Avenue
Wallace Building
Des Moines, Iowa 50319
515-281-5145

Kansas

Secretary
Kansas Department of Wildlife and Parks
900 Jackson Street, Suite 502
Topeka, Kansas 66612
913-296-2281

Kentucky

Commissioner
Department of Fish and Wildlife
Resources
1 Game Farm Road
Frankfort, Kentucky 40601
502-564-3400

Louisiana

Director
Department of Wildlife and Fisheries
PO Box 98000
Baton Rouge, Louisiana 70898
504-765-2800

Maine

Commissioner
Department of Inland Fisheries and Wildlife
State Office Building
284 State Street Station #41
Augusta, Maine 04333
207-289-3766

Maryland

Secretary Department of Natural Resources
Tawes State Office Building
Annapolis, Maryland 21401
301-974-3776
410-974-3776 (after November 1991)

North American Bird Banding

STATE NATURAL RECOURSES AGENCIES - ADDRESSES (cont'd)

Massachusetts

Director
Division of Fisheries and Wildlife
100 Cambridge Street
Boston, Massachusetts 02202
617-727-1614

Michigan

Director
Department of Natural Resources
Box 30028
Lansing, Michigan 48909
517-373-1220

Minnesota

Commissioner
Department of Natural Resources
500 Lafayette Road
St. Paul, Minnesota 55155
612-296-6157

Mississippi

Director of Conservation
Department of Wildlife, Fisheries and Parks
Southport Mall
PO Box 451
Jackson, Mississippi 39205
601-961-5300

Missouri

Director
Department of Conservation
PO Box 180
Jefferson City, Missouri 65102
314-751-4115

Montana

Director
Department of Fish, Wildlife and Parks
1420 East Sixth Helena,
Montana 59620
406-444-2535

Nebraska

Director
Game and Parks Commission
2200 N 33rd Street
PO Box 30370
Lincoln, Nebraska 68503
403-464-0641

Nevada

Director
Department of Wildlife
Box 10678
Reno, Nevada 89520
701-789-0500

New Hampshire

Director
Fish and Game Department
2 Hazen Dr.
Concord, New Hampshire 03301
603-271-3421

New Jersey

Director, Division of Fish, Game and
Wildlife
Department of Environmental Protection
CN 400
Trenton, New Jersey 08625
609-292-3131

New Mexico

Director
Game and Fish Department
Villagra Building
Sante Fe, New Mexico 87503
505-827-7899

STATE NATURAL RECOURSES AGENCIES - ADDRESSES (cont'd)

New York

Director, Division of Fish and Wildlife
Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233
518-457-5691

North Carolina

Executive Director
Wildlife Resources Commission
Archdale Building
512 N Salisbury Street
Raleigh, North Carolina 27611
919-733-3391

North Dakota

Commissioner
State Game and Fish Department
100 North Bismarck Expressway
Bismarck, North Dakota 58501
701-221-6300

Ohio

Director
Department of Natural Resources
Fountain Square
Columbus, Ohio 43224
614-265-6886

Oklahoma

Director
Department of Wildlife Conservation
1801 N Lincoln
Oklahoma City, Oklahoma 73152
405-521-3851

Oregon

Director
Department of Fish and Wildlife
2501 SW First Avenue
Portland, Oregon 97207 503-229-5551

Pennsylvania

Executive Director
Game Commission
2001 Elmerton Avenue
Harrisburg, Pennsylvania 17110-9797
717-787-4250

Puerto Rico

Secretary
Department of Natural Resources
PO Box 5887
Puerto de Tierra Sta.
San Juan, Puerto Rico 00906
809-722-8774 or 809-723-3090

Rhode Island

Director
Department of Environmental Management
9 Hayes Street
Providence, Rhode Island 02908
401-277-2774

South Carolina

Director
Wildlife and Marine Resources Department
Rembert C Dennis Building
PO Box 167
Columbia, South Carolina 29202
803-734-3888

STATE NATURAL RECOURSES AGENCIES - ADDRESSES (cont'd)

South Dakota

Director
Executive Director
Game, Fish and Parks Department
445 East Capital
Pierre, South Dakota 57501
605-773-3381

Tennessee

Executive Director
Wildlife Resources Agency
Ellington Building
Agricultural Center
PO Box 40747
Nashville, Tennessee 37204
615-781-6500

Texas

Executive Director
Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744
512-389-4802

Utah

Director
Division of Wildlife Resources
1596 West North Temple
Salt Lake City, Utah 84116-3156
801-533-9333

Vermont

Commissioner
Department of Fish and Wildlife
Waterbury Complex 10 South
Montpelier, Vermont 05602
802-244-7331

Virgin Islands

Director
Division of Fish and Wildlife
101 Estate Nazareth
St. Thomas, Virgin Islands 00802
809-775-6762

Virginia

Department of Game and Inland Fisheries
4010 W Broad Street
PO Box 11104
Richmond, Virginia 23230
804-367-1000

Washington

Director
Department of Wildlife
600 North Capital Way
N. Nlypia, Washington 98501-1091
206-753-5700

West Virginia

Director
Department of Natural Resources
1900 Kanawha Blvd.
Charleston, West Virginia 25305
304-348-2754

Wisconsin

Secretary
Department of Natural Resources
PO Box 7921
Madison, Wisconsin 53707
608-266-2621

Wyoming

Director
Game and Fish Department
5400 Bishop Blvd.
Cheyenne, Wyoming 82002
307-777-7735

APPENDIX D

U.S. - DEPOSITORY LIST FOR DELIVERY OR SHIPMENT OF SALVAGED BIRDS

Alaska

University of Alaska Museum
907 Yukon Drive
Fairbanks, AK 99701
907-479-7359

Arizona

University of Arizona
Ecology and Evolutionary Biology
Tucson, AZ 85721
602-621-7292

California

California Academy of Sciences
Department of Ornithology and
Mammalogy
Golden Gate Park
San Francisco, CA 94118
415-750-7176

Natural History Museum
900 Exposition Boulevard
Los Angeles, CA 90007
213-744-3366

San Bernardino County Museum
2024 Orange Tree Lane
Redlands, CA 92373
714-792-1334 or 825-4825

District of Columbia

U.S. National Museum of Natural History
U.S. Fish and Wildlife Service
Washington, DC 20560

Florida

University of Florida
Florida Museum of Natural History
Gainesville, FL 32611
904-393-1721

Illinois

Field Museum of Natural History
Division of Birds
Roosevelt Road and Lake Shore Drive
Chicago, IL 60605
312-922-9410

Southern Illinois University
Zoology Department
Carbondale, IL 62901
618-536-2314

Iowa

Putnam Museum
1717 West 12th Street
Davenport, IA 52804
319-324-1933

Kansas

University of Kansas
Division of Ornithology
Museum of Natural History
Lawrence, KS 66045
913-864-3897

Kentucky

University of Louisville
Department of Biology
Room 139, LS Building
Louisville, KY 40292
502-588-6771 or 588-6772

Louisiana

Louisiana State University
Museum of Natural Science
Baton Rouge, LA 70803
504-388-2855

U.S. - DEPOSITORY LIST FOR DELIVERY OR SHIPMENT
OF SALVAGED BIRDS (cont'd)

Michigan

University of Michigan
Curator of Birds
Museum of Zoology
Ann Arbor, MI 48109
313-764-0457

Minnesota

University of Minnesota
Curator of Birds
Bell Museum of Natural History
10 Church Street SE
Minneapolis, MN 55455
612-624-4112

Mississippi

Mississippi State University
Department of Biological Sciences
PO Drawer GY
Mississippi State, MS 39762
601-325-3120

New Jersey

New Jersey State Museum
Bureau of Natural History
205 W State Street, CN-530
Trenton, NJ 08625
609-292-6330

New Mexico

University of New Mexico
Department of Biology
Museum of Southwestern Biology
Albuquerque, NM 87131
505-277-2135 or 277-3315

New York

Cornell University
Section of Ecology and Systematics
Carson Hall
Ithaca, NY 14853
607-257-8135

Ohio

The Ohio State University
Museum of Zoology
1813 North High Street
Columbus, OH 43210
614-292-7694

Oklahoma

University of Oklahoma
Curator of Birds
Stovall Museum of Science and History
Norman, OK 73019
405-352-4034

Utah

Brigham Young University
Curator of Birds
Monte L Bean Museum
Provo, UT 84602
801-378-4860 or 378-5052

Washington

University of Puget Sound
Puget Sound Museum of Natural History
Tacoma, WA 98416
206-756-3189

University of Washington
Washington State Museum, DB-10 Seattle,
WA 98105
206-543-4066

PART 3

BANDS AND BANDING

1. Approximately 1.5 million bands are issued annually to cooperators in the North American Bird Banding Program. Because marking birds for individual identification is the basis of the entire banding program, care and control are needed in the handling and use of bands and band records by both the bander and the Bird Banding Offices. Part 3 provides instructions to the bander on how to order bands and what to do upon receiving a shipment of bands. It describes the types and sizes of bands and the numbering system used for bands. Instructions are provided on "How to Apply and Remove Bands".

HOW TO ORDER BANDS

2. In the U.S., use form 3-644 to order bands or other banding supplies from the Bird Banding Laboratory. In Canada, use "Request for bird banding supplies" (form 061-1653). Orders will be filled only for master permittees. Orders for stainless steel bands or for hummingbird bands should include a brief statement concerning the need or indicate previous authorization for such bands.

3. Bands will be shipped to the address on the bander's permit unless otherwise indicated in the "Remarks" section of the order form. Your permit number must be included on the order form.

4. Bands should be ordered to last the duration of a banding project or 6 to 12 months, whichever is less.

5. Except under unusual circumstances, the minimum orders of bands of various types and sizes are those indicated below:

<u>Type of size band</u>	<u>Minimum quantity</u>
X or T (hummingbird)	U.S. - 420 (one sheet), Canada - 5
Any size lock-on rivet	5
Pre-opened bands except size 3	U.S. - 500, Canada - 100
Pre-opened size 3	100
Standard bands:	
0 through 3A	100
4 through 9C	5

6. Bands are mailed within 10 working days from the time that orders are received in Canada, or within one or two days of receipt of the order in the United States. However, occasionally some bands are out of stock. To prevent delays, please allow AT LEAST 30 DAYS for filling an order. If bands are needed by a specific date, indicate this on the band order. Ordering bands by telephone is discouraged. Banders should place band orders between April 1 and September 30, if possible, because this is the slowest time of year. The Bird Banding Offices provide only Fish and Wildlife Service bands. Pliers and other materials must be obtained from other suppliers. A list of suppliers is available from the Bird Banding Laboratory upon request.

7. Bands are shipped via third class mail. Small shipments of bands outside the contiguous 48 states are via airmail.

BANDER'S RESPONSIBILITY UPON RECEIVING A SHIPMENT OF BANDS

8. The bander should immediately check the numbers on the bands (not those on the envelopes or boxes) and verify the accuracy of each shipment of bands. The appropriate Bird Banding Office should be notified immediately if there is a discrepancy between the band numbers on the Acknowledgement Letter (U.S.) or Issue Slip (CWS) and the band numbers on the bands. The bands (in that series) should not be used until the discrepancy is cleared up. The Acknowledgement Letter should be signed and returned to the BBL. In Canada, the Issue Slip should be returned to the CWS office only if there is a discrepancy.

ACCOUNTABILITY

9. Bands issued to master permit holders remain the property of the U.S. and Canadian governments. The holder or the "responsible individual" of the master permit to whom the bands are issued is responsible for the bands until the data resulting from their use are reported, they are returned to the U.S. or Canadian Banding Offices, or the appropriate Bird Banding Office approves their transfer to another permittee.
10. A bander is NOT authorized to transfer bands to another master permittee or to the subpermittees of another master permittee without prior approval from the appropriate Bird Banding Office. After verbal approval is received, the permittee who is transferring bands should send a written request to the Banding Office identifying the range of bands and both permit names and numbers. Band sizes 0 through 3A can be transferred only in multiples of 100; sizes 4 and above in multiples of 5. Both banders involved in a transfer will receive written confirmation of the transfer from the appropriate Bird Banding Office.
11. Unused bands must be returned with a list to the Banding Office from which they were obtained, when they are no longer needed.
12. Banders should leave a note attached to their wills directing where and/or to whom their banding records should go. The records could go to a relative, a subpermittee, or a state or regional banding organization.

TYPES OF BANDS ISSUED

METAL TYPE AND BAND SPECIFICATIONS

13. Standard bands are made from commercially pure aluminum. The specifications of the aluminum used in older bands is not known. The Bird Banding Laboratory has a reference collection of unused bands of various series on hand. Researchers interested in band type, wear, weight, or metal for old data may contact the Bird Banding Laboratory.

BUTT-END BANDS - CLOSED

14. Butt-end aluminum bands are issued to banders unless another type of band is specifically requested. These are available in sizes 0 through 9C.

BUTT-END BANDS - PRE-OPENED

15. These bands were available in sizes 1A to 7B (except 3B and 4A) and are the same as the above, but are partially opened and strung numerically on plastic tubing. These bands are of particular value in large-scale banding operations in which time is a factor. The bands can be used without further opening. These are more expensive than the standard butt-end bands and

have been discontinued; limited quantities are still available. Pre-opened bands are normally issued in lots of 500 or more per size.

LOCK-ON BANDS

16. These bands are available in sizes 4 to 9, except for size 4A, and have a special crimping flange, thus "locking" the band around the bird's leg and making removal very difficult. Lock-on bands are made of thinner metal than butt-end bands and are inferior for use on most species. They are normally reserved for use on raptors and certain other birds capable of removing butt-end bands.

RIVET BANDS

17. These bands are available in size 9 only and are primarily for use on eagles. They are the same gauge and material as standard butt-end, size-9 band. Rivets will be supplied by the Bird Banding Offices when the band orders are filled. A pop-rivet tool or hand riveter capable of holding 1/8 in. (3.2 mm) diameter rivets must be obtained by the bander.

HUMMINGBIRD BANDS

18. These are size X bands (with a prefix of X or T) and are issued only to banders working on special hummingbird projects. A description of the project must be on file in the appropriate Bird Banding Office and must be referred to when requesting bands. As the very small size of these bands makes it impractical to issue them in a pre-formed condition, they are issued as a flat sheet of very thin aluminum with printed numbers. The bands must be carefully trimmed, the edges smoothed, and the band shaped before use. Instructions are provided with the bands. A size X or T band can be trimmed to form a size XA - .06 in. (1.52 mm) inside diameter or to a size XB - .05 in. (1.27 mm) inside diameter - by trimming one or both the ends respectively of the band outline on the sheet.

SPECIALTY BANDS

19. Banders requiring bands of harder metal, different alloys, or other specifications should contact one of the Banding Offices to determine whether these can be obtained. The cost of manufacture may have to be absorbed by the bander. Allow 3 to 6 months for delivery. Band numbers will be assigned by the Bird Banding Offices for all special issues.

AUXILIARY MARKERS

20. Banders are not authorized to use any markers other than the official numbered leg band without written approval from the appropriate Banding Office. The Banding Offices do not provide auxiliary markers. Colored, plastic leg bands are available from several commercial sources. The addresses of suppliers are available upon request. Other types of markers usually are manufactured by the bander who has been authorized to use them. Refer to Part 2, paragraphs 43 to 48 inclusive, for further information.

SIZE DESIGNATIONS AND BAND NUMBERS

21. The 19 sizes of bands currently used in North American banding and their approximate inside diameter are listed in Figure 3-1. The most appropriate band sizes for use on each species of bird are listed in Figure 5-1a.

BAND NUMBERING SYSTEM

22. The system of numbering in North American Bird Banding has evolved over the years. Any bander or researcher interested in the numbers used on bands manufactured prior to the

Band Size	Inside Diameter		Band Size	Inside Diameter	
	in.	(mm)		in.	(mm)
X	.070	(1.78)	4A	18/64	(7.14)
0	.083	(2.11)	5	20/64	(7.94)
1	6/64	(2.38)	6	24/64	(9.53)
1B	7/64	(2.78)	7A	28/64	(11.1)
1A	8/64	(3.18)	7B	34/64	(13.5)
2	10/64	(3.97)	7D	38/64	(15.0)
3	12/64	(4.76)	8	44/64	(17.5)
3B	13/64	(5.16)	9	56/64	(22.2)
3A	14/64	(5.56)	9C	1-8/64	(28.5)
4	16/64	(6.35)			

Figure 3-1. Size Designations and Band

early 1950s should contact the Bird Banding Offices. Except for hummingbird bands, the bands now in use carry a unique 8- or 9-digit number that has two parts - a prefix and a 5-digit suffix. The prefix consists of a variable series number and a band-size indicator (the last digit) that is constant for bands of a size group as indicated in Figure 3-2. Hummingbird bands carry an arbitrary "7000" prefix (X) or "8000" (T) within the computer files, plus a 5-digit suffix.

23. Old-style bands in sizes 0 through 1A (no longer issued) DO NOT have a band-size indicator in the prefix. Numbers on these bands consist of a 2- or 3-digit prefix with a 5-digit suffix. The numeral "0" is "understood" to be the last digit of the prefix in size 0 and 1 bands with less than a 3-digit prefix. Since June 1970 and beginning with series 1260, a 4-digit prefix (ending in zero) indicates size 0. A 3-digit prefix beginning with series 820 (ending in zero) indicates size 1. The band-size indicator is now included on the band.

24. The last 2 digits on the FIRST band of each string of 100 are "01". The last 2 digits on the LAST band of each string of 100 are "00". Thus the "hundreds" digit on the last band of each string changes (for example, the first band on a string of 100 bands is 888-88801 and the last band is 888-88900. However, the last band in this prefix will be 888-00000). It is very important to make this distinction so that the first rather than the last band in the series is the first one used.

HOW TO APPLY AND REMOVE BANDS

25. The proper size of band should be selected for each bird banded. Refer to the species list with recommended band sizes in Figure 5-1a, Part 5. The band is placed on the tarsus and, when closed, should be free enough to move up and down without abrasively rubbing either round or elliptical tarsi. Closed butt-end bands, lock-on, and any other closed bands should be opened before being placed on the bird's tarsus.

26. When placed on the tarsus, the ends of the closed band should meet tightly and squarely. Special banding pliers are needed to close bands tightly. The use of other types of pliers is discouraged because it is too easy to overlap the band. Overlapped bands are difficult to remove without injury to the bird. Care should be taken that the band numbers are not marred in the process of closing the band. Persons banding large birds, such as gulls and geese should place the band "right side up" so that the band number can be read through a telescope. The ends of the band should not be overlapped. The right band size gives a proper fit when it is

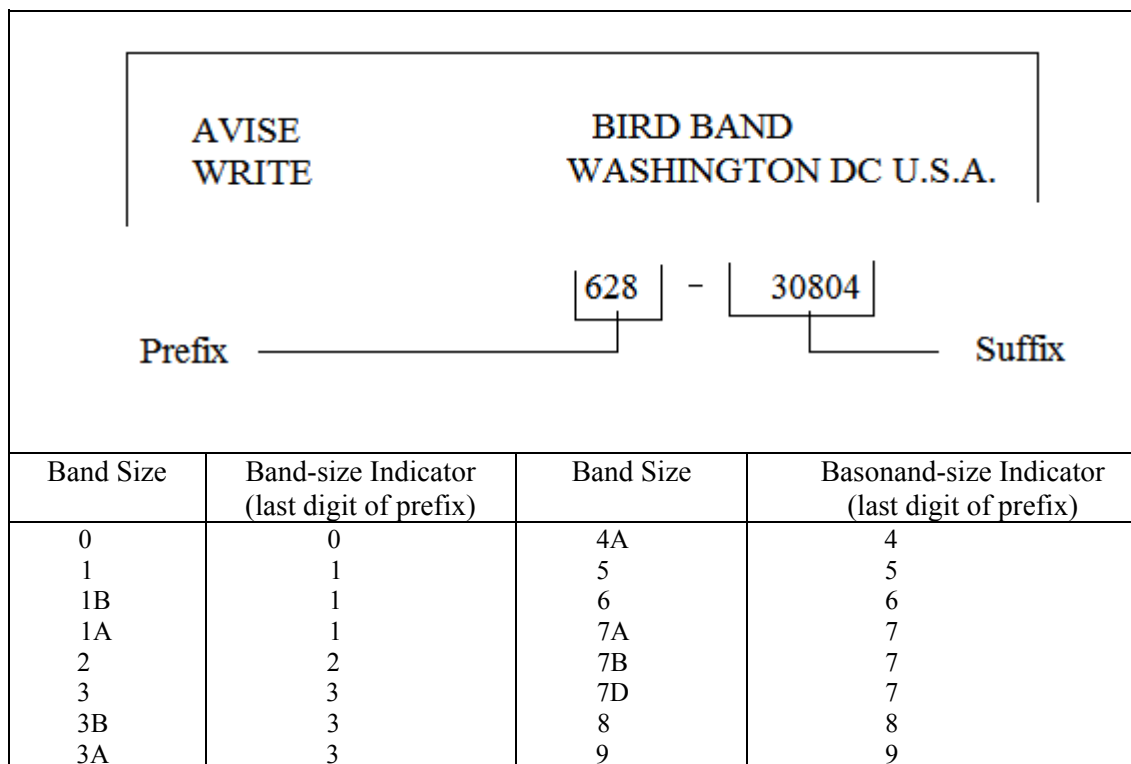


Figure 3-2. Band Numbering System

closed with butt-ends meeting tightly. Lock-on bands can be squeezed shut with the fingers and the flange overlapped with a pair of pliers.

As wear on the band will likely occur along the bottom edge where the band number normally would rest, the band may be applied upside down on the bird's foot. This will place the band numbers farther from the wearing edge. TWO METAL BANDS SHOULD NEVER BE PLACED UPON THE SAME FOOT OF A BIRD BECAUSE THE METAL WEARS TO SHARP EDGES AND MAY CUT THE BIRD.

27. If the butt-end band accidentally overlaps, it can be reopened with fine-pointed surgical scissors or a pair of external retaining ring pliers. These tools can also be used to remove bands that are worn or otherwise need replacement.

Another method for removing small bands is to insert two strands of wire between the band and the tarsus on each side of the tarsus, twist the wires' ends tightly to form two separate loops, insert a rod or tips of a pair of partly opened needle-nosed pliers or small scissors into each loop, and then pull the loops in opposite directions. The loops should be placed 90° from the butt-ends of the band and therefore opposite each other. A loop near the closure point may be ineffectual. The wire provided with a string of smaller band sizes is normally quite acceptable to form the loops. Band and bird damage is normally minimal using this method. Bands size 2 and larger than 3A are difficult to open using this method.

28. Rivet bands are locked with a 1/8 in. (3.2 mm) diameter aluminum rivet by using a pop-rivet tool, or hand riveter, which the Bird Banding Offices do not furnish. The pop-rivet tool seats the rivet and removes the inside shank of the expander. The rivets are approximately of the same alloy as the bands and fasten the two flanges together very securely. Specific instructions should be provided with the rivet tool.

POLICY AND PROCEDURE FOR UNUSUAL BANDING SITUATIONS**BAND REPLACEMENT**

29. Bands should not be replaced except under the following circumstances:

- (a) If the old band is causing injury or irritation, it should be removed and a new band applied to the other leg. Cross-reference the schedule upon which you report the new band, giving the older number in the "Common Name" column; also, identify the species and give the age and sex.
 - (1) All removed bands should be taped to the "Remarks" section of the BANDING SCHEDULE upon which the newly applied band is reported. If the band is illegible, it will be chemically etched to determine the band number. A Bird Banding Recovery Report (form 3-1807) should NOT be submitted.
 - (2) The sample schedule (Figure 4-1) has two replaced bands (16 and 45) to illustrate how these are to be reported.
 - (3) Bird Banding Laboratory files will also be cross-referenced, thus maintaining the longevity record for each bird.
- (b) A bird may be captured wearing a badly worn or damaged band or a band on which the number is almost illegible. Remove the worn band and reband the bird. **SOME BIRDS ARE WEARING EXPERIMENTAL BANDS MADE OF VARIOUS METALS, WHICH ARE THINNER THAN THE STANDARD ALUMINUM BAND. DO NOT REMOVE THESE BANDS.** Legible bands replaced due to wear or damage should be reported as described for bands removed due to injury to the bird (see paragraph (a) above).

ANALYSING REBANDED BIRDS

30. From the beginning of the banding program to the end of the calendar year 1967, when a bird was rebanded, the original band number was used on all banding records. In 1968, provision was made for printing TWO band numbers on the Report-to-Bander: the original number, and the number actually reported by the finder. However, the band number entered in the statistical record in the recovery file is the number reported by the finder.

31. Banders requesting data from the Bird Banding Laboratory files are warned that species that outlive their bands can have more than one band number. There may be more than one encounter of the same bird under different band numbers. For recaptured birds, records should be individually checked and corrected in order to accurately estimate return and recovery rates, age ratios and mortality and survival rates.

32. The data for the original banding (age-sex, status, location, date), and the permit number of the original bander are available from the Recovery Statistical Record.

33. Birds rebanded by you can be identified from your own records. For birds rebanded by others, you may request the original band numbers from the Bird Banding Laboratory. Avoid having more than one bander working on the same local population of birds or have several banders under a master permit cooperate in studies.

34. The original bander will receive a "Report to Bander" listing for each instance of band replacement and subsequent encounter. The person replacing the band will receive a Certificate of Appreciation (Figure 4.8) which includes the name and address of the original bander for that

one encounter. Subsequent encounters will result in a "Report to Bander" for all banders involved.

STATUS CHANGE

35. Banders should not auxiliary-mark, transport, or treat a previously banded bird in such a manner that it will change the status of the bird even if the same bander originally banded the bird. When the status of previously banded birds must be altered to meet the needs of special circumstances (such as the transport of nuisance Canada Geese or the retention for rehabilitation of some birds), banders should contact the Bird Banding Offices for instructions on handling these birds.

DOUBLE-BANDING

36. Intentional double-banding **MUST** be authorized in advance by the Bird Banding Offices because it causes differences in reporting rates and record-keeping. The following describes common double-banding situations:

- a) A second band may be added to a previously banded bird to check the wear and eventual loss of the older band. On the schedule (3-860) indicate that the new band was "ADDED TO (band number)".
- b) Birds may be originally double-banded to monitor band retention and/or wear of two differing band types. Both schedules must indicate "OTHER BAND (number)" and status 607. The individual record (in data files) of each bird is based upon the lower of these two band numbers.
- c) Inadvertent double-banding should be avoided by segregating previously banded birds from unbanded birds at the time of their removal from the capturing device. Where large numbers of banding-station repeats are expected, banding on one leg (right *or* left) by all personnel at that station will help alleviate the risk of double-banding.

LOST OR DESTROYED BANDS OR DATA

37. Occasionally there will be bands or records that are lost, stolen, or destroyed. Please report lost, stolen or destroyed bands as follows:

- (a) If a few bands are lost or destroyed, simply note "Band Lost" or "Band Destroyed" on the schedule covering that series of bands, and on the Note for File in Canada. See band numbers 42,62 - 64, and 93 - 97 on the sample schedule (Figure 4-1).
- (b) **DO NOT USE RELOCATED BANDS THAT HAVE BEEN REPORTED AS LOST.** They should be destroyed or returned to the appropriate Bird Banding Office. If they are accidentally used, report the banding data in a letter to the appropriate Banding Office and the original schedule will be corrected
- (c) If a large number of bands are lost or stolen, submit schedules covering those band numbers. Include the bander's name, permit number, the inclusive band numbers and a notation to the effect: "Bands lost at (general location) on (approx. date)".
- (d) Occasionally, birds are banded, but data are lost before completion of schedules. Such instances should be treated as with lost or destroyed bands, using the message "Data Lost". If the data are subsequently relocated, submit the data in a letter to the appropriate Banding Office and the original schedules will be corrected.

PART 4**REPORTS SUBMITTED TO AND RECEIVED FROM
THE BIRD BANDING OFFICES****INTRODUCTION**

1. The success of the banding and recovery system depends on cooperative efforts from the banders, the Banding Offices and the public. The Banding Offices are dependent upon the banders for the prompt submission of records in order to reply to individuals reporting band encounters. In turn, the banders depend on the Banding Offices to supply them with information about bandings and encounters. Part 4 outlines the reports on bandings and encounters that the bander must submit to the appropriate Banding Office. It also describes the reports on bandings and encounters that the bander receives from the Banding Office. Instructions for completing the forms are provided. Part 4 also describes what steps are followed by the Banding Offices when a band encounter is reported.

2. All necessary reporting forms are available upon request from the Bird Banding Offices. Each bander is requested to include his Federal Banding Permit number after his name on all correspondence. The Bird Banding Offices do not supply field recording forms.

REPORTS ABOUT BANDING SUBMITTED TO THE BANDING OFFICES**THE BANDING SCHEDULE (Form 3-860)**

3. Banders report the data for all birds banded in the current year on the Banding Schedule (Figure 4-1). Canadian banders and U.S. banders banding in Canada must submit the ORIGINAL and ONE COPY of the banding schedule to the Canadian Banding Office. U.S. banders should submit one copy (original) to BBL. In Canada, the bander must also complete the Note for File (described on paragraph 4-18) in duplicate and submit it with each batch of schedules.

4. The U.S. Banding Laboratory and the Canadian Banding Office have computer programs available to produce banding schedules on IBM compatible PC computers. Banders must have authorization from the Banding Offices to submit computerized banding schedules. For this reason and because the computer programs are DIFFERENT for the U.S. and Canada, banders should obtain the programs and instructions from the appropriate office.

5. Banders' data must be sent to the Bird Banding Offices according to the time-table (Table 4.1, pg. 4-2).

GAME BIRD REPORTING DEADLINES

6. All schedules for game birds (waterfowl, cranes, doves, pigeons, woodcock, snipe, rails, coots and gallinules) should be submitted prior to the opening of the hunting season or according to Table 4.1 depending on when banding has taken place. Meeting these deadlines ensures prompt response by the Bird Banding Laboratory to the large number of reports of birds taken during the hunting season.

NON-GAME BIRD REPORTING DEADLINES

7. Persons banding large numbers of colonial birds in a short period of time should prepare and submit schedules for all completed strings of bands as soon as possible. Schedules for partially used strings should also be forwarded at that time if the remaining bands will not to be used until the next year.
8. Any data on banding of endangered species should be submitted within 45 days.
9. All schedules for non-game birds should be submitted according to Table 4.1 depending on when the banding has taken place.

Table 4.1. Time-table for Submission of Banding Schedules

All schedules should be submitted when a string of bands is finished, or by the deadline outlined in the timetable, whichever comes first.		
For Bands Placed on:	During the Period:	Deadline for Submission:
Game birds	Post-season: Jan. 16 - June 30	July 15
	Pre-season: July 1 - Sep. 15	Monthly
	In season*: Sep. 16 - Jan. 15	Weekly*
	Dec. 1 - Feb. 28/29	Mar. 31
Non-game birds	Mar. 1 - May 31	June 30
	June 1 - Aug. 31	Sept. 30
	Sep. 1 - Nov. 30	Dec. 31
* Game birds should not be banded during this period unless banding is necessary for a specific research or management study.		

INSTRUCTIONS FOR COMPLETING THE BANDING SCHEDULE

10. Schedules must contain the pertinent data for each band. If a schedule has missing data, it will be returned to the bander.
11. Use vertical "continuity" lines to indicate repetitive data (see sample schedule, Figure 4-1).
12. Use a typewriter and/or dark ink if schedules are prepared by hand and PLEASE PRINT OR TYPE LEGIBLY. PENCIL, CARBON AND LIGHT BLUE INK ARE NOT ACCEPTABLE. High quality photocopied schedules are acceptable, BUT ONLY IF ORIGINALS CANNOT BE SENT.
13. Report only consecutive band numbers on each schedule. If a string of bands is divided for subpermittees, for use at different banding stations, or for other reasons, each consecutive group of band numbers should be reported on a separate schedule. Example: Bands nos. 01

through 10 are given to subpermittee Jones, bands 11 through 20 to Smith, 21 through 30 to Black, etc. Jones uses all 10 of his bands (01 through 10). Smith uses only 5 of his bands (11 through 15) and Black uses all 10 of his bands (21 through 30). Two schedules will be required to report these bands. Jones' and Smith's data can be combined and reported on one schedule since the band numbers are consecutive (01 through 15). Black's bands (21 through 30) will have to be reported on a separate schedule since bands (16 through 20) have not yet been used. When bands 16 through 20 are used and reported, the schedule can be filed by the Banding Offices.

14. Report no more than 100 bands per schedule. All band numbers reported on one schedule must fall within the same series of 100 bands. For example, IT WOULD NOT be permissible to report band numbers 703-50675 through 50700 AND 703-50701 through 50721 on the SAME schedule even though fewer than 100 total bands of the same size are involved, since these numbers fall within two series (601 through 700 and 701 through 800).

15. Reporting of data on schedules should be well organized. For example, if large numbers of two different species are banded within a short time period (weekly), a separate string of 100 bands should be used for each species.

16. The following describes how Banding Schedules (Figure 4-1) are to be completed. You will need to refer to the codes in Part 5 to complete the schedule.

(a) Permit No. Box - Enter the Federal Bird Banding Permit number in this box. SUBPERMITTEES should enter the permit number of the MASTER PERMITTEE under whom their banding is done and should NOT include the letter designation. Check these numbers carefully.

(b) Bander Box:

- (1) The name of the MASTER PERMITTEE should be entered in this box. If bands were issued under a MASTER-STATION PERMIT the name of the ORGANIZATION or INSTITUTION, not the individual, should be entered.
- (2) A personal master-permittee should enter his initials and last name. Titles can follow the last name if space allows. Example: I.C. BYRDS, DR.
- (3) When appropriate, names of subpermittees should be entered in the "Remarks" section.

(c) Inclusive Band Numbers Box - Enter the complete band number (prefix and suffix) of the first band reported on this schedule and the last 5 digits (suffix only) of the last band number reported on this schedule.

(d) Banding Locations Box:

- (1) Give the name of the local area, straight line mileage and direction from nearest town, name of nearest town, county and state or province. Do not use street names and building numbers for locations. If banding was done in towns or city limits, use mileage and direction from major highway intersections that are shown on standard road maps. If birds were transported prior to releasing them, the release site should be noted in the "Banding Locations" spaces.
- (2) Additional banding locations may be entered in the "Remarks" section of the schedule. If banding was done at SEVERAL SITES IN THE SAME 10-MINUTE BLOCK, REPORT ALL SITES AS ONE BANDING

LOCATION. In other words, there should be ONLY ONE BANDING LOCATION WITHIN A 10-MINUTE BLOCK. Example: If banding is done at 6 different sites within Ellicott City, Maryland, IN THE SAME 10-MINUTE BLOCK, report all 6 sites as one banding location - near "Ellicott City, Howard Co., Md."

- (3) Be careful when grouping data from adjacent banding sites, because latitude and longitude lines frequently divide towns, refuges, lakes, etc., into two or more 10-minute degree blocks.
 - (4) For EACH NEW BANDING LOCATION reported on a schedule, provide the appropriate Bird Banding Office with one copy of a road map showing banding sites. This helps us to determine or verify banding coordinates. Banders name and permit number should be written on each map submitted.
 - (5) A gazetteer file has been constructed by assigning the name of a town or a prominent geographical feature to each 10-minute block. This file is corrected and updated as necessary.
 - (6) These gazetteer names can be modified. If the name assigned to the 10-minute block is unsatisfactory, the bander should notify the Bird Banding Office. He should include the coordinates of the block, the name presently assigned to that block and the name that should be assigned to that block, giving reasons why.
- (e) Band Prefix - On the band, the band prefix is either stamped above the suffix or separated by a dash. THE PREFIX SHOULD BE ENTERED ON THE SCHEDULE TO THE LEFT OF THE ARROW POINT. The numbers pre-printed down the schedule represent the last two digits of the suffix (last 5 digits of the band number). See the sample schedule (Figure 4-1) for the correct way of recording band numbers. The left margin beside each number is reserved for office use.
- (f) Alpha Code - Only the four digit alpha code should be used in this column. New schedules will identify this column as species alpha code (Figure 5-1a);
- (g) Species No. - THIS NUMBER IS IMPORTANT BECAUSE IT IS THE ONLY ITEM ENTERED INTO THE COMPUTER FILES TO INDICATE THE SPECIES. USE ONLY THE NUMBERS IN THE MANUAL (see Part 5, Figure 5-1a). The species numbers are not always the same as those published in the AOU Check-List of North American Birds. The species number consists of four digits. The last digit does not need to be used if it is zero; however, leading zeroes must be used.
- (h) "S" (Status):
- (1) The numeric codes entered into the "Status" column are the type of treatment the bird received. ENTER TWO CODES IN THIS COLUMN:
 - a. The first is a single digit "Status" code describing the "Status" of the bird, i.e., "Normal," "Hand-reared," or "Experimental"; these codes are listed in Figure 5-2.
 - b. The second is a two-digit "Additional Information" code which provides more detail about the "Status". These codes are listed in Figure 5-3.
 - (2) Uninjured, wild birds that have been captured, banded with a standard, butt-end aluminum band and released within 24 hours or less in the same location are

coded on the schedule as 3.00. Wild birds that are color marked or banded, transported, held, blood sample taken, etc. are coded 6 plus 2 numbers which describe the treatment these birds received. Example: Neck-collared geese would be coded 602.

(j) Age-Sex:

- (1) Record age and sex but DO NOT ENTER GUESSES. Be consistent and use either the numeric "year class" codes or the letter abbreviations (M, F or U). If numeric codes for age are entered, numeric sex codes should be entered and vice versa. Biological symbols (♂ or ♀) should NOT be used to designate sex.
- (2) Bird Banding Laboratory "year class" codes do not necessarily indicate the physiological age of the bird. They are intended to indicate the calendar year within which the bird hatched. See age and sex codes in Part 5, paragraphs 5 to 7 inclusive and Figures 5-4 and 5-5.
- (3) If the bird has been held in captivity, record the age of the bird at the time of release, not capture.

(k) Region - Enter the numeric code for the region within which the banding occurred. IF THE BIRD HAS BEEN TRANSPORTED, RECORD THE REGION WHERE THE BIRD WAS RELEASED. Enter the the 3-digit code only (Figure 5-6).

(l) Lat-Long:

- (1) The latitude and longitude should be expressed as a three digit number followed by a four digit number. For example, 39° 05' N and 75° 17' W would be coded as 390-0751 in this column. Thus, do not "round off" to the nearest 10 minutes but rather drop the last digit of minutes of both latitude and longitude. In the Western Hemisphere, north of the Equator, THE LATITUDE AND LONGITUDE CODE REPRESENTS THE SOUTHEAST CORNER OF THE 10-MINUTE BLOCK WITHIN WHICH BANDING OCCURRED.
- (2) Locations south of the Equator or in East Longitude are similarly coded by dropping the last digit of minutes. The following table indicates the corner of the 10-minute block thus coded. The alpha direction code S, E or C must be entered after the longitude for all coordinates except those of the southeast corner (Western Hemisphere). These are given in Figure 5-11.

Banding occurring in:	Corner of 10-minute block used:
West Longitude:	
North of equator	Southeast corner
South of equator	Northeast corner
East Longitude:	
North of equator	Southwest corner
South of equator	Northwest corner

(m) "Loc" - Enter the letter (A, B, C, D, etc.) in the "Loc." column that refers to the entry in the appropriate "Banding Locations" section box (or under "Remarks" if more than

six locations are reported on one schedule). The same banding location does not need to carry the same letter on different schedules. The information in this column refers only to that schedule. As above, banding location is release location for held or transported birds.

(n) Date - Record the date with 6 digits, in month, day and year sequence as follows: 06-05-72 for June 5, 1972. If the bird was captive for any period of time, the date entered is the date of release into the wild. If the bands are used out of chronological sequence, indicate the reason in the "Remarks" section to eliminate confusion.

(o) Remarks - Use this section for all miscellaneous comments: replaced, lost or destroyed bands, subpermittees, species verification, etc.

CORRECTION OF DATA ALREADY SUBMITTED

17. If banders discover errors in bird banding data or in schedules, they should advise the appropriate Bird Banding Office, giving the band numbers involved and the corrections. The original schedule will be corrected and the modifications incorporated into the computer files. DO NOT SUBMIT NEW SCHEDULES.

In the case of erroneous encounter data, please indicate band number, batch number and the source of the error on the correction notice.

CANADA - NOTE FOR FILE

18. The Note for File (Figure 4-2) is submitted to the Banding Office at the same time as the Banding Schedules. If you are using the schedule-producing program on a computer, the Note for File is produced automatically at our office and there is no need to submit a hard copy of it. Banders report the number and type of bands used and the species of birds banded.

CANADA - YEAR-END REPORT

19. Banders in Canada report on the banding activities of the past year, outline the plans for the coming year and report changes in subpermittees in the Year-end Report (Figure 4-3). It is attached to the list of subpermittees and authorizations that is sent to banders for confirmation in early December by the Canadian Banding Office. The bander must return the Year-end Report to have his permit renewed for the next year.

REPORTS ABOUT BANDING RECEIVED BY THE BANDER FROM THE BANDING

OFFICES BANDING DATA INQUIRY (FORM BBL-29)

20. The Banding Data Inquiry (Figure 4-4) requests the bander to clarify or verify data previously submitted on Banding Schedule(s). The original schedules are returned to the bander for correction or comment. The bander must return the schedules with the requested data.

BANDING SCHEDULE EVALUATION SHEET (FORM 3-160)

21. All banders receive the Banding Schedule Evaluation (Figure 4-5) after their schedules have been completely processed. The Evaluation Sheet informs the bander whether the schedules required corrections and what those corrections were.

REPORTS ABOUT BAND ENCOUNTERS SUBMITTED TO THE BANDING**OFFICES BIRD BAND RECOVERY FORM (FORM 3-1807)**

22. Encounters with birds banded by someone other than master-permit holders or subpermittees should be reported to the Bird Banding Laboratory/Office using the "Bird Band Recovery Form" (Figure 4-6).

A person submitting this form on behalf of another person may request a Certificate of Appreciation (see Figure 4-8). Check the "yes" box after "certificate requested"; otherwise a Certificate will be sent only to the person who found the banded bird. Banders reporting their own bands and not wishing to receive Certificates of Appreciation should check "No".

ENCOUNTERS THAT SHOULD BE REPORTED

23. A bander will encounter many previously banded birds. Encounters of bands from foreign countries or private banding programs should be reported to the appropriate Bird Banding Office. The types of encounters that should be reported to the Bird Banding Offices are described below. In cases of doubt, an encounter should be reported.

- (a) Birds Banded by someone other than the bander or his subpermittees should be reported to the Bird Banding Offices. Occasionally, two or more banders work in the same general area and catch birds banded by each other. These banders should exchange these capture data between themselves and only unusual encounters should be reported.
- (b) Any bird that has moved outside the original 10-minute block is a foreign retrap and may be reported if it is a straight-line distance of four miles or more from the banding site. Game birds trapped in adjacent 10-minute blocks during the same banding operation (e.g. pre-season), need not be reported.

Large numbers of foreign retraps should be reported in a list rather than individually. The report should contain all information required on Form 3-1807. Where possible, group similar encounters by How Obtained, Location, and Date.

- (c) A bander should keep his own records of "returns" banded under his permit and should not report them. Returns are defined as "birds observed or recaptured and released alive with a band attached within the same 10-minute block of latitude and longitude in which they were originally banded and at least 90 days from the date of banding".
- (d) When a bander finds a dead bird that was banded by him in the previous 90 days and in the same 10-minute block and before a schedule has been submitted to the Banding Office, he should destroy the band and indicate "Band Destroyed" on the schedule. If dead birds are found within 90 days and schedules have been submitted, inform the BBL in writing that they should be deleted.
- (e) The reporting of birds color-marked by the bander himself or his subpermittees should be done in accordance with the instructions established in paragraph 23(c) above.

Sightings of color-marked birds not marked by the bander himself should be reported to the Bird Banding Office. Information needed includes the species, type of marker, position of the marker, color combinations and code if present, age and sex if known, and date and location of the sighting. Other observations about behaviour, presence

of other birds, etc. are also welcome. If the bird has a metal band and the number cannot be obtained, indicate this on the report.

The Bird Banding Office maintains a file of color marking authorizations, organized by species and type of marker. Banders with color-marking authorization will be requested to send details of their investigation to the observer.

REPORTS ABOUT BAND ENCOUNTERS RECEIVED BY THE BANDER FROM THE BANDING OFFICES

BANDING DATA REQUEST CARD (FORM 3-860A)

24. This card (Figure 4-7) requests data from the bander when a band is encountered has been reported to the Banding Offices and the Banding Schedule has not yet been submitted. These cards should be completed in black ink and returned to the appropriate Bird Banding office. Please use scotch tape on the open end of the two part card. Do not use staples as they tend to jam in postal sorting machines.

Banding data that are reported on the Banding Data Request Card must ALSO be reported on schedules.

If a schedule covering the band number has already been submitted, Form 3-860a should be completed and returned anyway. A check mark should be put beside the appropriate explanation on the Banding Data Request Card.

If a bander submits data as requested and receives no further information from the Bird Banding Laboratory, this indicates that the encounter report was found to be in error.

WHAT HAPPENS WHEN A BAND IS ENCOUNTERED?

25. When a report of a banded bird is sent to the Bird Banding Laboratory, the computer produces the following:

- (a) A "Certificate of Appreciation" (Figure 4-8) which is mailed to each person who reports a band. Certificates are produced in English, French, or Spanish, depending on the native language of the reporter. It includes the name and address of the bander. Thus, if the person who has recovered the band requires more information, he can write to the bander.
- (b) A "Report-to-bander" (Figure 4-9) is mailed to the bander containing the coded numeric data and the printed information about the location of the encounter and the name and address of the person who reported the band.
- (c) A Periodic Report (listing), if requested, for mailing to State and Canadian conservation agencies containing banding and encounter data for all encounters of birds BANDED IN THAT STATE OR PROVINCE regardless of where they were encountered.
- (d) A Periodic Report (listing), if requested, to State and Canadian conservation agencies containing banding and encounter data for all birds encountered in that State or Province but banded elsewhere.

NOTE: Before December 1971, the two lists mentioned in paragraphs (d) and (e) contained banding and encounter data for game birds only.

Banders can contact their State conservation departments or Canadian Wildlife Service regional offices for banding data pertaining to their State or Province (for address, see Part 2, Appendix A.)

- (e) A listing, for Bird Banding Laboratory purposes, of all encounters sorted by banders' permit numbers.
- (f) A listing, for Bird Banding Laboratory purposes, of all encounters in species number sequence.

26. If the computer finds in the recovery file that the death of the bird has already been reported, a second terminal encounter, or a trap that has occurred after the bird has died, will not be entered into the current file.

Approved by: 04/30/90
OAR Approved: 12/18/99

Master Permit No. 0001		Banding Schedule		Master Permittee I.C. BYRDS, DR	
1 mi W Laurel, Prince Georges Co., MARYLAND		—Banding Locations—		Patuxent WRC, 6 mi SE Laurel Prince Georges Co., MARYLAND	
1 mi N Rehoboth, Sussex Co., DELENARE				E Columbia, Howard Co., MARYLAND	
Monomoy Point, Monomoy Island, Barnstable Co., MASSACHUSETTS				2 mi N Potomac Village, Montgomery Co., MARYLAND	

FROM 822-70005
 THROUGH 822-70100
 REPORT ONLY CONTIGUOUS
 BAND NUMBERS

BAND PREFIX	COLOR MARKER CODE*	ALPHA CODE	SPECIES #	STATUS	AGE-SEX	REGION	LAT-LONG	LOC	DATE MO - DAY - YR
822									
01									
02									
03									
04									
70006	R/Y L G R	AMRO	761	301	AHY M	MD -146	390-0765	A	03-29-91
	W L W/G R				F				
07	BLU L Y R				U				04-10-91
08	O L PI/W R				M				
09	G/Y L R R				F				
10		BLJA	477	300	U				
11					M				05-10-91
12					F				05-20-91
13									
14	LT G/BLU L			301	L U				
15	MAU/W R								
16	Replaces 763-09181			300	ABY N				
17		AMRO	761	301					05-25-91
18					F				
19				697*	HY U	DE -121	384-0750	B	06-30-91
20		KILL	273	300					
21									
22									
23	Y #27C	RWBL	498	639	ASY M				04-15-91**
24	Y #28C								
25	Y #29C				SY				
26	Y #30C				ASY				
27	Y #31C								
28	Y #32C								
29	Y #33C				SY				
30	Y #34C								
31	W/O L G R	BLJA	477	301	HY U	MD -146	390-0766	A	07-16-91
32		COTE	070	300	L U	MA -147	413-0700	C	07-19-91
33									
34									
35									
36									
37									
38									
39									
40									
41									
42	BAND DESTROYED								
43		COTE	070	300	L U	MA -147	413-0700	C	07-19-91
44									
45	Replaces 573-74825				ASY				
46	RED DYE	COTE		608					
47									
48									
49									
50									

U.S. bandings to Bird Banding Laboratory, Office of Migratory Bird Management, Laurel, MD 20708 Canadian bandings to Canadian Wildlife Service Environmental Management Service Department of Environment, Ottawa, Ontario Canada *1A OF*

INSTRUCTIONS AND DEFINITIONS PROVIDED IN BIRD BANDING MANUAL

Form 3-860 Rev 1989

Figure 4-1 (sheet 1 of 2). Banding Schedule (sample) - FRONT

Master Permit No. 0001

BAND PREFIX 822	COLOR MARKER CODE*	ALPHA CODE	SPECIES #	STATUS	AGE-SEX	REGION	LAT-LONG	LOC	DATE MO. - DAY - YR
700		COTE	070	300	L U	MA-147	413-0700	C	07-20-91
51									
52									
53									
54									
55									
56									
57		***		675	AHY U	DE-121	384-0750	B	07-23-91
58									
59									
60									
61									
62	RECORDS LOST								
63									
64									
65		YHBL	497	300	SY M	MD-146	390-0764	D	08-25-91
66		BWBL	498		HY		391-0765	E	08-26-91
67					AHY				
68					HY				
69							390-0771	F	08-27-91
70									
71					AHY				
72					HY				
73									
74					AHY				
75		AMRO	761		HY F		390-0765	A	08-30-91
76					AHY				
77					HY U				09-01-91
78					AHY				
79					HY				09-03-91
80									
81		EUST	493	618	HY M		385-0765	G	09-15-91
82					AHY				
83					HY F				
84									
85		LEYE	255	300		U	DE-121	384-0750	B
86		SBDO	231						09-17-91
87					AHY				
88									
89		LEYE	255		HY				
90									
91		SBDO	231						
92									
93	BANDS LOST								
94									
95									
96									
97									
98		SBDO	231	300	HY U	DE-121	384-0750	B	09-17-91
99		RWBL	498		AHY M	MD-146	390-0765	A	10-30-91
701					U F				

REMARKS: LOC 'G'-5 mi S Bowie, Pr. George Co., MD. *(#19)-broken foot, treated, held 20 days transported from Ocean City, MD and released. #23-30 used by Subpermittee, I.C. Byrnes, Jr (0001-A). **(#23-30) dates correct. ***(#57-60)-trapped Monomoy Pt., held 3 days, released Rehoboth, Del. #65-second record for area, photographed and released same day. Photo and details attached.

#16 Replaced 763-09181

*If applicable #45 Replaced 573-24825, worn band attached

 WRITE F. W. SERV.
 573-4825
 WASH. C. USA

GPO 862-705

Figure 4-1 (sheet 2 of 2). Banding Schedule (sample) - BACK

NOTE FOR FILE TO BE SUBMITTED WITH BANDING SCHEDULES IN CANADA ONLY

EXAMPLE

Permit No.
10,001

The Note for File should be submitted in duplicate.

Report completed for 4 originals and 4 photocopies of schedules.		
Bander: JOHN DOE		
Province or territory birds banded in: ONTARIO, NEWFOUNDLAND		
Total number of birds banded: 207		
Period of banding: FROM <div>Month - Day 01 03</div> THROUGH <div>Month - Day Year 06 30 ,1990</div>		
<div>Status of band: OB — band used on bird LT — band lost DS — band destroyed</div> <div>Band type: SS — stainless steel OP — pre-opened LO — lock-on RV — rivet IN — incoloy (leave blank for standard butt-end bands)</div>		

Status of band	Band Size	Series of Bands Used			Band Type
		Prefix	From	To	
OB	1 B	1321	10101	10123	
LT	1 B	1321	10124	10125	
OB	1 B	1321	10126	10173	
DS	1 B	1321	10174		
OB	1 B	1321	10175	10200	
OB	6	846	23301	23400	SS
OB	6	686	32351	32356	LO
OB	9	629	03156	03159	RV

Figure 4-2. Note for File - FRONT

Year-End Report Form - Calendar Year 1990

PERMIT NUMBER:
NAME:
ADDRESS(ES):
TELEPHONE NUMBER(S):
CURRENT SUBPERMITTEES: see attached list
1991 PERMIT CHANGES: (send 2 letters of support, completed application form and
project description for new subpermits; outline new project or
colour-marking requests in detail on a separate sheet)

PERMIT#	CURRENT AUTHORIZATION(S)	CHANGES REQUIRED	REASON
---------	--------------------------	------------------	--------

(including provincial permit
number if authorized to band
raptors)

CURRENT PROJECTS: For each project, briefly summarize accomplishments of 1990
banding and what you plan to accomplish in the future.

Figure 4-3. Year-End Report - FRONT

LIST OF SUBPERMITS AND AUTHORIZATIONS

This is the list of subpermits and authorizations under your permit, necessary to complete the year-End Report Form. Note those that expired in 1990 (recent renewals have not yet been updated on the computer files) and check the current listings for desired changes. The specifics of the Colours authorization (species, type of marker, colours, codes) which are described on your (or the subpermittee's) permit should also be checked.

Figure 4-3. Year-End Report - BACK



U.S. FISH AND WILDLIFE SERVICE
Bird Banding Laboratory
Office of Migratory Bird Management
Laurel, Maryland 20708

Master Permittee	Permit No.
Date Sent	DUE DATE

BANDING DATA INQUIRY

The attached Banding Schedule(s) are being returned for clarification or verification of your data. Please double check the data and return the original schedule(s) with your comments and/or corrections. There is no need to re-do these Banding Schedules unless specifically requested. **Neat pen and Ink (black) changes are quite satisfactory. Do not use while-out.** Please use the enclosed envelope to insure that your returned data are not overlooked among the routine incoming mail.

We can neither make these data available for study nor respond to any recovery reports which may occur until the schedules are returned. For these reasons, we would appreciate your cooperation in returning the schedules by the due date above. **If circumstances prevent your accomplishing this, please notify us.**

Your help and interest in this matter, thus increasing the values of the data entered into our files, is appreciated. If necessary, please feel free to call (301)498-0403.

WE ARE QUESTIONING ITEM(S) CHECK BELOW:	BAND NUMBER(S) AND/OR SPECIES IN QUESTION
<input type="checkbox"/> 1. CLARIFICATION OF AGE AND/OR SEX DATA. Please indicate in the "Remarks" section of the schedule how you determined the age and/or sex of the species noted. A brief resume of the technique used or a copy of the published reference will be helpful. For a lengthier discussion of an unpublished technique, please use the reverse side of this form or attach a separate letter. Please <u>RETURN THE ORIGINAL SCHEDULE</u> with correction, as needed. <input type="checkbox"/> Please see Age Code del.. BBM Vol. I. P. 5-23. <input type="checkbox"/> Please see Age-Sex Keys. BBM Vol. II. Part 6.	
<input type="checkbox"/> 2. Please re-do these schedules using the alpha codes which became mandatory on September 1, 1988 (refer to MTAB: 63 and 64).	
<input type="checkbox"/> 3. INCOMPLETE DATA. You have omitted data for some band numbers. Be sure you have entries in each box or column for each band reported and <u>RE-TURN THIS ORIGINAL SCHEDULE</u> .	
<input type="checkbox"/> 4. BAND REPLACEMENT. Worn band or original number missing. Please see, Vol. 1. P. 4-4. correct and <u>RETURN THIS ORIGINAL SCHEDULE</u> .	
<input type="checkbox"/> 5. ILLEGIBLE DATA. Your data are: photo copies, illegible, or in pencil, carbon, or a shade of ink which will later smudge or not copy well on all machines. <input type="checkbox"/> Please re-do the schedule(s) either with a type-writer or print legibly in dark ink, Vol. 1, P. 4-3.	
<input type="checkbox"/> 6. NON-CONTIGUOUS BAND NUMBERS. Please re-do the schedule. (See BBM P. 4-3).	Return as <input type="checkbox"/> schedules.
<input type="checkbox"/> 7. REMARKS (see reverse)	

Bird Banding Laboratory BLL-
29 (Rev. 5-89)

Figure 4-4. Banding Data Inquiry

U.S. Fish and Wildlife Service Bird Banding Laboratory Office of Migratory Bird Management Laurel, Maryland 20708		Telephone: 301 498-0457
BANDING SCHEDULE EVALUATION SHEET		Total Schedule Received:
		Master permit number:
		Banding Year:
		Date schedules received:
		Prefixes:
<p>We have recently edited the banding schedules described above which were submitted under your banding permit number. This editing is a routine step in our quality control program. We have, in the past, found that banders occasionally make errors when entering their data on the schedule. In many cases the same errors or omissions are repeated on subsequent schedules.</p> <p>This banding schedule evaluation sheet is intended to inform you of the discrepancies, or the lack thereof, noted in your schedules.</p> <p>We strongly urge you to carefully check future schedules to make sure that you have accurately and completely entered your data. You must assume that you may be the last ornithologist to critically review these data before they are punched into machine data files.</p> <p>Your careful cooperation will help assure that the banding data available does, in fact, reflect the results of your banding activities.</p>		
EVALUATION		
<input type="checkbox"/> No errors or discrepancies were noted on your schedules. We appreciate the time and attention you have devoted to these records.		
<input type="checkbox"/> Discrepancies, as noted below, have been corrected on your recently edited records. Please check your Banding Manual prior to submitting future records.		
	Permit number	Status
	Bander's name	Age and sex
	Inclusive band numbers	Region
	Banding location	
	Band prefix	Lat & Long.
	Band numbers	
	Common name	Location
	AOU numbers	
		Date
	Other	
Form 3-160 (Revised August 1972)		Edited by _____ Date edited _____
INT: 2116-72		

Figure 4-5. Banding Schedule Evaluation

U.S. FISH AND WILDLIFE SERVICE
BIRD BAND RECOVERY REPORT

INSTRUCTIONS: See reverse side. Use reverse side for remarks.		DO NOT WRITE IN THE SPACES BELOW							
<p>1. Band Number(s) (Max. 4)</p> <div style="border: 1px solid black; height: 40px; margin-top: 10px;"></div>	<div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> 1459 </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> </div>								
<p style="text-align: center;">ATTACH BAND(s) HERE OR ON REVERSE SIDE (Flatten down and attach with scotch tape)</p>	<p style="text-align: center;">BAND NUMBERS</p> <div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> 1459 </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> </div>								
<p>2. Date recovered (month, day, year)</p>	<p>Recovery Date</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th style="width: 25%;">Month</th> <th style="width: 25%;">Day</th> <th style="width: 25%;">Year</th> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> </tr> </table>	Month	Day	Year					
Month	Day	Year							
<p>3. Where recovered (Indicate 1-local area; 2-nearest town; 3-county; 4-State or Province)</p>	<p>How Obtained</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 50%; height: 20px;"></td> <td style="width: 50%; height: 20px;"></td> </tr> </table>								
<p>4. How was the bird obtained? <input type="checkbox"/> Found Dead</p> <p><input type="checkbox"/> Shot <input type="checkbox"/> Trapped <input type="checkbox"/> Other explain _____</p>	<p>Who Reported</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 50%; height: 20px;"></td> <td style="width: 50%; height: 20px;"></td> </tr> </table>								
<p>5. Was the band removed?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown</p>	<p>Present Condition</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 50%; height: 20px;"></td> <td style="width: 50%; height: 20px;"></td> </tr> </table>								
<p>6. Present condition of the bird <input type="checkbox"/> Unknown</p> <p><input type="checkbox"/> Dead <input type="checkbox"/> Released <input type="checkbox"/> Alive - <input type="checkbox"/> in captivity</p>	<p>Why Reported</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 50%; height: 20px;"></td> <td style="width: 50%; height: 20px;"></td> </tr> </table>								
<p>7. If the band was found by someone else:</p> <p><input type="checkbox"/> a. The person contacted me at my home or office and requested that I report the band for him.</p> <p><input type="checkbox"/> b. Contact was made while I was in the field.</p>	<p>Language - No Report</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 25%;">1 En.</td> <td style="width: 25%;">2 Fr.</td> <td style="width: 25%;">3 Sp.</td> <td style="width: 25%;">4</td> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> </tr> </table>	1 En.	2 Fr.	3 Sp.	4				
1 En.	2 Fr.	3 Sp.	4						
<p>8. Hunter or finder's name, address, and zip code:</p>	<p>Region Where Recovered</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 33%; height: 20px;"></td> <td style="width: 33%; height: 20px;"></td> <td style="width: 33%; height: 20px;"></td> </tr> </table>								
<p>9. Kind of bird Age Sex</p>	<p>Lat. - Long. Direction</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 33%; height: 20px;"></td> <td style="width: 33%; height: 20px;"></td> <td style="width: 33%; height: 20px;"></td> </tr> </table>								
<p>10. Report submitted by: (name, title, address, zip code)</p>	<p>Location</p> <p>42-63</p> <p>AOU # of Recovery</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 33%; height: 20px;"></td> <td style="width: 33%; height: 20px;"></td> <td style="width: 33%; height: 20px;"></td> </tr> </table>								
<p>Certificate requested <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Affiliation: <input type="checkbox"/> State or Federal <input type="checkbox"/> Bander <input type="checkbox"/> Other</p> <p>Fed. Banding Permit No.</p>	<p><input type="checkbox"/> Send for How - When - Where _____ (Date) _____ (File Ref.)</p> <p><input type="checkbox"/> Send Form No. _____</p> <p>Processed by: _____ (Initials) _____ (Date)</p>								

Form 3-1107 (Revised Dec. 1985)

Figure 4-6. Bird Band Recovery Form - FRONT

INSTRUCTIONS

- A. **COMPLETING FORM.** Fill in the left-hand side of the sheet only. Prepare a separate form for each banded bird, unless all of the recovery data (date and location, how obtained, why reported, present condition, etc.) are identical, a maximum of four recoveries or retraps can be reported on one sheet. In the case of a bird wearing more than one band, report both band numbers on the same form.

B. **ACCURACY.** The information reported must be complete and accurate. This information is a vital element in studies of the effects of various hunting regulations and natural mortality upon migratory bird populations.

Try to obtain the band itself and send it to the Bird Banding Laboratory for verification of questionable records. The band will be returned, if requested.

C. **REPORTING.**

1. This form should be used to report all banded birds taken by you (shot, found dead, found injured, foreign retraps, etc.) except birds trapped and released in the same ten-minute block in which they were banded.

2. If you encounter someone else who has obtained a bird band, please proceed as follows:
- a. If the individual seeks you out at home or office to report the band, thus indicating his interest and initiative, you should obtain the necessary data and submit the report. Check "a" for item 7 on the report.

b. If, through your official activities (check stations, law enforcement, bag checks, public appearances in uniform or in an official car, etc.), you encounter a hunter with a banded bird, check "b" for item 7 on the report. We prefer that you record and report the band number and recovery data without the hunter's knowledge, if possible. We can later check our records to see if he also reported the band. This will provide valuable data concerning the proportion of bands taken but not reported. It is important to properly identify reports which occur as a result of the conservation agent's influence in causing the band to be reported. The Bird Band Recovery Report is designed to accomplish this.

D. **PLEASE DO NOT DISTRIBUTE THESE FORMS TO HUNTERS.** The forms are intended for the use of banders and professional wildlife agency personnel, only.

E. **SEND REPORTS TO:** Bird Banding Laboratory, Office of Migratory Bird Management, U.S. Fish and Wildlife Service, Laurel, Maryland 20708.

NOTICE

IN CANADA: Bird Banding Office,
Canadian Wildlife Service,
Ottawa, Ontario, K1A 0H3.

In accordance with the Privacy Act of 1974 (PUB.L.-93-579), and the Paperwork Reduction Act of 1990 (PUB.L.-96-511)

1. The gathering of information on migratory birds and their uses is authorized by the Migratory Bird Treaty Act (16 U.S.C. 703-711) and Fish and Wildlife Act of 1956 (16 U.S.C. 742D)

2. Information from this survey will be used to further the understanding, management, and utilization of the North American migratory bird resource by Federal, State, and private conservation organizations, and the Canadian Wildlife Service.

3. Your participation in this survey is voluntary.
4. In the event there is indicated a violation of a statute, regulation, rule, order, or license, whether civil, criminal or regulatory in nature, the requested information may be transferred to the appropriate Federal, State, local, or foreign agency charged with investigating or prosecuting such violations.

5. In the event of litigation involving the records or the subject matter of the records, the requested information may be transferred to the U.S. Department of Justice.

REMARKS SECTION

U.S.GPO :1987-0-179-532


Figure 4-6. Bird Band Recovery Form – BACK

Dear Bander:


We have received a report of the recovery of the band number noted on the reverse of this card. Our records indicate that this band was issued to you, and that we have not received your banding schedule covering its usage. Please enter your banding data, detach the card and return it to us as soon as possible. We can not reply to the person who reported the band until we receive this information.

If you have submitted a schedule covering this number, please enter the data on this card and forward it to us. We will process the report of the recovery from the data on this card and will search our records for your earlier schedule.

If you have not submitted a schedule for this band be sure to include these data when you do submit your schedules covering this band. These cards are not to be retained as permanent records. Please be sure the data on your schedule agree with the data you report on this card.




Thank you,
BIRD BANDING LABORATORY



UNITED STATES
DEPARTMENT
OF THE INTERIOR
Fish and Wildlife Service
Office of Migratory Bird
Management
Laurel, Maryland 20708

POSTAGE AND FEES PAID
DEPARTMENT OF THE INTERIOR
INT 423



Bird Banding Laboratory U.S. Fish
and Wildlife Service
Office of Migratory Bird Management
Laurel, Maryland 20708

ATTN: Bander Corr. Clerk

Figure 4-7. Banding Data Request Card - FRONT

File Ref.	Date sent	Band #
Issued to:		
Name		Permit Number
PLEASE COMPLETE AND RETURN IMMEDIATELY		
		Check One
1. This band is still in my possession. The number as reported must be in error		<input type="checkbox"/>
2. I do not have this band on hand nor can I account for its usage.		<input type="checkbox"/>
3. Data are noted below. A schedule has been submitted		<input type="checkbox"/>
4. Data are noted below. A schedule has not been submitted.		<input type="checkbox"/>
Common name	AOU #	Status
		Add Info
		Age
		Sex
		Reg
		Date Banded
Lat. -Long.	Location - (local area, mileage and direction from nearest town, State)	

Form 3-860a
(Rev. May 1974)

Form Approved
Budget Bureau No. 42-R1494

UNITED STATES
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Office of Migratory Bird Management
Laurel, Maryland 20708

POSTAGE AND FEES PAID
DEPARTMENT OF THE INTERIOR
INT 423






Figure 4-7. Banding Data Request Card - BACK

Certificate of Appreciation
Awarded To

NAME OF BIRDER: _____
LOCALITY: _____
BAND NUMBER: _____
AGE OF BIRD: _____
BANDING DATE: _____
BANDING LOCATION: _____
RECOVERY DATE: _____
RECOVERY LOCATION: _____

ON BEHALF OF PROFESSIONAL AND AMATEUR BIRD BANDERS THROUGHOUT NORTH AMERICA, THANK YOU FOR REPORTING THE BAND NUMBER AND RECOVERY DATE OF THE BIRD. YOUR REPORT WILL BECOME PART OF THE PERMANENT FILES OF THE BIRD BANDING LABORATORY.

LEGEND

- 1 The band number reported by the person who submitted the report
- 2 The interpretation of the sex code extracted from the bander's schedule
- 3 The interpretation of the AOP (species) code extracted from the bander's schedule
- 4 The "banding location" determined by comparing the coordinates provided by the bander with the computer's "geotree" file (see Part 4, para. 5.11)
- 5 The date the bird was banded (or released) as reported on the banding schedule
- 6 The current name, address and postal code of the person who banded the bird. This information is extracted by comparing the permit number from the bander's schedule with our machine name and address file. If the bander moves between the time the bird is banded and the time it is encountered, the person receiving the "Certificate" will be provided with the bander's current address.
- 7 These are the "age" code definitions to be used as of October 1, 1983:

Age	Cycle	Message to appear on "Certificate of appreciation"
U	0	It was hatched in _____ or earlier.
A or A/HY	1	It was hatched in _____ or earlier.
I or I/HY	2	It was hatched in _____ or earlier.
J	3	It was hatched in _____ or earlier.
N or L	4	It was two young to fly when banded in _____ or earlier.
S or SY	5	It was hatched in _____ or earlier.
ASV	6	It was hatched in _____ or earlier.
TY	7	It was hatched in _____ or earlier.
ATV	8	It was hatched in _____ or earlier.

These translations do not precisely coincide with the actual age of the bird (see Part 5, paras. 10 to 14 inclusive and Figure 5.11).
- 8 The location and date of encounter as described by the person who reported the band.
- 9 The file reference ("Batch") number indicates where the letter reporting the encounter is filed in the Bird Banding Laboratory. It is necessary to have both the band number and the "File Reference" number to locate these source documents.
- 10 Name and address of the person to whom the "certificate" is being mailed.

Figure 4-8 (sheet 1 of 2). "Certificate of appreciation" - FRONT

North American Bird Banding

The information on the front of this Certificate was printed by a computer. PLEASE CHECK THIS INFORMATION VERY CAREFULLY.

About 34 million birds have been banded in North America through 1976. Nearly 2 million bands have been recovered and reported. These reports provide information on migration routes, survival rates, harvest patterns of game species, behavior and other aspects important to the study and management of bird populations.

Banding and band recovery data analysis is important in developing migratory game bird hunting regulations. Banded birds are marked samples of populations. If the sampling is representative, the characteristics of the banded sample will reflect those of the sampled population.

Bird Banding in North America is under the general direction of the U.S. Fish and Wildlife Service and the Canadian Wildlife Service. Cooperative support is given by the Mexican Fauna Silvestre, State and Provincial wildlife departments, universities and many private citizens. However, the most important partner in this cooperative venture is you, the person who voluntarily reported a recovered band. Thank you for your help.

Les renseignements à la première page de ce certificat ont été imprimés par un ordinateur. VEUILLEZ VERIFIER CES RENSEIGNEMENTS TRES ATTENTIVEMENT.

34 millions d'oiseaux environ ont été bagués en Amérique du Nord en 1976. Presque deux millions de bagues ont été retrouvées et rapportées. Ceci nous a donné des renseignements sur les routes de migration, le taux de survivance, les modèles de récolte des espèces de gibier à plumes, de leur comportement et d'autres aspects importants pour l'étude et l'exploitation des populations d'oiseaux. Si l'échantillonnage est représentatif, les caractéristiques des échantillons bagués refléteront ceux de la population échantillonnée.

Le droit de baguer les oiseaux en Amérique du Nord dépend de la direction générale du Service des Poissons et de la Faune des Etats-Unis, et du Service Canadien de la Faune, La Faune Sylvestre du Mexique, les Services de la Faune des Etats et des Provinces, des universités et de nombreux simples citoyens coopèrent à cette entreprise.

Cependant, le partenaire le plus important dans cette aventure de coopération, c'est vous, vous qui signalez volontairement une bague que vous avez retrouvée.

Tous mes remerciements pour votre aide.

La información al frente de este Certificado fue impresa por computadora. POR FAVOR VERIFIQUE ESTA INFORMACION MUY CUIDADOSAMENTE.

Aproximadamente 34 millones de aves han sido anilladas en América del Norte a través de 1976. Casi 2 millones de anillos han sido recuperados y reportados. Estos informes suplen información sobre rutas migratorias, tasa de sobrevivencia, patrón de captura de especies de caza, conducta y otros aspectos importantes para el estudio y manejo de las poblaciones de aves.

El análisis de información sobre anillar y el recuperar los anillos es importante en el desarrollo de regulaciones de caza para aves de caza migratorias. Las aves anilladas son muestras marcadas de poblaciones más extensas. Si las muestras son representativas, las características de las muestras anilladas reflejarán aquellas de la población marcada.

El Anillado de Aves en América del Norte está bajo la dirección general del Servicio de Pesca y Fauna de Estados Unidos y el Servicio Canadiense de Fauna. Apoyo cooperativo es aportado por los departamentos Estatales y Provinciales mexicanos de Fauna Silvestre, universidades y numerosos ciudadanos. Sin embargo, el factor más importante en este esfuerzo cooperativo es Ud., la persona que voluntariamente reportó el hallazgo de un anillo. Muchas gracias por su ayuda.

Figure 4-8 (sheet 2 of 2). "Certificate of appreciation" - BACK

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
REPORT TO BANDER																	
DATE 06 08 84																	
PAGE 1																	
PERMIT # 09432 BANDERS NAME KLIMKIEWICZ M KATHLEEN																	
REPORTED # ORIGINAL # REC DATE HOW WHO PC WHY BATCH REC REG LAT LONG D ADU STA I A S BND REG LAT LONG D BND DATE CYC PRO																	
1363-95502 04 28 84 21 21 03 01 27991 668 453 0744 0 3320 3000 06 5 146 390 0764 0 04 04 82 2184																	
ENC LOC: L'ORIGINAL ON ENC BY ROBERT LABELLE																	
(19) L'ORIGINAL ONTARIO CANADA																	
0840-29246 04 20 84 13 21 05 01 27999 146 390 0763 0 5170 3000 01 4 146 390 0763 0 12 13 80 2284																	
ENC LOC: CROWNSVILLE MD ENC BY RAYMOND FREDERICK																	
CROWNSVILLE MD 21032																	
0921-75096 05-05 84 13 21 03 01 27999 146 390 0763 0 6110 3000 04 0 146 390 0762 0 07 16 82 2284																	
ENC LOC: ARNOLD MD ENC BY ETHEL FORLIFER																	
505 BROADWATER RD ARNOLD MD 21012																	
TOTAL RECORDS LISTED FOR BANDER 3																	

LEGEND

1 This is usually the same band number described in Figure 4-8, item 1. However, if the original band number has been replaced, this will be the number carried by the bird and the one reported to the Banding Laboratory.

2 The original band number (see item 1 above). (This will be blank if the original and reported numbers are the same.)

3 The date the band was reportedly encountered. See Part 5, para 17 and Figure 5-17 for the interpretation of the "exact date" codes.

4 "How obtained" code (see Part 5, para 16 and Figure 5-16).

5 "Who reported" code (see Part 5, para 14 and Figure 5-21).

6 "Present condition" code (see Part 5, para 12 and Figure 5-13).

7 "Why reported" code (see Part 5, para 14-15 and Figure 5-15).

8 Batch number. This is the same number that appears as a "file reference" number on the "Certificate of appreciation." It is further explained under item 9 of Figure 4-8.

9 "Region" code (see Part 5, para 8 and Figure 5-6 to 5-9).

10 "Lat-Long" code. These codes refer to the co-ordinates of the encounter location (see Part 5, paras 9, 10, 11, and Figures 5-10 to 5-12).

11 Dir. The "Direction" codes indicate the quadrants within which the banding or encounter occurred (see Part 5, para 10).

12 Species number (see Part 5, Figure 5-1 and 5-1a).

13 Status (see Part 5, para 4 and Figures 5-2 and 5-3).

14 Age (see "Year class" codes in Part 5, paras 5 and 6 and Figure 5-4).

15 Sex (see Part 5, Figure 5-5).

16 Region, Latitude, Longitude, and Direction of banding (see items 9, 10, and 11 above).

17 Date banded.

18 Cycle processed. The periodic cycle in that calendar year that the recovery was processed into the RII system.

19 Location.

20 Name and address of the person who reported the encounter.

Figure 4-9. Report to the Bander

PART 5**CODES****INTRODUCTION**

1. Part 5 contains the codes that banders should consult when completing their banding schedules. These include both the numeric and alpha codes for species, status and additional information codes and age, sex and region codes. The output received when banding and/or recovery data are requested from the Banding Offices, is presented using these codes plus others that give information on date and location of recovery, region and quadrisphere of recovery, how obtained, why and who reported, present condition of the bird and band number and number of hunting seasons survived after being banded.
2. Some records in the files contain old codes that are now obsolete. These codes are included so that investigators can interpret data extracted from the files. They are NOT TO BE USED on schedules submitted to the Bird Banding Offices.

SPECIES NUMBER, ALPHA CODES AND RECOMMENDED BAND SIZES

3. Common names were used with species numbers on the banding schedules until September 1, 1988. Banders are now required to use alpha codes with species numbers. Figure 5-1 is an index used to locate the major bird groups in Figure 5-1a. Figure 5-1a provides the bander with the species number, alpha code and most appropriate band size for each species.

STATUS AND ADDITIONAL INFORMATION CODES

4. The code under the heading "STATUS" on the banding schedules contains 3 digits. The first digit provides the status of the bird (Figure 5-2) and the other two digits provide additional information (Figure 5-3). If in doubt as to which code to use, leave blank and explain in the "Remarks" section on the back of the schedule so that the Bird Banding Laboratory personnel can fill-in the proper code.

YEAR CLASS (AGE) CODES

5. It is difficult to develop a system for coding the age of birds based on "bird years" (breeding season to breeding season). Effective July 1, 1967, a revised system of age codes based upon the calendar year was established. Each time a bird passes December 31, it graduates into the next higher year class. Thus, in January, a bird hatched the previous June would be in its second calendar year, although it is actually only seven months old.
6. The "Year Class" codes used in conjunction with techniques for aging birds will enable banders to record the "year class" of some species through their first 3 calendar years. If age determination techniques are less precise, this system of codes will also enable banders to indicate birds that are AT LEAST "X" years old but perhaps older (codes "AHY", "ASY", or "ATY"). The codes and their definitions are shown in Figure 5-4. (For obsolete age codes see Figure 5-19.)

SEX CODES

7. See Figure 5-5.

REGION CODES

8. The region code consists of three digits, comprising one digit for flyway and two unique digits for the specific area (state, province, or country). Thus, it is possible to extract data on the basis of flyway, specific area, or flyway plus specific area. Refer to Figures 5-6 to 5-9 inclusive. Note that Colorado, Montana and Wyoming flyway boundaries are not exactly the same as boundaries identified in hunting regulations.

MEXICAN COORDINATES AND STATE CODES

9. In the past, coordinates for Mexican bandings and encounters were not entered into the files. As of June 1, 1989, bandings and encounters in Mexico will be processed using exact coordinates when possible. If not, the three-digit State code, occupying the last three columns of the longitude field, will be used when in addition to region code 748 for the Republic of Mexico (Figure 5-10).

COORDINATES AND DIRECTION CODES

10. The location where a bird is banded, or subsequently encountered, is defined by the 10-minute block of latitude and longitude. For example, 48° 34'N, 113° 49'W would be reduced to 483-1134. In North and Central America, the coordinates of the southeast corner of the 10-minute block are used, but different corners are used in other sections of the world (Figure 5-11).

INEXACT COORDINATES CODES

11. Sometimes it is impossible to narrow the banding or recovery location to a single 10-minute block. The codes, listed in Figure 5-12, have been adopted to indicate this situation.

PRESENT CONDITION OF BIRD AND BAND CODES

12. These codes are intended to provide information concerning the condition and disposition of the bird and band at the time of encounter (Figure 5-13). Use of these codes by the Bird Banding Laboratory began on September 1, 1965. They are used in conjunction with the "How Obtained" codes.

WHO REPORTED CODES

13. The revised codes listed in Figure 5-14 are effective September 1, 1972 (for obsolete "Who Reported" codes see Figure 5-21).

WHY REPORTED CODES

14. These codes describe who took the initiative in reporting a band. They are especially useful in the analysis of game bird banding data.

15. Six "Why Reported" codes (Figure 5-15) were first used on September 1, 1965. These proved impractical and were reduced to the three codes listed in Figure 5-14 on September 1, 1971. The six codes used between 1965 and 1971 were converted to the present format in August, 1972. Obsolete codes 03, 04 and 05 have been consolidated with 02.

HOW OBTAINED CODES

16. These codes describe the circumstances surrounding the encounter of a bird or band. As requirements change, new codes are added or existing codes are discontinued or modified. Since data with the old codes are still in the files, analysts should be aware of the dates they were changed and their definitions, see Figure 5-16.

INEXACT DATE CODES

17. These codes are used primarily for coding encounters when exact dates cannot be obtained. Banders should rarely need to use them. See Figure 5-17.

HUNTING SEASONS SURVIVED CODE

18. This code is used in encounter data to indicate the number of hunting seasons experienced by a game bird after it was banded. Although the number of seasons may be roughly equivalent to the age of the bird in years if it was banded as an HY or L, one cannot assume that they are equal. For example, a bird banded in October 1988 and shot in October 1989 would have experienced (but not necessarily survived) two hunting seasons.

The hunting season survived code is calculated as follows:

- (a) for birds recovered January 1 through July, it is computed as the difference between the year banded and the year recovered;
- (b) for birds recovered August 1 through December, it is computed as the difference between the year of banding and recovery plus 1;
- (c) for birds recovered with letter dates (day code 51-81), or "how obtained" codes 50, 56 and 98, no calculation of "hunting season survived" code can be made; a value of 99 is assigned to these records; and
- (d) for birds recovered with some inexact date codes (e.g. "summer" or "winter"), no calculation can be made and a value of 98 is assigned to the recovery record.

BAND TYPE AND MATERIAL CODES

19. Banding and encounter data reflect not only the longevity of birds but also the characteristics and lifespan of the bands themselves. It is important, therefore, to provide information concerning the type of band and material.

20. Two single-digit codes have been adopted; the first identifies the type of metal and the second the type of band. They are shown on the "Report to the Bander" (Figure 4-9) and in data extracted from the data retrieval files. The data in Figure 5-18 are provided for translating these codes.

DAY CODES (Banding Summary Records only)

21. These codes are determined automatically when individual banding records are summarized for the data retrieval files. A day code of 1 indicates the birds were banded during the first five days of the month, day code 2 during the second five days, and so on. A day code 0 indicates the day of banding was unknown or that the code was not calculated (previous to 1961).

PREFIX CODE (Banding Summary Records only)

22. When detailed banding records are summarized for the data retrieval files (see Part 6), only the first 5 digits of the band number are retained. For example, band numbers 1237-10000 through 19999 appear in the summary record (Figure 6-1) as prefix code 12371. Pre-1960 summarized banding records contain only an index number in columns 37-38, used at the Bird Banding Laboratory to locate the old style schedules.

OBSOLETE AGE CODES

23. These codes were used prior to July 1, 1967 (Figures 5-19, 5-20). The expanded "year classes" presently used are as compatible as possible with these old codes. DO NOT use these old codes when completing schedules.

OBSOLETE WHO REPORTED CODES

24. These codes became obsolete August 31, 1972. Before that date, the first column of the prefix of the "Banding Summary Record" inconsistently carried the codes shown in Figure 5-21.

BATCH CODE (Recovery Retrieval Records Only)

25. Each letter or recovery report is processed in a batch of approximately 100 reports and assigned a batch number. This number is used to locate original or microfilmed reports for future reference.

PART 5

Replaces p. 5-5 to 5-46

Species	Lowest Species Number
Loons, Grebes	001.0
Albatrosses	081.0
Shearwaters, Fulmars	086.0
Storm-Petrels	103.0
Tropicbirds	112.0
Boobies, Gannets	114.0
Pelicans	125.0
Cormorants, Anhinga	118.0
Frigatebirds	128.0
Hérons, Bitterns	190.0
Ibises, Spoonbills	183.0
Storks	188.0
Flamingos	182.0
Swans, Geese, Ducks	129 0
Hawks, Eagles, etc	324.0
Rails, Gallinules, Coots	208.0
Limpkin	207.0
Cranes	204.0
Shorebirds	222.0
Jaegers, Skuas	035.0
Gulls, Terns	039.0
Skimmers	080.0
Auks, Murres, Puffins	012.0
Pigeons, Doves	312.0
Cuckoos, Arris, Parrots	381.1
Owls	365.0
Goatsuckers	416.0
Swifts	422.0
Hummingbirds	426.0

Figure 5-1 (sheet 1 of 2)

Species	Lowest Species Number
Trogon	389.0
Kingfisher	390.0
Woodpecker	392.0
Cotinga	441.1
Tyrant Flycatcher	442.0
Lark	473.0
Swallow	611.0
Jay, Magpie, Crow	475.0
Titmouse	731.0
Nuthatch	727.0
Creeper	726.0
Bulbul	726.1
Wren	713.0
Dipper	701.0
Gnatcatcher, Kinglet	747.0
Thrasher	754.0
Wren-tit	742.0
Mockingbird, Thrasher	702.0
Wagtail, Pipit	694.0
Waxwing	618.0
Silky Flycatcher	620.0
Shrike	621.0
Starling	493.0
White-eye	622.6
Hawaiian Honeycreeper	782.0
Honeycreeper	635.0
Vireo	623.0
Wood Warbler	636.0
Tanager	607.0
Finch, Sparrow	514.0
Blackbird	494.0
Weaver Finch	688.2
Estrildid	805.0
<i>Special Lists</i>	
West Indian Species	900.0
Antarctic Species	850.0

Figure 5-1 (sheet 2 of 2)

Species Numbers, Alpha Codes and Recommended Band Sizes

Taxonomic revisions by the American Ornithologist Union (AOU) have resulted in many changes in bird classification over the past several decades. The Banding Offices acknowledge these changes and use the common names and species numbers assigned by the AOU. However, we have maintained the common names and species numbers where the AOU has combined formerly acknowledged species. For some of these species, there is an "unidentified" category, to be used *only for truly Unidentifiable or Intergrade individuals* — not in place of subspecific designation. The taxa for which we have included formerly recognized species are: Townsend's Shearwater, Green-winged Teal, Snow Goose, Canada Goose, Brant, Tundra Swan, Great Blue Heron, Red-tailed Hawk, Northern Flicker, Savannah Sparrow, Seaside Sparrow, White-crowned Sparrow, Dark-eyed Junco, Yellow-rumped Warbler, Palm Warbler and Tufted Titmouse. Please be sure to acknowledge the appropriate subspecies when reporting these species. These are identified with "S" in the following list.

Species Number **	Common Name *	Alpha Code**	Band Size ***
001.0	Western Grebe	WEGR	7A-7B
001.1	Clark's Grebe	CLGR	7A-7B
002.0	Red-necked Grebe	RNGR	7A
003.0	Horned Grebe	HOGR	6 - 5
004.0	Eared Grebe	EAGR	5
005.0	Least Grebe	LEGR	4
006.0	Pied-billed Grebe	PBGR	5 - 6
007.0	Common Loon	COLO	8 - 9
008.0	Yellow-billed Loon	YBLO	9
009.0	Arctic Loon	ARLO	7B
010.0	Pacific Loon	PALO	7B
011.0	Red-throated Loon	RTLO	7B
012.0	Tufted Puffin	TUPU	6 - 5
013.0	Atlantic Puffin	ATPU	5
014.0	Horned Puffin	HOPU	5
015.0	Rhinoceros Auklet	RHAU	5 - 6
016.0	Cassin's Auklet	CAAU	3B-3A
017.0	Parakeet Auklet	PAAU	4
018.0	Crested Auklet	CRAU	4
019.0	Whiskered Auklet	WHAU	3
<p>* Scientific names are provided only for those species not listed in the "AOU checklist" 6th ed, 1983 or for species of unusual occurrence.</p> <p>** Alpha code is to be used on schedule (Form 3-860) in place of Common Name. Species number (including leading zero) is to be used on schedule. The fourth digit needs, to be used only if it is not 0.</p> <p>*** When more than one band size is indicated, the first is normally the most commonly used Adjustments must sometimes be made for geographical, sex and age differences.</p>			

Figure 5-la (sheet 1 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes.

Species Number	Common Name	Alpha Code	Band Size
020.0	Least Auklet	LEAU	2 - 3
021.0	Ancient Murrelet	ANMU	3 B - 3
T 023.0	Marbled Murrelet	MAMU	3 B - 3
023.1	Long-billed Murrelet	LBMU	3 B - 3
024.0	Kittlitz's Murrelet	KIMU	3B
025.0	Xantus' Murrelet	XAMU	2
026.0	Craven's Murrelet	CRMU	2
027.0	Black Guillemot	BLGU	4
029.0	Pigeon Guillemot	PIGU	4A
030.0	Common Murre	COMU	6M
031.0	Thick-billed Murre	TBMU	6 M - 5 R
032.0	Razorbill	RAZO	5R
034.0	Dovekie	DOVE	3
035.0	Great Skua	GRSK	7 A - 7 B
035.2	South Polar Skua	SPSK	7 A - 7 B
036.0	Pomarine Jaeger	POJA	5
037.0	Parasitic Jaeger	PAJA	4A
038.0	Long-tailed Jaeger	LTJA	4 A - 4
039.0	Ivory Gull	IVGU	4
039.1	Magellan Gull	MAGU	5
040.0	Black-legged Kittiwake	BLKI	4A
041.0	Red-legged Kittiwake	RLKI	4A
042.0	Glaucous Gull	GLGU	7 A - 6 *
043.0	Iceland Gull	ICGU	6
043.1	Thayer's Gull	THGU	6
044.0	Glaucous-winged Gull	GWGU	7A
044.6	Hybrid Gull	HYGU	6
047.0	Great Black-backed Gull	GBBG	7 B - 7 A
048.0	Slaty-backed Gull	SBGU	7A
049.0	Western Gull	WEGU	6
049.1	Yellow-footed Gull	YFGU	6
050.0	Lesser Black-backed Gull	LBBG	6
051.0	Herring Gull	HERG	6
053.0	California Gull	CAGU	5
053.4	Unidentified Gull	UNGU	5 - 4 A
054.0	Ring-billed Gull	RBGU	4A
<i>"T" or "E" Threatened or Endangered species in all or part of range (U.S.). Please do not include the T or E on schedules.</i> <i>* Size 6 is the preferred size for the northern subspecies, Barrovanus</i>			

Figure 5-1a (sheet 2 of 30)

Species Number	Common Name	Alpha Code	Band Size
054.2	Band-tailed Gull	BTGU	5
055.0	Mew Gull	MEGU	4A
055.1	Black-headed Gull	BHGU	5
057.0	Heermann's Gull	HEEG	4A
058.0	Laughing Gull (Northern <i>pop.</i> requires largest size)	LAGU	4 A - 4 - 5 *
059.0	Franklin's Gull	FRGU	4
060.0	Bonaparte's Gull	BOGU	3 - 3 B
060.1	Little Gull	LIGU	3
061.0	Ross' Gull	ROGU	3
062.0	Sabine's Gull	SAGU	3
063.0	Gull-billed Tern	GBTE	3B
064.0	Caspian Tern	CATE	5 - 4 A
065.0	Royal Tern	ROYT	4A
065.2	Crested Tern	CRTE	3 - 3 A
066.0	Elegant Tern	ELTE	3
067.0	Sandwich Tern	SATE	3B
067.1	Cayenne Tern	CAYT	3B
069.0	Forster's Tern	FOTE	3
070.0	Common Tern	COTE	2
070.6	Hybrid Tern	HYTE	Band size varies
071.0	Arctic Tern	ARTE	2 - 1 A
T E 072.0	Roseate Tern	ROST	2
072.5	Hybrid Common & Roseate Tern	HCRT	2
073.0	Aleutian Tern	ALTE	2 - 1A
073.1	Black-naped Tern	BNTE	2
E 074.0	Least Tern	LETE	1 A - 1 B
074.1	Little Tern	LITE	1A
075.0	Sooty Tern	SOTE	3
076.0	Bridled Tern	BRTE	2 - 3 ◇
076.1	Gray-backed Tern	GRAT	2
077.0	Black Tern	BLTE	2 - 1A
078.0	White-winged Tern	WWTE	2
079.0	Brown Noddy	BRNO	3
079.1	Black Noddy	BLNO	2 - 3
079.2	Blue-gray Noddy	BGNO	2
079.3	White Tern	WHITE	2
* Northern population required largest size. ◇ Band size 3 for southern Caribbean population.			

Figure 5-1a (sheet 3 of 30)
List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
080.0	Black Skimmer	BLSK	4
081.0	Black-footed Albatross	BFAL	7B
081.1	Wandering Albatross	WAAL	8
081.6	Hybrid Albatross	HYAL	7 B - 8
E 082.0	Short-tailed Albatross	STAL	8
082.1	Laysan Albatross	LAAL	7B
082.2	Black-browed Albatross	BBAL	8
082.3	Shy Albatross	SHAL	8
083.0	Yellow-nosed Albatross	YNAL	8
086.0	Northern Fulmar	NOFU	6
088.0	Cory's Shearwater	COSH	4
088.1	Streaked Shearwater	STRS	3B
089.0	Greater Shearwater	GRSH	6
090.0	Manx Shearwater	MASH	4 A - 4
091.0	Pink-footed Shearwater	PFSH	4
092.0	Audubon's Shearwater	AUSH	3 A - 3 B
092.1	Little Shearwater	LISH	4
093.0	Black-vented Shearwater	BVSH	4
			-
S 093.1	Townsend's Shearwater	TOSH	4
T S 093.2	Newell's Shearwater	NESH	4
095.0	Sooty Shearwater	SOSH	4 - 5
095.1	Flesh-footed Shearwater	FFSH	4
096.0	Short-tailed Shearwater	SHOS	4
096.1	Wedge-tailed Shearwater	WTSH	5 - 4 A
096.2	Buller's Shearwater	BULS	4
096.3	Christmas Shearwater	CHSH	4A
098.0	Black-capped Petrel	BCPE	3
098.3	Cook's Petrel	COPE	3
E 098.5	Dark-rumped Petrel	DRPE	4 - 3 A
098.8	Phoenix Petrel	PHPE	4 - 3 A
099.0	Mottled Petrel	MOPE	3
099.1	Bonin Petrel	BOPE	3 - 2
100.1	Murphy's Petrel	MUPE	3
101.0	Bulwer's Petrel	BUPE	2 - 3
102.0	Cape Petrel	CAPE	4
"S" BBO recognizes subspecies ensure correct Common Name appears on schedules. Please do not include the "S" on schedule.			

Figure 5-1a (sheet 4 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Number
103.0	Least Storm-Petrel	LTSP	1B
105.0	Fork-tailed Storm-Petrel	FTSP	1B
106.0	Leach's Storm-Petrel	LHSP	1B
106.2	Band-rumped Storm-Petrel	BSTP	2
106.3	Wedge-rumped Storm -Petrel	WRSP	1B
107.0	Black Storm-Petrel	BLSP	1A
107.1	Tristram's Storm-Petrel	TRSP	2
108.0	Ashy Storm-Petrel	ASSP	1B
109.0	Wilson's Storm-Petrel	WISP	1A- 1B
110.1	White-throated Storm-Petrel	WHSP	2 - 3
111.0	White-faced Storm-Petrel	WFSP	3
♦ 112.0	White-tailed Tropicbird	WTTR	4 - 3A -3B - 3
113.0	Red-billed Tropicbird	RBTR	4A
113.1	Red-tailed Tropicbird	RTTR	5 *
114.0	Masked Booby	MABO	7 B - 8
114.1	Blue-footed Booby	BFBO	7 A - 7 B
115.0	Brown Booby	BRBO	7B
116.0	Red-footed Booby	RFBO	7 B - 7 A
117.0	Northern Gannet	NOGA	8A - 8 - 9
118.0	Anhinga	ANHI	8
119.0	Great Cormorant	GRCO	8
120.0	Double-crested Cormorant	DCCO	8 - 7 B
120.1	Guanay Cormorant	GUCO	8
121.0	Neotropic Cormorant	NECO	7A
122.0	Brandt's Cormorant	BRAC	8
123.0	Pelagic Cormorant	PECO	7 B - 7 A
124.0	Red-faced Cormorant	RFCO	8
* 125.0	American White Pelican	AWPE	9 - 9 C
E 126.0	Brown Pelican	BRPE	8 A - 9 - 8
** 128.0	Magnificent Frigatebird	MAFR	7 B - 7 A
** 128.1	Great Frigatebird	GRFR	7B - 7A
** 128.2	Lesser Frigatebird	LEFR	7A
129.0	Common Merganser	COME	7A
130.0	Red-breasted Merganser	RBME	6 - 5
<p>* 9C on nestlings (L) and larger adults.</p> <p>** Order only 7A or 7B short for frigatebirds, Standard bands are too tall and can damage the tarsus.</p> <p>♦ Size may be too large for some White-tailed Tropicbirds, bands size 3A, 3B or even may be appropriate.</p>			

Figure 5-1 a (sheet 5 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Revised May 1998

Species Number	Common Name	Alpha Code	Band Size
131.0	Hooded Merganser	HOME	5 - 6
132.0	Mallard	MALL	7A
E 132.1	Hawaiian Duck	HAWD	6
E 132.2	Laysan Duck	LADU	5
132.6	Mallard x Black Duck Hybrid	MBDH	7A
133.0	American Black Duck	ABDU	7A
133.1	Mexican Duck	MEDU	7A
134.0	Mottled Duck	MODU	7A
135.0	Gadwall	GADW	6
136.0	Eurasian Wigeon	EUWI	6
137.0	American Wigeon	AMWI	6
137.1	Falcated Duck	FADU	4A
S 138.0	Eurasian Green-winged Teal	EGWT	4 - 4 A
S 139.0	American Green-winged Teal	AGWT	4 - 4 A
139.1	Baikal Teal	BATE	4A
139.2	Garganey	GARG	4A
140.0	Blue-winged Teal	BWTE	M 5 - 4A F 4 A - 5
140.1	Unidentified Teal	UNTE	5 - 4 A
141.0	Cinnamon Teal	CITE	5 - 4 A
142.0	Northern Shoveler	NSHO	5 - 6
143.0	Northern Pintail	NOPI	6
143.1	White-cheeked Pintail	WHIP	5
* 143.6	Other Hybrid Duck	OHDU	4 to 7 A
144.0	Wood Duck	WODU	6 - 5
146.0	Redhead	REDH	6
146.1	Common Pochard	CPOC	6 - 7 A
147.0	Canvasback	CANV	7A
148.0	Greater Scaup	GRSC	6 - 5
149.0	Lesser Scaup	LESC	6 - 5
149.1	Tufted Duck	TUDU	5
150.0	Ring-necked Duck	RNDU	6
151.0	Common Goldeneye	COGO	6
152.0	Barrow's Goldeneye	BAGO	7A
153.0	Bufflehead	BUFF	5
154.0	Long-tailed Duck	LTDU	5 - 6
155.0	Harlequin Duck	HARD	5
^x Other Hybrid Ducks require band sizes worn by all species of ducks, bander determines appropriate size for each bird.			

Figure 5-1a (sheet 6 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
157.0	Steller's Eider	STEI	6 - 7 A
E 158.0	Spectacled Eider	SPEI	7 A - 6
159.0	Common Eider	COEI	7 A - 7 B
162.0	King Eider	KM	7 A - 6
163.0	Black Scoter	BLSC	7A
165.0	White-winged Scoter	WWSC	7A
166.0	Surf Scoter	SUSC	7A
167.0	Ruddy Duck	RUDU	M 7 A F 6
168.0	Masked Duck	MADU	5
S 169.0	Lesser Snow Goose (White phase)	LSGO	7B
S 169.1	Lesser Snow Goose (Blue phase)	BLGO	7B
S 169.5	Lesser Snow Goose (Intermediate phase)	SBGI	7B
S 169.8	Greater Snow Goose (Blue phase)	BGSG	7B
S 169.9	Greater Snow Goose	GSGO	7B
170.0	Ross' Goose	ROGO	7B
170.3	Snow x Ross' Goose Hybrid	SRGH	7B
171.0	Greater White-fronted Goose	GWFG	7 B - 8
171.1	Bean Goose	BEGO	7 B - 8
171.2	Pink-footed Goose	PFGO	7B
171.3	Lesser White-fronted Goose	LWFG	7A
171.6	Other Hybrid Goose	OHGO	8 - 7 B
S 172.0	Canada Goose	CAGO	8
T S 172.1	Aleutian Canada Goose	ACGO	7B
S 172.2	Cackling Goose	CACG	7A
172.3	Large Canada Goose	LCGO	8
S 172.9	Small Canada Goose (parvipes & hutchinsii)	SCGO	7B
S 173.0	Atlantic Brant	ATBR	7B
S 173.1	Black x Atlantic Brant Intermediate	BABI	7 A - 7 B
S 174.0	Black Brant	BLBR	7A
175.0	Barnacle Goose	BRNG	7B
E 175.1	Hawaiian Goose	HAGO	7 B - 8
176.0	Emperor Goose	EMGO	7B
177.0	Black-bellied Whistling-Duck	BBWD	7A
177.1	West Indian Whistling-Duck	WIWD	7 B - 8
178.0	Fulvous Whistling-Duck	FUWD	7 A - 6
178.2	Mute Swan	MUSW	9C
S 179.0	Whooper Swan	WHOS	9
S 180.0	Whistling Swan	WHSW	9

Figure 5-1 a (sheet 7 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Revised May 1998

Species Number	Common Name	Alpha Code	Band Size
180.1	Bewick's Swan	BESW	9
181.0	Trumpeter Swan	TRUS	9 - 9 C
182.0	Greater Flamingo	GREF	8
183.0	Roseate Spoonbill	ROSP	7B
184.0	White Ibis	WHIB	6 - 7 A
185.0	Scarlet Ibis	SCIB	6
186.0	Glossy Ibis	GLIB	6
187.0	White-faced Ibis	WFIB	6
E 188.0	Wood Stork	WOST	8
190.0	American Bittern	AMBI	F6 - M7A
191.0	Least Bittern	LEBI	4
S 192.0	Great White Heron	GWHE	8
S 194.0	Great Blue Heron	GBHE	7B
196.0	Great Egret	GREG	7 A - 7 B
196.9	Reef Heron	REHE	7A
197.0	Snowy Egret	SNEG	6
198.0	Reddish Egret	REEG	7A
199.0	Tricolored Heron	TRUE	6
200.0	Little Blue Heron	LBHE	6
200.1	Cattle Egret	CAEG	6
201.0	Green Heron	GRHE	5
202.0	Black-crowned Night-Heron	BCNH	7A
203.0	Yellow-crowned Night-Heron	YCNH	7A
E 204.0	Whooping Crane	WHCR	9
E 206.0	Sandhill Crane	SACR	8 - 9
207.0	Limpkin	LIMP	6
208.0	King Rail	KIRA	5
E 2 1 1 . 0	Clapper Rail	CLRA	5
* 212.0	Virginia Rail	VIRA	2 - 3
213.1	Yellow-breasted Crake	YBCR	3 - 2
* 214.0	Sora	SORA	2
215.0	Yellow Rail	YERA	2
216.0	Black Rail	BLRA	2 - 1A
218.0	Purple Gallinule	PUGA	4 - 5
219.0	Common Moorhen	COMO	5 - 6
219.1	Hawaiian Moorhen	HAMO	5 - 6
^x Band above the tarsometatarsal joint only.			

Figure 5-1a (sheet 8 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
E 220.1	Hawaiian Coot	HACO	6 - 5
221.0	American Coot	AMCO	6
221.1	Caribbean Coot	CARC	6 - 5
222.0	Red Phalarope	REPH	1A
223.0	Red-necked Phalarope	RNPH	1B
224.0	Wilson's Phalarope	WIPH	1 A - 2
* 225.0	American Avocet	AMAV	4 - 4 A
** 226.0	Black-necked Stilt	BNST	4 - 3 A
E * 226.1	Hawaiian Stilt	HAST	4
227.0	European Woodcock	EUWO	3
228.0	American Woodcock	AMWO	3
230.0	Common Snipe	COSN	3
231.0	Short-billed Dowitcher	SBDO	2
232.0	Long-billed Dowitcher	LBDO	2
233.0	Stilt Sandpiper	STSA	1A
234.0	Red Knot	REKN	2
235.0	Purple Sandpiper	PUSA	1 A
236.0	Rock Sandpiper	ROSA	2
238.0	Sharp-tailed Sandpiper	SHAS	1A
239.0	Pectoral Sandpiper	PESA	1A
240.0	White-rumped Sandpiper	WRSA	1 A - 1B
241.0	Baird's Sandpiper	BASA	1 B - 1A
242.0	Least Sandpiper	LESA	1 - 1B
242.2	Red-necked Stint	RNST	1 B - 1
243.0	Dunlin	DUNL	1 A - 1 B
244.0	Curlew Sandpiper	CUSA	1A
245.0	Spoonbill Sandpiper	SPOS	1A
246.0	Semipalmated Sandpiper	SESA	1B
247.0	Western Sandpiper	WESA	1B
248.0	Sanderling	SAND	1A
249.0	Marbled Godwit	MAGO	4
250.0	Bar-tailed Godwit	BARG	M 4 F 4 A
251.0	Hudsonian Godwit	HUGO	3A
252.0	Black-tailed Godwit	BLAG	4
254.0	Greater Yellowlegs	GRYE	3 - 3 B
255.0	Lesser Yellowlegs	LEYE	2
<i>*Band above the tarsometatarsal joint only</i> <i>** Band above the tarsometatarsal joint only, do not band chicks with 3A</i>			

Figure 5-1a (sheet 9 of 30)
 List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
256.0	Solitary Sandpiper	SOSA	1A
258.0	Willet	WILL	4
259.0	Wandering Tattler	WATA	3 - 2
260.0	Ruff	RUFF	3 B - 3
261.0	Upland Sandpiper	UPSA	3
262.0	Buff-breasted Sandpiper	BBSA	1A
263.0	Spotted Sandpiper	SPSA	1B - 1A
263.1	Common Sandpiper	COSA	1B - 1
264.0	Long-billed Curlew	LBCU	5 - 6
265.0	Whimbrel	WHIM	4
268.0	Bristle-thighed Curlew	BTCU	4A
269.0	Northern Lapwing	NOLA	5
269.1	Eurasian Dotterel	EUDO	1 B - 1 A
270.0	Black-bellied Plover	BBPL	3B
271.0	Eurasian Golden-Plover	EUGP	2 - 3
272.0	American Golden-Plover	AMGP	2 - 3
272.1	Pacific Golden-Plover	PAGP	2 - 3
272.9	Lesser Golden-Plover	LEGP	2 - 3
273.0	Killdeer	KILL	2
274.0	Semipalmated Plover	SEPL	1 A - 1 B
275.0	Common Ringed Plover	CRPL	1 A - 1 B
E 277.0	Piping Plover	PIPL	1 A - 1B
T * 278.0	Snowy Plover	SNPL	1P
279.0	Mongolian Plover	MONP	3
280.0	Wilson's Plover	WIPL	2 - 1 A
281.0	Mountain Plover	MOUP	2 - 3
282.0	Surfbird	SURF	2
283.0	Ruddy Turnstone	RUTU	2 - 3
			J
284.0	Black Turnstone	BLTU	2
286.0	American Oystercatcher	AMOY	5
287.0	American Black Oystercatcher	ABOY	5
288.0	Northern Jacana	NOJA	3A
312.0	Band-tailed Pigeon	BTPI	5
E 312.1	Plain Pigeon	PLPI	6 - 5
313.0	Red-billed Pigeon	RBPI	5
314.0	White-crowned Pigeon	WCPI	4A
314.1	Scaly-naped Pigeon	SNPI	5
* Specials 1P bands are available for Snowy Plovers in limited supply.			

Figure 5-1a (sheet 10 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
315.1	Spotted Dove	SPDO	4 - 3 A
315.2	Ringed Turtle-Dove	RITD	3A
315.3	Zebra Dove	ZEBD	3
315.4	White-throated Ground-Dove	WTGD	2
315.5	Marianas Fruit-Dove	MAFD	3
315.8	Philippine Turtle-Dove	PHTD	3
◊ 315.9	Eurasian Collared-Dove	ECDO	4A
316.0	Mourning Dove	MODO	3 A - 3 B
317.0	Zenaida Dove	ZEND	4
318.0	White-tipped Dove	WTDO	3A
318.1	White-bellied Dove	WBDO	3A
319.0	White-winged Dove	WWDO	4 - 3 A
320.0	Common Ground-Dove	COGD	2
320.1	Ruddy Ground-Dove	RUGD	2
321.0	Inca Dove	INDO	2 - 3
322.0	Key West Quail-Dove	KWQD	3 A - 4
322.1	Ruddy Quail-Dove	RUQD	4
322.2	Bridled Quail-Dove	BRQD	3 A - 4
E * 324.0	California Condor	CALC	8V
* 325.0	Turkey Vulture	TUVU	8V
* 326.0	Black Vulture	BLVU	8V
❖ 327.0	Swallow-tailed Kite	STKI	6
E ❖ 327.1	Hook-billed Kite	HBKI	6 - 7 A
❖ 328.0	White-tailed Kite	WTKI	6 - 5
❖ 329.0	Mississippi Kite	MIKI	5
E ❖ 330.0	Snail Kite	SNKI	6
❖ 331.0	Northern Harrier	NOHA	M 4 F 5
332.0	Sharp-shinned Hawk	SSHA	M 2 - 3 F 3 A - 3 B
❖ 333.0	Cooper's Hawk	COHA	M 4 F 5 - 6
❖ 334.0	Northern Goshawk	NOGO	M 6 F 7 A - 7 B
❖ 335.0	Harris' Hawk	HRSH	7 A - 7 B
S ❖ 337.0	Red-tailed Hawk	RTHA	7B - 7D - 7 A
S ❖ 338.0	Harlan's Hawk	HRLH	7B - 7 A
❖ 339.0	Red-shouldered Hawk	RSHA	6 - 7 A
❖ 340.0	Zone-tailed Hawk	ZTHA	7A
Do not band with service tarsus bands. ❖ These species should be banded only with lock-on bands except for small owls. ◊ Use short butt-end bands.			

Figure 5-1a (sheet 11 of 30)
 List of Species Numbers, Alpha Codes and Recommended Band Sizes

Revised May 1998

Species Number	Common Name	Alpha Code	Band Size
❖ 341.0	White-tailed Hawk	WTHA	7 A - 7 B
❖ 342.0	Swainson's Hawk	SWHA	7A
❖ 343.0	Broad-winged Hawk	BWHA	5 - 6
* ❖ 343.1	Roadside Hawk	ROHA	5
❖ 344.0	Short-tailed Hawk	STHA	6
E ❖ 344.1	Hawaiian Hawk	HWHA	7A
❖ 345.0	Common Black Hawk	CBHA	7 A - 6
❖ 346.0	Gray Hawk	GRHA	6 - 7 A
❖ 347.0	Rough-legged Hawk	RLHA	7 A - 7 B
❖ 348.0	Ferruginous Hawk	FEHA	7D - 8 - 7B
349.0	Golden Eagle	GOEA	9 (rivet only)
T E 352.0	Bald Eagle	BAEA	9 (rivet only)
❖ 354.0	Gyr Falcon	GYRF	7B
❖ 355.0	Prairie Falcon	PRFA	M 6 - 5 F 7 A - 6
T E ❖ 356.0	Peregrine Falcon	PEFA	M 6 F 7A - 7B
❖ 357.0	Merlin	MERL	M 3 A F 4
E ❖ 359.0	Aplomado Falcon	APFA	5
❖ 359.1	Eurasian Kestrel	EUKE	3 B - 4
360.0	American Kestrel	AMKE	3B
❖ 362.0	Crested Caracara	CRCA	M 7 A F 7 B
❖ 364.0	Osprey	OSPR	8
❖ 365.0	Barn-Owl	BNOW	6 - 7 A
❖ 366.0	Long-eared Owl	LEOW	5 - 6
❖ 367.0	Short-eared Owl	SEOW	6
V 368.0	Barred Owl	BDOW	7B
❖ 368.6	Spotted x Barred Owl Hybrid	SBOH	7B
T ❖ 369.0	Spotted Owl	SPOW	7B
❖ 370.0	Great Gray Owl	GGOW	8
❖ 371.0	Boreal Owl	BOOW	5 - 6
◆ 372.0	Northern Saw-whet Owl	NSWO	4 - 3 A
❖ 373.0	Eastern Screech-Owl	EASO	5 - 4 A
** 373.1	Wiskered Screech-Owl	WHSO	3 A - 4
❖ 373.2	Western Screech-Owl	WESO	5 - 4
❖ 373.4	Puerto Rican Screech-Owl	PRSO	4 - 5
<p>❖ <i>This species should be banded only with lock-on bands unless the recommended size is less than 4</i></p> <p>* <i>Size 6 on all nestlings (L)</i></p> <p>◆ <i>This species should be banded only with size 4 short butt-end or size 3A butt-end.</i></p> <p>** <i>Size 4A is appropriate for southern populations of EASO</i></p>			

Figure 5-1a (sheet 12 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
374.0	Flammulated Owl	FLOW	3 - 3B - 2
❖ 375.0	Great Horned Owl	GHOW	8 - 9
❖ 376.0	Snowy Owl	SNOW	8 - 9
* 377.0	Northern Hawk-Owl	NHOW	7A - 7B
❖ 378.0	Burrowing Owl	BUOW	4
❖ 379.0	Northern Pygmy-Owl	NOPO	2 - 3 - 4
380.0	Ferruginous Pygmy-Owl	FEPO	3B
381.0	Elf Owl	ELOW	2
381.1	Black-headed Parakeet	BHPA	4 - 3 A
** 381.2	Hispaniolan Parakeet	HPKT	3A - 3B
** 381.3	Orange-fronted Parakeet	OFPA	3 - 2
** 381.4	Caribbean Parakeet	CAPA	3 - 2
E ** 382.1	Thick-billed Parrot	TBPA	4A - 4
** 382.6	Red-crowned Parrot	RCPA	4A - 4
** 382.7	Hispaniolan Parrot	HPRT	4A - 4
E ** 382.8	Puerto Rican Parrot	PRPA	4A - 4
** 382.9	Orange-winged Parrot	OWPA	4A - 4
383.0	Smooth-billed Ani	SBAN	3A
384.0	Groove-billed Ani	GBAN	3B
385.0	Greater Roadrunner	GRRO	5
385.1	Puerto Rican Lizard-Cuckoo	PRLC	4 - 3 A
386.0	Mangrove Cuckoo	MACU	2
387.0	Yellow-billed Cuckoo	YBCU	2
388.0	Black-billed Cuckoo	BBCU	2
389.0	Elegant Trogon	ELTR	1 A - 2
389.1	Eared Trogon	EATR	2
390.0	Belted Kingfisher	BEKI	3B - 3A
390.1	Ringed Kingfisher	RIKI	4
*** 391.0	Green Kingfisher	GKIN	2 - 1A
391.2	Puerto Rican Tody	PRTO	X – 0A- 0
393.0	Hairy Woodpecker	HAWO	1A - 2
<div><div>* Use short butt-end (frigate bird) bands.</div><div>❖ This species should be banded only with look-on bands unless the recommended band size is less than 4.</div><div>** Do not band with service tarsus bands</div><div>*** Size 2 may be too tall for tarsus, file down or release unbanded.</div></div>			

Figure 5-1a (sheet 13 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Revised May 1998

Species Number	Common Name	Alpha Code	Band Size
394.0	Downy Woodpecker	DOWO	1B
E 395.0	Red-cockaded Woodpecker	RCWO	1A
396.0	Ladder-backed Woodpecker	LBWO	1 A - 1 B
397.0	Nuttall's Woodpecker	NUWO	1 A - 1B
398.0	Strickland's Woodpecker	STWO	1A
399.0	White-headed Woodpecker	WHWO	1 A - 2
400.0	Black-backed Woodpecker	BBWO	2
401.0	Three-toed Woodpecker	TTWO	2
402.0	Yellow-bellied Sapsucker	YBSA	1B - 1A
402.1	Red-naped Sapsucker	RNSA	1 A - 1B
402.3	Hybrid Sapsucker	HYSA	1A-1B
403.0	Red-breasted Sapsucker	RBSA	1 A - 1B
404.0	Williamson's Sapsucker	WISA	1A
405.0	Pileated Woodpecker	PIWO	4 - 3 A
406.0	Red-headed Woodpecker	RHWO	2
407.0	Acorn Woodpecker	ACWO	2 - 3
407.1	Puerto Rican Woodpecker	PRWO	2 - 3
408.0	Lewis' Woodpecker	LEWO	3 - 2
409.0	Red-bellied Woodpecker	RBWO	2
409.2	West Indian Woodpecker	WIWO	2
410.0	Golden-fronted Woodpecker	GFWO	2
411.0	Gila Woodpecker	GIWO	2 - 3
S 412.0	Yellow-shafted Flicker	YSFL	3
S 412.3	Flicker Intergrade	FLIN	3
S 413.0	Red-shafted Flicker	RSFL	3
S 414.0	Gilded Flicker	GIFL	3 - 2
416.0	Chuck-will's-widow	CWWI	3
416.1	Buff-collared Nightjar	BCNI	2
417.0	Whip-poor-will	WPWI	1 A - 2
E417.1	Puerto Rican Nightjar	PRNI	2 - 1A
418.0	Common Poorwill	COPO	1 A - 2
419.0	Pauraque	PAUR	2
420.0	Common Nighthawk	CONI	2 - 1 A

Figure 5-1a (sheet 14 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
420.1	Antillean Nighthawk	ANNI	2 - 1 A
421.0	Lesser Nighthawk	LENI	1 A - 2
422.0	Black Swift	BLSW	1A
423.0	Chimney Swift	CHSW	1B
423.1	Short-tailed Swift	STSW	1 B - 1
424.0	Vaux's Swift	VASW	1
425.0	White-throated Swift	WTSW	2
* 426.0	Magnificent Hummingbird	MAHU	X - 0 A
426.1	Plain-capped Starthroat	PCST	X
427.0	Blue-throated Hummingbird	BLUH	X - 0 A
427.1	Green Violet-ear	GRVE	XA
* 428.0	Ruby-throated Hummingbird	RTHU	XB
429.0	Black-chinned Hummingbird	BCHU	XB
430.0	Costa's Hummingbird	COHU	XB
* 431.0	Anna's Hummingbird	ANHU	XA
432.0	Broad-tailed Hummingbird	BTLH	XA
433.0	Rufous Hummingbird	RUHU	XB
434.0	Allen's Hummingbird	ALHU	XB
435.0	Bumblebee Hummingbird	BUHU	XB
436.0	Calliope Hummingbird	CAHU	XB
436.1	Jamaican Mango	JAMA	X - 0 A
436.2	Green Mango	GRMA	0 - 1
436.3	Green-throated Carib	GTCA	0 - 1
436.4	Antillean Crested Hummingbird.	ACHU	0 - 1
436.6	Green-Breasted Mango	GREM	X
437.0	Lucifer Hummingbird	LUHU	XB
437.1	Bahama Woodstar	BAWO	X
438.0	Rufous-tailed Humingbird	RUFH	XA
438.1	Berylline Hummingbird	BEHU	X
439.0	Buff-bellied Hummingbird	BUFH	XA
439.1	Violet-crowned Hummingbird	VCHU	XA
440.1	White-eared Hummingbird	WEHU	XA
440.2	Puerto Rican Emerald	PREM	X
440.9	Unidentified Hummingbird	UNHU	X - X A - X B
441.0	Broad-billed Hummingbird	BBLH	XB
* See page 3-3 paragraph 18 for X, XA and XB dimensions			

Figure 5-1 a (sheet 15 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
441.1	Rose-throated Becard	RTBE	1 B - 1
442.0	Fork-tailed Flycatcher	FTFL	1 B - 1
443.0	Scissor-tailed Flycatcher	STFL	1A
444.0	Eastern Kingbird	EAKI	1B
445.0	Gray Kingbird	GRAK	1A
445.1	Thick-billed Kingbird	TBKI	1A
445.2	Loggerhead Kingbird	LOKI	1 B - 1 A
446.0	Tropical Kingbird	TRKI	1A
446.1	Couch's Kingbird	COKI	1 B - 1 A
447.0	Western Kingbird	WEKI	1A
448.0	Cassin's Kingbird	CAKI	1A
449.0	Great Kiskadee	GKIS	2
451.0	Sulphur-bellied Flycatcher	SBFL	1B
452.0	Great Crested Flycatcher	GCFL	1 A - 1 B
453.0	Brown-crested Flycatcher	BCFL	1A
453.1	Nutting's Flycatcher	NUFL	1 B
454.0	Ash-throated Flycatcher	ATFL	1 B - 1
455.0	Dusky-capped Flycatcher	DCFL	1 B - 1
455.1	Lasagra's Flycatcher	LASF	1B
455.2	Puerto Rican Flycatcher	PRFL	1 B - 1 A
455.3	Stolid Flycatcher	STOF	1B
455.4	Lesser Antillean Flycatcher	LESF	1B
456.0	Eastern Phoebe	EAPH	0 - 1
457.0	Say's Phoebe	SAPH	1
458.0	Black Phoebe	BLPH	1
459.0	Olive-sided Flycatcher	OSFL	1 - 1B
460.0	Greater Pewee	GRPE	1B
461.0	Eastern Wood-Pewee	EAWP	0 - 0 A
462.0	Western Wood-Pewee	WEWP	0 - 1
462.1	Cuban Pewee	CUPE	0 - 1
462.2	Lesser Antillean Pewee	LAPE	0 - 1
462.3	Jamaican Pewee	JAPE	0 - 1
462.4	Hispanolan Pewee	HIPE	0 - 1
463.0	Yellow-bellied Flycatcher	YBFL	0 - 0 A
464.0	Cordilleran Flycatcher	COFL	0 - 0 A
464.1	Pacific-slope Flycatcher	PSFL	0 - 0 A
464.9	Western Flycatcher	WEFL	0 - 0 A

Figure 5-1a (sheet 16 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
465.0	Acadian Flycatcher	ACFL	0 - 0 A
E 466.0	Willow Flycatcher	WIFL	0A
466.1	Alder Flycatcher	ALFL	0A
E S 466.4	Southwestern Willow Flycatcher	SWFL	0A
466.9	Traill's Flycatcher	TRFL	0A
467.0	Least Flycatcher	LEFL	0 - 0 A
468.0	Hammond's Flycatcher	HAFL	0 - 0 A
469.0	Dusky Flycatcher	DUFL	0 - 0 A
469.1	Gray Flycatcher	GRFL	0 - 0 A
470.0	Buff-breasted Flycatcher	BBFL	0 - 0 A
471.0	Vermilion Flycatcher	VEFL	0 - 0 A
471.1	Greenish Elaenia	GREL	0 - 0 A
472.0	Northern Beardless Tyrannulet	NBTY	0 A - 0
472.1	Caribbean Elaenia	CAEL	0 - 1
473.0	Sky Lark	SKLA	1B
474.0	Horned Lark	HOLA	1B
475.0	Black-billed Magpie	BBMA	3B - 4 - 3
476.0	Yellow-billed Magpie	YBMA	3A
477.0	Blue Jay	BLJA	2 - 3
478.0	Steller's Jay	STJA	3 - 2 - 3B
T 479.0	Florida Scrub-Jay	FLSJ	2 - 3
481.0	Western Scrub Jay	WESJ	2 - 3
481.1	Island Scrub-Jay	ILSJ	3
482.0	Mexican Jay	MEJA	3B
483.0	Green Jay	GREJ	2
483.2	Brown Jay	BRJA	4 A - 4 - 3
484.0	Gray Jay	GRAJ	3 - 2
486.0	Common Raven	CORA	6 - 7 A
487.0	Chihuahuan Raven	CHRA	5
E 487.1	White-necked Crow	WNCR	5 - 6
488.0	American Crow	AMCR	5
489.0	Northwestern Crow	NOCR	4 - 4 A
489.1	Tamaulipas Crow	TACR	4
E 489.2	Hawaiian Crow	HCRO	6
490.0	Fish Crow	FICR	4A
491.0	Clark's Nutcracker	CLNU	3B
492.0	Pinyon Jay	PIJA	3 - 2
493.0	European Starling	EUST	2 - 3

Figure 5-1a (sheet 17 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
493.1	Crested Myna	CRMY	3 - 2
493.2	Common Myna	COMY	3
493.3	White-vented Myna	WVMY	1 A - 2
493.4	Indian Hill Myna	IHMY	2
494.0	Bobolink	BOBO	M 1A F 1B
495.0	Brown-headed Cowbird	BHCO	M 1A F 1B
496.0	Bronzed Cowbird	BROC	M 2 F 1 A
496.1	Shiny Cowbird	SHCO	2
497.0	Yellow-headed Blackbird	YHBL	M 2 F 1 A
498.0	Red-winged Blackbird	RWBL	M 2 F 1 A
500.0	Tricolored Blackbird	TRBL	2
500.1	Tawny-shouldered Blackbird	TSBL	1B - 1A
E 500.2	Yellow-shouldered Blackbird	YSBL	2
501.0	Eastern Meadowlark	EAME	M 3 F 2 - 3
501.1	Western Meadowlark	WEME	M 3 F 2 - 3
503.0	Audubon's Oriole	AUOR	2
503.1	Altamira Oriole	ALOR	3
503.2	Spot-breasted Oriole	SPOO	2
504.0	Scott's Oriole	SCOR	1A
504.1	Black-vented Oriole	BVOR	2
504.2	Black-cowled Oriole	BCOR	1 A - 2
505.0	Hooded Oriole	HOOR	1 A - 1B
505.1	Streak-backed Oriole	STRO	1A
506.0	Orchard Oriole	OROR	1B
507.0	Baltimore Oriole	BAOR	1A
S 507.8	Baltimore x Bullock's Oriole Hybrid	BBOH	1A
508.0	Bullock's Oriole	BUOR	1A
509.0	Rusty Blackbird	RUBL	2
510.0	Brewer's Blackbird	BRBL	2
511.0	Common Grackle	COGR	3 - 3 B
512.0	Great-tailed Grackle	GTGR	M 4 F 3
513.0	Boat-tailed Grackle	BTGR	M 4 F 3
513.1	Greater Antillean Grackle	GAGR	3
514.0	Evening Grosbeak	EVGR	1 A - 2
514.1	Brambling	BRAM	1 B - 1
514.2	Hawfinch	HAWF	1 A - 2
514.3	Common Chaffinch	COCH	1 B - 1
515.0	Pine Grosbeak	PIGR	1A
516.0	Eurasian Bullfinch	EUBU	1 B - 1 A

Figure 5-1a (sheet 1 8 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
516.1	Common Rosefinch	CORO	1B -1
517.0	Purple Finch	PUFI	1 - 1B
518.0	Cassin's Finch	CAFI	1B -1
519.0	House Finch	HOFI	1 B - 1
521.0	Red Crossbill	RECR	1B
522.0	White-winged Crossbill	WWCR	1 B
524.0	Gray-crowned Rosy-Finch	GCRF	1B
525.0	Black Rosy-Finch	BLRF	1B
526.0	Brown-capped Rosy-Finch	BCRF	1 B
526.1	European Goldfinch	EUGO	0
526.2	Oriental Greenfinch	ORGR	0 - 1
527.0	Hoary Redpoll	HORE	0 - 0 A
527.6	Unknown Redpoll	UNRE	0
528.0	Common Redpoll	CORE	0 - 0 A
529.0	American Goldfinch	AMGO	0 - 0 A - 1
530.0	Lesser Goldfinch	LEGO	0 A - 0
531.0	Lawrence's Goldfinch	LAGO	0
532.1	Red Siskin	RESI	0
533 0	Pine Siskin	PISI	0 - 0 A
533.1	Common Canary	COCA	1
533.2	Yellow-fronted Canary	YFCA	0
534.0	Snow Bunting	SNBU	1 A - 1 B
535.0	McKay's Bunting	MKBU	1B
535.1	Rustic Bunting	RUBU	1
535.2	Little Bunting	LIBU	1
535.3	Gray Bunting	GRBU	1B
535.4	Pallas' Bunting	PALB	1
535.5	Reed Bunting	REBU	1
536.0	Lapland Longspur	LALO	1B
537.0	Smith's Longspur	SMLO	1
538.0	Chestnut-collared Longspur	CCLO	1
539.0	McCown's Longspur	MCLO	1
540.0	Vesper Sparrow	VESP	1B -1
E S 541.0	Ipswich Sparrow	IPSP	1B
S 542.0	Savannah Sparrow	SAVS	1
S 543.0	Belding's Savannah Sparrow	BSSP	1
S 544.0	Large-billed Sparrow	LBSP	1
545.0	Baird's Sparrow	BAIS	1
E 546.0	Grasshopper Sparrow	GRSP	1
E S 546.4	Florida Grasshopper Sparrow	FGSP	1

Figure 5-1a (sheet 19 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
547.0	Henslow's Sparrow	HESP	0 - 1
548.0	Le Conte's Sparrow	LCSP	1
549.0	Saltmarsh Sharp-tailed Sparrow	SSTS	1 - 1 B
549.1	Nelson's Sharp-tailed Sparrow	NSTS	1 - 1B
549.9	Sharp-tailed Sparrow	STSP	1 - 1B
S 550.0	Seaside Sparrow	SESP	1B
E S 551.0	Dusky Seaside Sparrow	DSSP	1B
ES 551.1	Cape Sable Seaside Sparrow	CSSS	1B
552.0	Lark Sparrow	LASP	1B
553.0	Harris' Sparrow	HASP	1A
S 554.0	White-crowned Sparrow	WCSP	1B
S 554.1	Eastern White-crowned Sparrow	EWCS	1B
S 554.6	Mountain White-crowned Sparrow	MWCS	1B
S 554.7	Puget Sound White-crowned Sparrow	PSWS	1B
S 555.0	Gambel's White-crowned Sparrow	GWCS	1B
S 556.0	Nuttall's White-crowned Sparrow	NWCS	1B
557.0	Golden-crowned Sparrow	GCSP	1B - 1 A
558.0	White-throated Sparrow	WTSP	1B
558.1	Rufous-collared Sparrow	RUFS	0
558.6	Zonotrichia Sparrow Hybrid (includes Junco X WTSP)	ZSHY	
559.0	American Tree Sparrow	ATSP	0 - 1
560.0	Chipping Sparrow	CHSP	0-0A
561.0	Clay-colored Sparrow	CCSP	0
562.0	Brewer's Sparrow	BRSP	0 - 1 - 0A
563.0	Field Sparrow	FISP	0 - 1 -0A
564.0	Worthen's Sparrow	WOSP	0
565.0	Black-chinned Sparrow	BCSP	0 - 1
S 566.0	White-winged Junco	WWJU	1
S 567.0	Slate-colored Junco	SCJU	0 - 1
S 567.1	Oregon Junco	ORJU	0 - 1
S 567.7	Unidentified Dark-eyed Junco	UDEJ	0 - 1
S 569.0	Gray-headed Junco	GHJU	0 - 1
570.0	Yellow-eyed Junco	YEJU	1
573.0	Black-throated Sparrow	BTSP	1
T 574.0	Sage Sparrow	SAGS	1
574.2	Five-striped Sparrow	FSSP	1B
575.0	Bachman's Sparrow	BACS	1
576.0	Botteri's Sparrow	BOSP	1
578.0	Cassin's Sparrow	CASP	1
579.0	Rufous-winged Sparrow	RWSP	0

Figure 5-1 a (sheet 20 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
580.0	Rufous-crowned Sparrow	RCSP	1 - 1 B
581.0	Song Sparrow	SOSP	1B - 1
583.0	Lincoln's Sparrow	LISP	1 - 0
584.0	Swamp Sparrow	SWSP	1 - 1
585.0	Fox Sparrow	FOSP	1 A - 1 B
586.0	Olive Sparrow	OLSP	1 - 1B
586.1	Saffron Finch	SAFI	1
S 587.0	Eastern Towhee	EATO	M 2 - 1A F 1 A - 2
587.6	Unknown Rufous-sided Towhee	URST	2 - 1A
S 588.0	Spotted Towhee	SPTO	1 A - 2
590.0	Green-tailed Towhee	GTTO	1B - 1A
590.6	Hybrid Towhee (except Eastern & Spotted Towhee)	HYTO	1B - 1A
T 591.0	Canyon Towhee	CANT	2 - 1A
T 5 9 1 . 1	California Towhee	CALT	2 - 1 A
592.0	Abert's Towhee	ABTO	1 A - 2
592.2	Red-crested Cardinal	RCCA	2
592.3	Yellow-billed Cardinal	YBCA	1 A - 1B
* 593.0	Northern Cardinal	NOCA	1 A - 2
594.0	Pyrrhuloxia	PYRR	1A
* 595.0	Rose-breasted Grosbeak	RBGR	1 A - 2
596.0	Black-headed Grosbeak	BHGR	1A
596.1	Yellow Grosbeak	YEGR	2 - 1 A
597.0	Blue Grosbeak	BLGR	1 B
597.1	Blue Bunting	BLBU	1 B - 1
598.0	Indigo Bunting	INBU	1 - 1
598.6	Indigo x Lazuli Bunting Hybrid	ILBH	1
599.0	Lazuli Bunting	LAZB	1
600.0	Varied Bunting	VABU	1
601.0	Painted Bunting	PABU	1
602.0	White-collared Seedeater	WCSE	0
602.1	Puerto Rican Bullfinch	PUEB	1 B - 1
602.2	Lesser Antillean Bullfinch	LESB	1 B - 1
603.0	Black-faced Grassquit	BFGR	0A
603.1	Cuban Grassquit	CUGR	0
603.2	Yellow-faced Grassquit	YFGR	1 - 0
604.0	Dickcissel	DICK	1 B
605.0	Lark Bunting	LARB	1 A
606.1	Antillean Euphonia	ANEU	0 - 1
* Size 2 is a sturdier band for these strong-billed species.			

Figure 5-1a (sheet 21 of 30)

List of Species Numbers, Alpha Codes and Recommended Band Sizes

Revised May 1998

Species Number	Common Name	Alpha Code	Band Size
607.0	Western Tanager	WETA	1B
607.1	Flame-colored Tanager	FCTA	1A- 1B
608.0	Scarlet Tanager	SCTA	1B
609.0	Hepatic Tanager	HETA	1A
610.0	Summer Tanager	SUTA	1A - 1B
610.1	Stripe-headed Tanager	SHTA	1 B - 1 A
610.2	Puerto Rican Tanager	PRTA	1 B
611.0	Purple Martin	PUMA	1 A - 2
611.2	Gray-breasted Martin	GBMA	1A
* 612.0	Cliff Swallow	CLSW	1
* 612.1	Cave Swallow	CASW	1
* 613.0	Barn Swallow	BARS	0 - 1
* 614.0	Tree Swallow	TRES	1
615.0	Violet-green Swallow	VGSW	1
615.1	Bahama Swallow	BAHS	1
616.0	Bank Swallow	BANS	0
617.0	Northern Rough-winged Swallow	NRWS	0
618.0	Bohemian Waxwing	BOWA	1A
619.0	Cedar Waxwing	CEDW	1 B
620.0	Phainopepla	PHAI	1 B
621.0	Northern Shrike	NSHR	2
621.1	Brown Shrike	BRSH	2 - 1A
E 622.0	Loggerhead Shrike	LOSH	1A
E 622.1	Kauai O'o	KAOO	2
E 622.3	Bishop's O'o	BIOO	3
622.6	Japanese White-eye	JAWE	0 A - 0
623.0	Black-whiskered Vireo	BWVI	1
624.0	Red-eyed Vireo	REVI	1 - 0
625.0	Yellow-green Vireo	YGVI	1
626.0	Philadelphia Vireo	PHVI	0 - 0 A
627.0	Warbling Vireo	WAVI	0 - 1
628.0	Yellow-throated Vireo	YTVI	1
629.0	Blue-headed Vireo	BHVI	1
629.1	Plumbeous Vireo	PLVI	1
629.2	Cassin's Vireo	CAVI	1
629.9	Solitary Vireo (of indeterminate species)	SOVI	1
E 630.0	Black-capped Vireo	BCVI	0 - 1
631.0	White-eyed Vireo	WEVI	0 - 0 A
* Larger size may be necessary on nestlings			

Figure 5-1a (sheet 22 of 30)
List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
632.0	Hutton's Vireo	HUVI	0
S 633.0	Bell's Vireo	BEVI	0
633.1	Puerto Rican Vireo	PRVI	1
E S 633.4	Least Bell's Vireo	LBVI	0
634.0	Gray Vireo	GRVI	1
635.0	Bananaquit	BANA	0
636.0	Black-and-White Warbler	BAWW	0 - 0 A - 1
636.3	Hybrid Warbler	HYWA	0 - OA - 1 0
637.0	Prothonotary Warbler	PROW	
638.0	Swainson's Warbler	SWWA	1
639.0	Worm-eating Warbler	WEWA	1 - 0
641.0	Blue-winged Warbler	BWWA	OA - 0
641.2	Brewster's Warbler	BRWA	OA - O
641.3	Lawrence's Warbler	LAWA	OA - 0
642.0	Golden-winged Warbler	GWWA	OA - 0
643.0	Lucy's Warbler	LUWA	OA
644.0	Virginia's Warbler	VIWA	OA
645.0	Nashville Warbler	NAWA	OA - 0
646.0	Orange-crowned Warbler	OCWA	0 - 0 A
647.0	Tennessee Warbler	TEWA	OA - 0
647.1	Colima Warbler	COLW	1
648.0	Northern Parula	NOPA	OA - 0
649.0	Tropical Parula	TRPA	OA
650.0	Cape May Warbler	CMWA	0 - 0 A - 1
651.0	Olive Warbler	OLWA	0
652.0	Yellow Warbler	YWAR	0 - 0 A - 1
654.0	Black-throated Blue Warbler	BTBW	0 - 0 A
S 655.0	Myrtle Warbler	MYWA	0 - 1 - OA
S 655.6	Unknown Yellow-rumped Warbler	UYRW	0 - 1 - OA
S 656.0	Audubon's Warbler	AUWA	0 - 1 - OA
657.0	Magnolia Warbler	MAWA	OA - 0
658.0	Cerulean Warbler	CERW	OA - 0
658.1	Elfin Woods Warbler	EWWA	OA
659.0	Chestnut-sided Warbler	CSWA	OA - 0
660.0	Bay-breasted Warbler	BBWA	0 - 1 - OA
661.0	Blackpoll Warbler	BLPW	0 - 1 - OA
662.0	Blackburnian Warbler	BLBW	0 - 0 A
663.0	Yellow-throated Warbler (NOT Common Yellowthroat)	YTWA	OA - 0
663.4	Sutton's Warbler	SUWA	OA
664.0	Grace's Warbler	GRWA	OA
664.1	Adelaide's Warbler	ADWA	OA

Figure 5-1a (sheet 23 of 30)
List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
665.0	Black-throated Gray Warbler	BTYW	0 A - 0
E 666.0	Golden-cheeched Warbler	GCWA	OA
667.0	Black-throated Green Warbler	BTNW	0 A - 0
668.0	Townsend's Warbler	TOWA	0 A - 0
668.6	Townsend's x Hermit Warbler Hybrid	THWH	0 A - 0
669.0	Hermit Warbler	HEWA	OA
E 670.0	Kirtland's Warbler	KIWA	1
671.0	Pine Warbler	PIWA	0 - 0 A
S 672.0	Western Palm Warbler	WPWA	0 - 0 A
S 672.9	Yellow Palm Warbler	YPWA	0 - 0 A
673.0	Prairie Warbler	PRAW	0 A - 0
674.0	Ovenbird	OVEN	1 - 0
675.0	Northern Waterthrush	NOWA	1 - 0
676.0	Louisiana Waterthrush	LOWA	1
677.0	Kentucky Warbler	KEWA	1
678.0	Connecticut Warbler	CONW	1
679.0	Mourning Warbler	MOWA	0 - 1
680.0	MacGillivray's Warbler	MGWA	1 - 0
681.0	Common Yellowthroat	COYE	0 - 1 - OA
682.1	Gray-crowned Yellowthroat	GCYE	1
683.0	Yellow-breasted Chat	YBCH	1 B - 1 A - 2
684.0	Hooded Warbler	HOWA	0 - 1
685.0	Wilson's Warbler	WIWA	0 A - 0
686.0	Canada Warbler	CAWA	0 - 0 A
687.0	American Redstart	AMRE	0 A - 0
688.0	Painted Redstart	PARE	OA
688.1	Fan-tailed Warbler	FTWA	1 B - 1
688.2	House Sparrow	HOSP	1 B
688.3	Eurasian Tree Sparrow	ETSP	1 - 1B
689.0	Slate-throated Redstart	SLAR	OA
690.0	Red-faced Warbler	RFWA	OA
692.0	Golden-crowned Warbler	GOLW	1 - 0
692.1	Rufous-capped Warbler	RCWA	1
694.0	White Wagtail	WHWA	1
695.1	Black-backed Wagtail	BWAG	1
696.0	Yellow Wagtail	YWAG	1
696.1	Gray Wagtail	GRAW	1
697.0	American Pipit	AMPI	1
698.1	Pechora Pipit	PEPI	1
698.3	Olive Tree-Pipit	OLTP	1

Figure 5-1a (sheet 24 of 30)
List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
699.0	Red-throated Pipit	RTPI	1
700.0	Sprague's Pipit	SPPI	1
701.0	American Dipper	AMDI	2 - 1 A
702.0	Sage Thrasher	SATH	1 B - 1 A
703.0	Northern Mockingbird	NOMO	2 - 1A
703.1	Bahama Mockingbird	BAMO	1 A - 2
703.2	Tropical Mockingbird	TRMO	2 - 1A
704.0	Gray Catbird	GRCA	1A
705.0	Brown Thrasher	BRTH	2 - 3
706.0	Long-billed Thrasher	LBTH	2
707.0	Curve-billed Thrasher	CBTH	3
708.0	Bendire's Thrasher	BETH	2
710.0	California Thrasher	CATH	3
711.0	Le Conte's Thrasher	LC TH	2
711.1	Pearly-eyed Thrasher	PETH	2
712.0	Crissal Thrasher	CRTH	2
713.0	Cactus Wren	CACW	1 B - 1 A
715.0	Rock Wren	ROWR	1 - 0
717.0	Canyon Wren	CANW	1
718.0	Carolina Wren	CARW	1 B
719.0	Bewick's Wren	BEWR	1
721.0	House Wren	HOWR	0 - 0 A
722.0	Winter Wren	WIWR	0 A - 0
724.0	Sedge Wren	SEWR	0 A - 0
725.0	Marsh Wren	MAWR	1
726.0	Brown Creeper	BR CR	0 A - 0
726.1	Red-whiskered Bulbul	RWBU	1 B - 1A
726.2	Red-vented Bulbul	RVBU	2
727.0	White-breasted Nuthatch	WBNU	1 B - 1
728.0	Red-breasted Nuthatch	RBNU	0 - 1
729.0	Brown-headed Nuthatch	BHNU	0
730.0	Pygmy Nuthatch	PYNU	0
S 731.0	Eastern Tufted Titmouse	ETTI	1 B
S 732.0	Black-crested Titmouse	BCTI	1 B
733.0	Oak Titmouse	OATI	1
733.1	Juniper Titmouse	JUTI	1
734.0	Bridled Titmouse	BRTI	1
734.1	Varied Tit	VATI	1 B - 1

Figure 5-1a (sheet 25 of 30)
List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
735.0	Black-capped Chickadee	BCCH	0 - 1
735.6	Hybrid Chickadee	HYCH	0 - 1 - OA
736.0	Carolina Chickadee	CACH	0 - OA - 1
737.0	Mexican Chickadee	MECH	0
738.0	Mountain Chickadee	MOCH	0 - 0 A
739.0	Gray-headed Chickadee	GHCH	1 - 0
740.0	Boreal Chickadee	BOCH	0
741.0	Chestnut-backed Chickadee	CBCH	0 - 0 A
742.0	Wrentit	WREN	1
742.1	Red-billed Leiothrix	RBLE	1B
742.2	Melodius Laughing-Thrush	MELT	2
742.3	Greater Necklaced Laughing-Thrush	GNLT	2
742.4	Orange-billed Nightingale-Thrush	OBNT	1B
743.0	Bushtit	BUSH	OA
746.0	Verdin	VERD	OA
746.1	Japanese Bush-Warbler	JABW	M 1 F 0
E 746.2	Millerbird	MILL	OA
747.0	Arctic Warbler	ARWA	OA
747.1	Middendorff's Grasshopper-Warbler	MIGW	OA
747.3	Wood Warbler	WOWA	OA
747.4	Dusky Warbler	DUWA	OA
747.5	Lanceolated Warbler	LANW	0
748.0	Golden-crowned Kinglet	GCKI	OA
749.0	Ruby-crowned Kinglet	RCKI	OA
749.1	Siberian Accentor	SIAC	OA
751.0	Blue-gray Gnatcatcher	BGGN	OA
752.0	Black-tailed Gnatcatcher	BTGN	OA
E 753.0	California Gnatcatcher	CAGN	OA
753.1	Black-capped Gnatcatcher	BCGN	OA
754.0	Townsend's Solitaire	TOSO	1B
754.1	Omao (Hawaiian Thrush)	OMAO	1A
E 754.2	Puaiohi (Small Kauai Thrush)	PUAI	1A
E 754.3	Kamoa (Large Kauai Thrush)	KAMA	1A
E 754.5	Oloma'o (Molakai Thrush)	OLOM	1A
755.0	Wood Thrush	WOTH	1A
756.0	Veery	VEER	1B
757.0	Gray-cheeked Thrush	GCTH	1B
757.1	Bicknell's Thrush	BITH	1B
757.9	Gray-cheeked/Bicknell's Thrush	GCBT	1B
758.0	Swainson's Thrush	SWTH	1B
759.0	Hermit Thrush	HETH	1B - 1

Figure 5-1a (sheet 26 of 30)
List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
760.0	Redwing	REDW	2 - 1A
761.0	American Robin	AMRO	2
761.2	Fieldfare	FIEL	2
761.3	Eye Browed Thrush	EBTH	2
761.4	Dusky Thrush	DUTH	2
762.1	Clay-colored Robin	CCRO	2
762.2	Rufous-backed Robin	RBRO	2
762.3	Red-legged Thrush	RLTH	2
763.0	Varied Thrush	VATH	2
763.1	Aztec Thrush	AZTH	2
764.0	Bluethroat	BLUE	1
764.1	Siberian Rubythroat	SIRU	1B - 1
764.2	Red-flanked Bluetail	RFBL	0
765.0	Northern Wheatear	NOWH	1B
766.0	Eastern Bluebird	EABL	1B - 1
767.0	Western Bluebird	WEBL	1B
767.6	Hydrid Bluebird	HYBL	1 B - 1 A - 1
768.0	Mountain Bluebird	MOBL	1B - 1A
769.0	White-rumped Shama	WRSH	2 - 1A
770.0	Elepaio	ELEP	1A
771.0	Red-breasted Flycatcher	RBFL	0
772.0	Siberian Flycatcher	SIFL	0
773.0	Gray-spotted Flycatcher	GSFL	0 - 1
E 774.0	Laysan Finch	LAFI	1A
E 775.0	Nihoa Finch	NIFI	1 B - 1 A
E 776.0	O'u	OU	2
E 777.0	Palila	PALI	1A
E 781.0	Maui Parrotbill	MAPA	1 B - 1 A
782.0	Hawaii Amakihi	HAAM	1
782.1	Oahu Amakihi	OAAM	1 - 1B - 1A
783.0	Kauai Amakihi	KAAM	1 - 1B - 1A
784.0	Anianiau	ANIA	0 - 1
E 787.0	Greater Akialoa	GREA	1
E 788.0	Nukupuu	NUKU	1
E 789.0	Akiapolaau	AKIP	1A
790.0	Kauai Creeper	KACR	0 - 1
E 791.0	Hawaii Creeper	HCRE	0 - 1
792.0	Maui Creeper	MACR	1
E 793.0	Molokai Creeper	MOCR	0 - 1
E 794.0	Oahu Creeper	OACR	0 - 1

Figure 5-1a (sheet 27 of 30)
List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size.
E 795.0	Akepa	AKEP	0
796.0	Akekee	AKEK	0 -1 - 1B
798.0	Iiwi	IIWI	1B
E 801.0	Crested Honeycreeper	CRHO	1A
802.0	Apapane	APAP	1B
E 804.0	Po' ouli	POUL	1A
804.1	Orange Bishop	ORBI	OA
804.2	Golden Bishop	GOBI	OA
805.0	Red-cheeked Cordonbleu	RCCO	1
806.0	Lavender Waxbill	LAVW	0 - 1
807.0	Orange-cheeked Waxbill	ORAW	0 - 1
808.0	Black-rumped Waxbill	BRWX	0 - 1
808.1	Common Waxbill	COMW	0A -0
809.0	Red Avadavat	REAV	0 - 1
810.0	Warbling Silverbill	WASI	0 - 1
810.1	Bronze Mannikin	BRMA	OA
811.0	Nutmeg Mannikin	NUMA	OA
812.0	Chestnut Mannikin	CHMA	0 - 1
•			
813.0	Java Sparrow	JASP	1 A -1 B
813.1	Pin-tailed Whydah	PTWH	1 B -1 A
850.1	King Penguin	KIPE	Flipper tag
850.2	Emperor Penguin	EMPE	Flipper tag
850.3	Gentoo Penguin	GEPE	Flipper tag
850.4	Adelie Penguin	ADPE	Flipper tag
850.5	Chinstrap Penguin	CHPE	Flipper tag
850.6	Victoria Penguin	VIPE	Flipper tag
850.8	Rockhopper Penguin	ROCP	Flipper tag
850.9	Royal Penguin	ROYP	Flipper tag
851.0	Macaroni Penguin	MACP	Flipper tag
851.2	Fairy Penguin	FAPE	Flipper tag
851.4	African Penguin	AFPE	Flipper tag
851.5	Humboldt Penguin	HUPE	Flipper tag
851.6	Magellanic Pengouin	MAGP	Flipper tag
E 851.7	Galapagos Pengouin	GALP	Flipper tag
851.9	Royal Albatross	ROAL	8
852.1	Buller's Albatross	BUAL	8
852.2	Gray-headed Albatross	GHAL	8
852.3	Sooty Albatross	SOAL	8
852.4	Light-mantled Sooty Albatross	LMSA	8

Figure 5-1a (sheet 28 of 30)
List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
852.5	Southern Giant Petrel	SGPE	8
852.6	Southern Fulmar	SOFU	5
852.7	Blue Petrel	BLPE	3
852.8	Broad-billed Prion	BBPR	3
852.9	Dove Prion	DOPR	3
853.0	Thin-billed Prion	TBPR	3
853.1	Fairy Prion	FAPR	3
853.2	Antarctic Petrel	ANPE	5
853.3	White-chinned Petrel	WCPE	5
853.6	Kerguelen Petrel	KEPE	4
853.7	Snow Petrel	SNPE	4
853.8	Gray-backed Storm-Petrel	GBSP	1A
854.1	Blue-eyed Cormorant	BECO	8
854.3	Snowy Sheathbill	SNSH	7A
854.4	Lesser Sheathbill	LESH	7A
854.6	Southern Black-backed Gull	SBBG	7B
854.8	Antarctic Tern	ANTE	3
854.9	Kerguelen Tern	KETE	3
855.2	Hybrid Skua	HYSK	7 A - 7 B
855.3	Northern Giant Petrel	NGPE	8
855.4	Brown Skua	BRSK	7 A - 7 B
E 856.0	Tinian Monarch	TIMO	1
E 857.0	Mariana Crow	MARC	4A
E * 858.0	Guam Swiflet	GUSW	0 A - X
E 859.0	Nightingale Reed - Warbler	NIRW	1A
E 860.0	Micronesian Megapode	MIME	5
861.0	White-rumped Swiflet	WRSW	0 - 1
862.0	Purple-collared Fruit-Dove	PCFD	4
863.0	Collared Kingfisher	COLK	2
864.0	Samoan Starling	SAST	4 - 3 A
865.0	Polynesian Starling	POST	2
866.0	Cardinal Honeyeater	CAHO	1
867.0	Wattled Honeyeater	WAHO	2
868.0	Micronesian Honeyeater	MIHO	
<i>*Band above tarsometatarsal joint only</i>			

Figure 5-1a (sheet 29 of 30)
List of Species Numbers, Alpha Codes and Recommended Band Sizes

Species Number	Common Name	Alpha Code	Band Size
869.0	Rufous Fantail	RUFA	0
870.0	Bridled White-eye	BRWE	0
871.0	Golden White-eye	GOWE	0
872.0	Micronesian Starling	MIST	
873.0	White-throated Ground Dove	WTGD	
874.0	Black Drongo	BLDR	
875.0	Long-tailed Cuckoo	LTCU	
876.0	Many-colored Fruit-Dove	MCFD	
877.0	Pacific Pigeon	PAPI	
878.0	Shy Ground-Dove	SHGD	
879.0	Micronesian Kingfisher	MICK	
906.7	Antillean Mango	ANMA	OA
907.1	Streamertail	STTL	OA
908.1	Jamaican Tody	JATO	0
909.4	Sad Flycatcher	SAFL	1
909.9	Yellow-bellied Elaenia	YBEL	1B
910.1	Greater Antillean Elaenia	GAEL	OA
910.2	Jamaican Elaenia	JAEL	OA
910.7	Jamaican Crow	JACR	6
910.9	Southern House Wren	SHWR	0
911.6	Trembler	TREM	3 - 2
912.0	White-eyed Thrush	WETH	2
912.2	White-chinned Thrush	WCTH	2
912.7	Rufous-throated Solitaire	RTSO	1
913.0	Thick-billed Vireo	TBVI	1
913.2	Jamaican White-eyed Vireo	JWEV	0
913.8	Olive-capped Warbler	OLIW	OA
914.1	Arrow-headed Warbler	AHWA	OA
914.5	Bahama Yellowthroat	BAYE	1
915.1	Orangequit	ORAN	1
915.3	Jamaican Euphonia	JAEU	OA
916.6	Troupial	TROU	3
916.9	Jamaican Oriole	JAOR	2
917.6	Yellow-shouldered Grassquit	YSGR	1
917.8	Greater Antillean Bullfinch	GABU	1B
918.2	Yellow-bellied Seedeater	YBSE	0
918.4	Blue-black Grassquit	BBGR	0
998.6	Hybrid Non passerine (remark on parentage req'd)	HYNO	Band size varies
999.6	Hybrid Passerine (remark on parentage req'd)	HYPA	Band size varies

Figure 5-1a (sheet 30 of 30)
List of Species Numbers, Alpha Codes and Recommended Band Sizes

Band Size	Internal Diameter	Height of band	Band type
	(in mm)	(in mm)	
X (Hummingbird)	1.27-1.52	1.6	Butt-end (BE)
OA	2.0	5.5	BE
0	2.11	5.5	BE
1	2.38	5.5	BE
1 B	2.6	5.5	BE
1P (for snowy plover only)	2.85	5.5	BE
1A	3.1	5.5	BE
2	3.8	7.0	BE
3	4.8	7.0	BE
3B	5.2	7.0	BE
3A	5.6	7.0	BE
4	6.5	10.0	BE or lock-on (LO)
4 short (for NSWO only)	6.5	7.0	BE
4A	7.2	10.0	BE
4A short	7.2	7.0	BE
5	8.0	10.0	BE or LO
6	9.5	10.0	BE or LO
7A	11.3	14.0	BE or LO
7A short	11.3	10.0	BE
7B	13.7	14.0	BE or LO
7B short	13.7	10.0	BE
7D	15.0	17.0	LO
8	17.5	17.0	BE or LO
8A	20.0	17.0	BE
9	22.0	17.0	BE or LO or rivet (RV)
9C (for TRUS only)	Flat	Flat	Flat stainless steel lock-on
9C	29.0	32.0	BE

Figure 5-lb (sheet 1 of 1)
Band sizes and Dimensions

Code for Status	Definition
*2	Transported to a different 10-minute block, but otherwise normal wild (requires an additional permit from Federal Law Enforcement and/or State agencies): may or may not be held for longer than 24 hours. Banding location, age, sex, and date banded should be those at release. Capture location and date should be given in the "Remarks" section of the schedule (Form 3-860). Can be used with all additional information codes except 40.
3	Normal, wild bird: released in same 10-minute block as captured: held 24 hours or less. Can be used with all additional information codes except 40.
4	Hand-reared or hacked: raised in captivity from egg or taken as nestling or orphan. Banding location, age, sex, and date banded should be those at release. Hand-rearing may include transporting. If a hand-reared bird is also injured, use additional information code 85. Can be used with all additional information codes except 70,71,87 and 88.
*5	Held 24 hours or less: Sick, Exhausted, Injured (old or new injury), Crippled, or with a Physical Deformity ; may or may not be treated or transported. Requires an explanation in the "Remarks" section of the schedule (Form 3-860). Can be used with all additional information codes except 03, 04,09 and 10.
6	<i>Obsolete.</i> Formerly used with experimental birds that were color-marked (using markers other than leg bands), transported, etc.
*7	Held longer than 24 hours: sick, exhausted, injured, or crippled: Rehabilitated (assumes that transportation and/or blood sampling may be involved). Requires an explanation in the "Remarks" section of the schedule (Form 3-860). Can be used with all additional information codes except 03, 04, 09,10,18,19,33,34,70 and 71.
*8	Held for longer than 24 hours for experimental or other purposes except transporting (see status code 2): otherwise normal, wild. Requires an additional permit from Federal Law Enforcement and/or State agencies. Requires an explanation in the "Remarks" section of the schedule (Form 3-860). Can be used with all additional information codes except 03,04 and 40.
9	<i>Obsolete.</i> Formerly used with dog-caught birds in conjunction with additional information codes 90-99, unless the bird was uninjured, in which case it was permissible to treat it experimentally.
	* = Requires an explanation in the "Remarks" section of the schedule (Form 3-860).

Figure 5-2. Status Codes

Code	Definition
00	Banded with USFWS band only.
01	Colored leg band(s) of plastic or metal (includes painted and anodized bands, and colored tape around band). This applies to USFWS bands as well as other bands. Note: two metal bands should not be used on the same tarsus. Color of bands and color(s) of letter(s) and/or symbol(s) may be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860).
*02	Neck collar - collar codes should be given in the "Color Marker Code" column on the schedule (Form 3-860). Colors of collar and alphanumeric code(s) and/or symbol(s) should be listed in the "Remarks" section of "Color Marker Code" column of the schedule (Form 3-860).
03	Reward band (USFWS or State). Approval from the appropriate Banding Office is needed for reward band use. Use with status code 2, 3 or 4 only.
04	Control band. Use with status code 2, 3 or 4 only.
*06	Miscellaneous band (e.g. State band) plus USFWS band. Explanation should be given in the "Remarks" section of the schedule (Form 3-860). Approval from the appropriate Banding Office is needed to use miscellaneous bands.
07	Double-banded with one USFWS band on each tarsus: two metal bands cannot be used on the same tarsus. Approval from the appropriate Banding Office is needed for double-banding.
08	Any part of bird painted or dyed, or other temporary markers on feathers (e.g. imping, feather streamers).
09	Released with all flight feathers from one or both wings clipped or pulled. Use with status 2, 3, 4 or 8 only.
*10	Released with all flight feathers from one or both wings clipped or pulled, plus one or more auxiliary markers used. Marker types should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860). Use with status 2,3,4 or 8 only.
11	Sexed by laparotomy or laparoscopy.
*12	Sexed by laparotomy or laparoscopy, plus one or more auxiliary markers used. Marker types should be listed in the "Remarks" section of "Color Marker Code" column of the schedule (Form 3-860).
	* = Requires an explanation on the schedule (Form 3-860).

Figure 5-3. (sheet 1 of 3)
Additional Information Codes

Code	Definition
18	Blood sample taken (contact the appropriate Bird Banding Office for the required permit). Use with all status codes except 7.
*19	Blood sample taken, plus one or more auxiliary markers use (contact the appropriate Bird Banding Office for the required permit(s)). Marker types should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860). Use with all status codes except 7.
*20	Fostered or cross-fostered into wild nests.
*21	Fostered or cross-fostered into wild nests, plus one or more auxiliary markers used. Marker types should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860).
*25	Two or more auxiliary markers used (e.g. neck collar and color leg band; wing tag and radio transmitter). Marker types should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860).
*29	Miscellaneous band, USFWS band, plus one or more auxiliary marker used. Approval from the appropriate Banding Office is needed for use of miscellaneous bands. Marker types and miscellaneous band type should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860).
*30	Double banded with USFWS bands, plus one or more auxiliary markers used. Approval from the appropriate Banding Office is needed for double banding. Marker type should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860).
33	Taken from an artificial nest structure (e.g. nest boxes, platforms, etc.) or placed in an artificial structure after banding (e.g. hacking). Use with all status codes except 7.
*34	Taken from an artificial nest structure or placed in an artificial structure after banding (e.g. hacking), plus one or more auxiliary markers used. Marker type should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860). Use with all status codes except 7.
*39	Wing, patagial, head, back, and/or nape tag(s). Marker type should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860).
40	Oiled; cleaned, and released; may be held for less than or more than 24 hours. Use with status codes 4,5 and 7 only.
	* = Requires an explanation on the schedule (Form 3-860).

Figure 5-3. (sheet 2 of 3)
Additional Information Codes

Code	Definition
*51	Nasal saddle, nasal discs, or other bill marker. Marker type, shape, color, and codes should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860).
*59	Web tagged. Approval from the appropriate Banding Office is needed for use of web tags. Alphanumeric code should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860).
*69	Plastic-streamer, flag, or tab on leg or flipper. Marker type, color, and alphanumeric codes should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860).
70	Spotlighted. Use with status codes 2,3,5 and 8 only.
*71	Spotlighted, plus one or more auxiliary markers used. Marker types should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860). Use with status codes 2,3,5 and 8 only.
*85	Miscellaneous (combination or situation not covered by other additional information codes). An explanation is needed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860). For example, a bird that was color-banded, sexed by laparotomy, and blood-sampled would be 385 with an explanation "385 = C/B, laparotomy, blood sample".
87	Captured by means of drugs or tranquilizers. Use with all status codes except 4.
*88	Captured by means of drugs or tranquilizers, plus one or more auxiliary markers used. Marker types should be listed in the "Remarks" section or "Color Marker Code" column of the schedule (Form 3-860). Use with all status codes except 4.
*89	Equipped with radio transmitter only [See also additional information code 25]. Approval from the appropriate Banding Office is needed for use of radio transmitters. Frequency and type of attachment should be listed in the "Remarks" section of the schedule (Form 3-860).
	* = Requires an explanation on the schedule (Form 3-860).

Figure 5-3. (sheet 3 of 3)
Additional Information Codes

Numeric Code	Alpha Code	Alpha Designation	Definition
0	U	Unknown	A bird that cannot be placed in any of the year classes below. Except in cases where data were not recorded or have been lost during the nesting season, ONLY BIRDS BANDED AFTER THE BREEDING SEASON AND BEFORE JANUARY 1 CAN BE CORRECTLY CODED "U".
4	L	Local	A young bird incapable of sustained flight.
2	HY	Hatching Year	A bird capable of sustained flight and known to have hatched during the calendar year in which it was banded. <u>Example</u> : Banded 1987 - Hatched 1987.
1	AHY	After Hatching	A bird known to have hatched before the calendar year of banding: <u>year of hatch otherwise unknown</u> . <u>Example</u> : Banded 1987- Hatched before January 1,1987. (Birds that would have been coded "U" on December 31 "graduate" to class "AHY" on January 1.)
5	SY	Second Year	A bird <u>known</u> to have hatched in the calendar year preceding the year of banding and in its second <u>calendar</u> year of life. <u>Example</u> : Banded 1987 - Hatched 1986.
6	ASY	After Second Year	A bird known to have hatched earlier than the calendar year preceding the year of banding: <u>year of hatch otherwise unknown</u> <u>Example</u> : Banded 1987 -Hatched 1985 or earlier.
7	TY	Third Year	A bird known to have hatched in the calendar year preceding the year before the year of banding, now in its third calendar year of life. <u>Example</u> : Banded 1987-Hatched 1985.
8	ATY	After Third Year	A bird known to have hatched prior to the calendar year preceding the year before the year of banding, now in at least its fourth calendar year of life. <u>Example</u> : Banded 1987 - Hatched 1984 or earlier.

Figure 5-4. Year Class (Age) Codes

Code	Definition	Alpha Abbreviation
0	Unknown	U
4	Male	M
5	Female	F
6	Male, but sex not indicated on banding schedule. Sex determined at a subsequent encounter.	
7	Female. Comments same as for code 6.	
A bander should never use Code 6 or 7 or the biological symbols for male and female (♂ or ♀) when completing a schedule.		

Figure 5-5. Sex Codes

Region Name	Region Code*	Abbreviation
Africa	001	AFR
Alabama	202	AL
Alaska	503	AK
Alberta	604	AB
Antarctica	099	ANT
Argentina	805	ARG
Arizona	406	AZ
Arkansas	207	AR
Asia	008	ASIA
At Sea	094	
Pacific Ocean	094	POC
Atlantic Ocean	094	AOC
Australia	096	ASTL
Bahama Islands	909	BHI
Belize	712	BELZ
Bermuda	197	BRMD
Brazil	810	BRAZ
British Columbia	611	BC
Bolivia	813	BOL
California	414	CA
Chile	815	CHLE
Colombia	816	COL
Colorado	317	CO
Connecticut	118	CT
Costa Rica	719	CR
Cuba	920	CUBA
Delaware	121	DE
District of Columbia	122	DC
Dominican Republic	931	DRP
Ecuador	823	ECUA
El Salvador	778	ELSA
Europe	024	EUR
Florida	125	FL
Franklin, Northwest Territories	626	NT
French Guiana	830	FRGU
Georgia	127	GA
Ghana	001	GHNA
Greenland	028	GRLD
Guatemala	729	GUAT
Guyana	830	GUYA
Haiti	931	HATI
Hawaii	096	HI
Honduras	732	HOND
Idaho	433	ID
* First digit is Flyway code; last two are State code.		

Figure 5-6 (sheet 1 of 3).
Region Names, Codes and Abbreviations – Alphabetic

Region Name	Region Code*	Abbreviation
Illinois	234	IL
Indiana	235	IN
Iowa	236	IA
Jamaica	937	JMCA
Japan	008	JPN
Kansas	338	KS
Keewatin, Northwest Territories	695	NT
Kentucky	239	KY
Labrador	657	LAB
Lesser Antilles, British West Indies	941	LANT, BWL,
& W. Indies, French West Indies,	941	WI, FWI,
Trinidad & Virgin Islands	941	TRIN, VI
Louisiana	242	LA
Mackenzie, Northwest Territories	643	NT
Maine	144	ME
Manitoba	645	MB
Maryland	146	MD
Massachusetts	147	MA
Mexico	748	MEX
Michigan	249	MI
Minnesota	250	MN
Mississippi	251	MS
Missouri	252	MO
Montana	353	MT
Nebraska	354	NE
Nevada	455	NV
New Brunswick	656	NB
New Hampshire	158	NH
New Jersey	159	NJ
New Mexico	360	NM
New York	161	NY
Newfoundland	657	NF
Nicaragua	762	NICA
North Carolina	163	NC
North Dakota	364	ND
Northwest Territories		NT
	**	
Nova Scotia	665	NS
Oceania, Midway Island & New Zealand	096	PIS
Ohio	266	OH
Oklahoma	367	OK
Ontario	668	ON
Oregon	469	OR
Panama	770	PAN
** Includes Franklin (626), Keewatin (695), and Mackenzie (643) listed above.		

Figure 5-6 (sheet 2 of 3).
Region Names, Codes and Abbreviations – Alphabetic

Region Name	Region Code*	Abbreviation
Paraguay	871	PARA
Pennsylvania	172	PA
Peru	873	PERU
Philippine Islands	096	P I
Prince Edward Island	675	PE
Puerto Rico	974	PR
Quebec	676	PQ
Rhode Island	177	RI
Russia	098	USSR
Saskatchewan	679	SK
South Africa	001	SAFR
South Carolina	180	SC
South Dakota	381	SD
St. Pierre et Miquelon	657	STPM
Surinam	830	SUR
Tennessee	282	TN
Texas	383	TX
Uruguay	884	URU
Utah	485	UT
Venezuela	886	VZLA
Vermont	187	VT
Virginia	188	VA
Washington	489	WA
West Virginia	190	WV
Wisconsin	291	WI
Wyoming	392	WY
Yukon Territory	693	YT

Figure 5-6 (sheet 3 of 3).
Region Names, Codes and Abbreviations – Alphabetic

Region Name	Region Code*	Abbreviation
Africa	001	AFR
Asia	008	ASIA
Japan	008	JPN
Europe	024	EUR
Greenland	028	GRLD
At Sea	094	
Pacific Ocean	094	POC
Atlantic Ocean	094	AOC
Australia	096	ASTL
Hawaii	096	HI
Oceania, Midway Island & New Zealand	096	PIS
Philippines Island	096	P I
Russia	098	USSR
Antarctica	099	ANT
Connecticut	118	CT
Delaware	121	DE
District of Columbia	122	DC
Florida	125	FL
Georgia	127	GA
Maine	144	ME
Maryland	146	MD
Massachusetts	147	MA
New Hampshire	158	NH
New Jersey	159	NJ
New York	161	NY
North Carolina	163	NC
Pennsylvania	172	PA
Rhode Island	177	RI
South Carolina	180	SC
Vermont	187	VT
Virginia	188	VA
West Virginia	190	WV
Bermuda	197	BRMD
Alabama	202	AL
Arkansas	207	AR
Illinois	234	IL
Indiana	235	IN
Iowa	236	IA
Kentucky	239	KY
Louisiana	242	LA
Michigan	249	MI
Minnesota	250	MN
Mississippi	251	MS
* First digit is Flyway code; last two are State code.		

Figure 5-6a (sheet 3 of 3).
Region Names, Codes and Abbreviations – Numeric

Region Name	Region Code*	Abbreviation
Missouri	252	MO
Ohio	266	OH
Tennessee	282	TN
Wisconsin	291	WI
Colorado	317	CO
Kansas	338	KS
Montana	353	MT
Nebraska	354	NE
New Mexico	360	NM
North Dakota	364	ND
Oklahoma	367	OK
South Dakota	381	SD
Texas	383	TX
Wyoming	392	WY
Arizona	406	AZ
California	414	CA
Idaho	433	ID
Nevada	455	NV
Oregon	469	OR
Utah	485	UT
Washington	489	WA
Alaska	503	AK
Alberta	604	AB
British Columbia	611	BC
Northwest Territories	**	NT
Franklin, Northwest Territories	626	NT
Labrador	657	LAB
Mackenzie, Northwest Territories	643	NT
Manitoba	645	MB
New Brunswick	656	NB
Newfoundland	657	NF
St. Pierre et Miquelon	657	STPM
Nova Scotia	665	NS
Ontario	668	ON
Prince Edward Island	675	PE
Quebec	676	PQ
Saskatchewan	679	SK
Yukon Territory	693	YT
Keewatin, Northwest Territories	695	NT
Belize	712	BELZ
Costa Rica	719	C R
Guatemala	729	GUAT
Honduras	732	HOND
** Includes Franklin (626), Keewatin (695), and Mackenzie (643) listed above.		

Figure 5-6a (sheet 2 of 3).
Region Names, Codes and Abbreviations – Numeric

Region Name	Region Code*	Abbreviation
Mexico	748	MEX
Nicaragua	762	NICA
Panama	770	PAN
El Salvador	778	ELSA
Argentina	805	ARG
Brazil	810	BRAZ
Bolivia	813	BOL
Chili	815	CHLE
Colombia	816	COL
Equador	823	ECUA
French Guiana	830	FRGU
Guyana	830	GUYA
Surinam	830	SUR
Paraguay	871	PARA
Peru	873	PERU
Uruguay	884	URU
Venezuela	886	VZLA
Bahama Islands	909	BHI
Cuba	920	CUBA
Dominican Republic	931	DRP
Haiti	931	HATI
Jamaica	937	JMCA
Lesser Antilles, British West Indies	941	LANT, BWI,
& W. Indies, French West Indies,	941	WI, FWI,
Trinidad & Virgin Islands	941	TR1N, VI
Puerto Rico	974	PR

Figure 5-6a (sheet 3 of 3).
Region Names, Codes and Abbreviations – Numeric

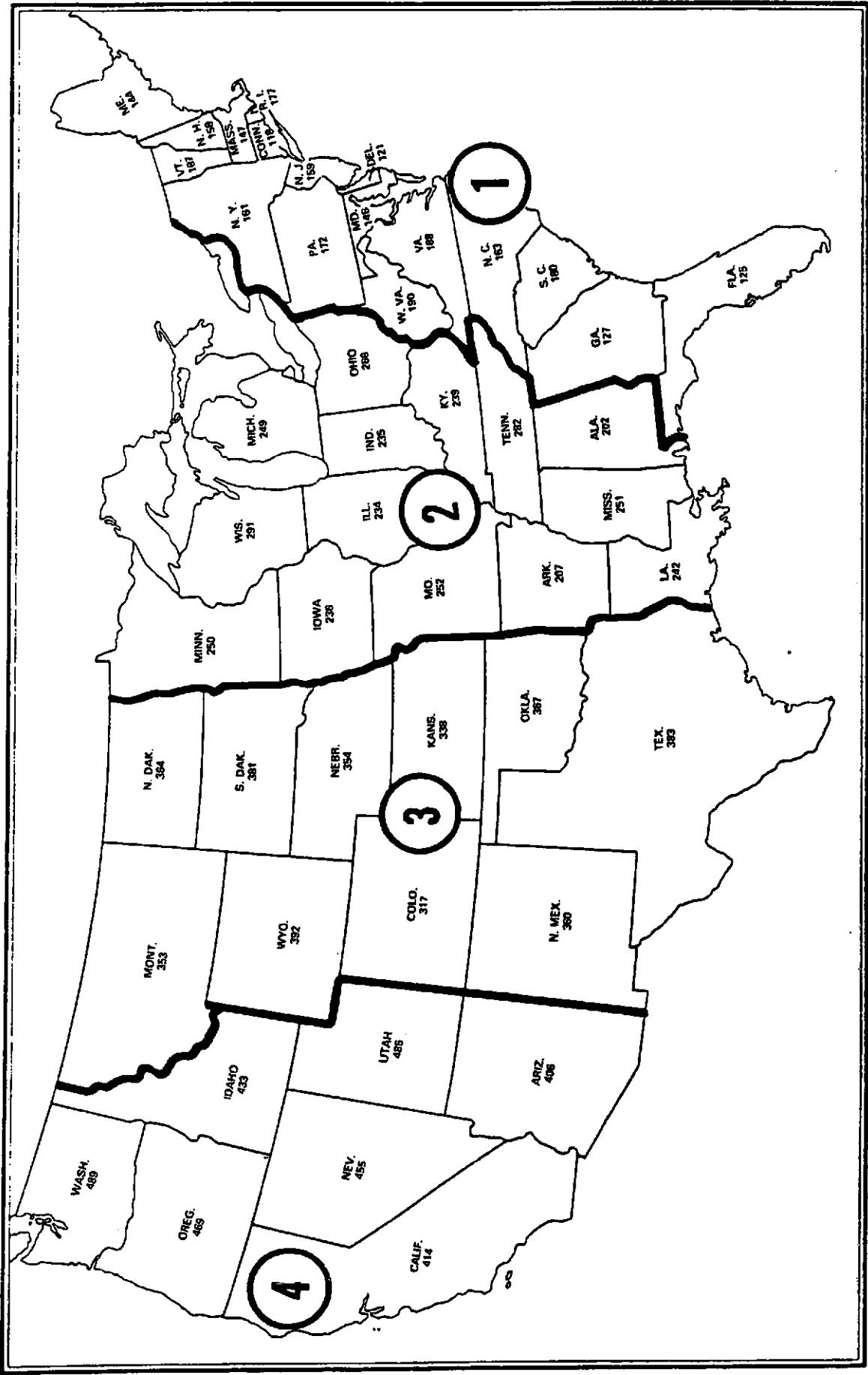


Figure 5-7. US Flyway Codes: ① ② ③ ④ and Numeric Region Codes: 489, etc.

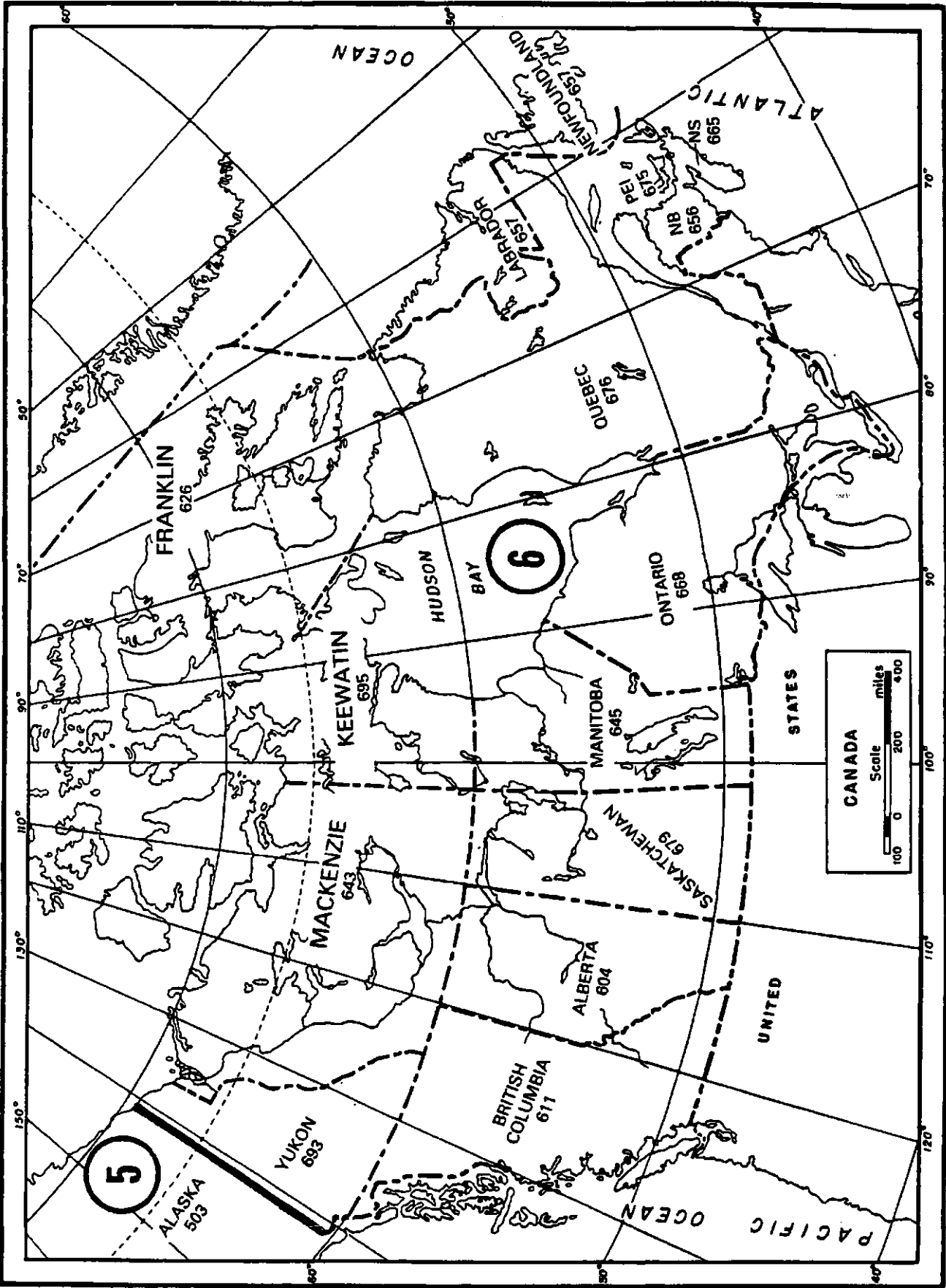


Figure 5-8. Canada and Alaska Flyway Codes: (5) (6) and Numeric Region Codes

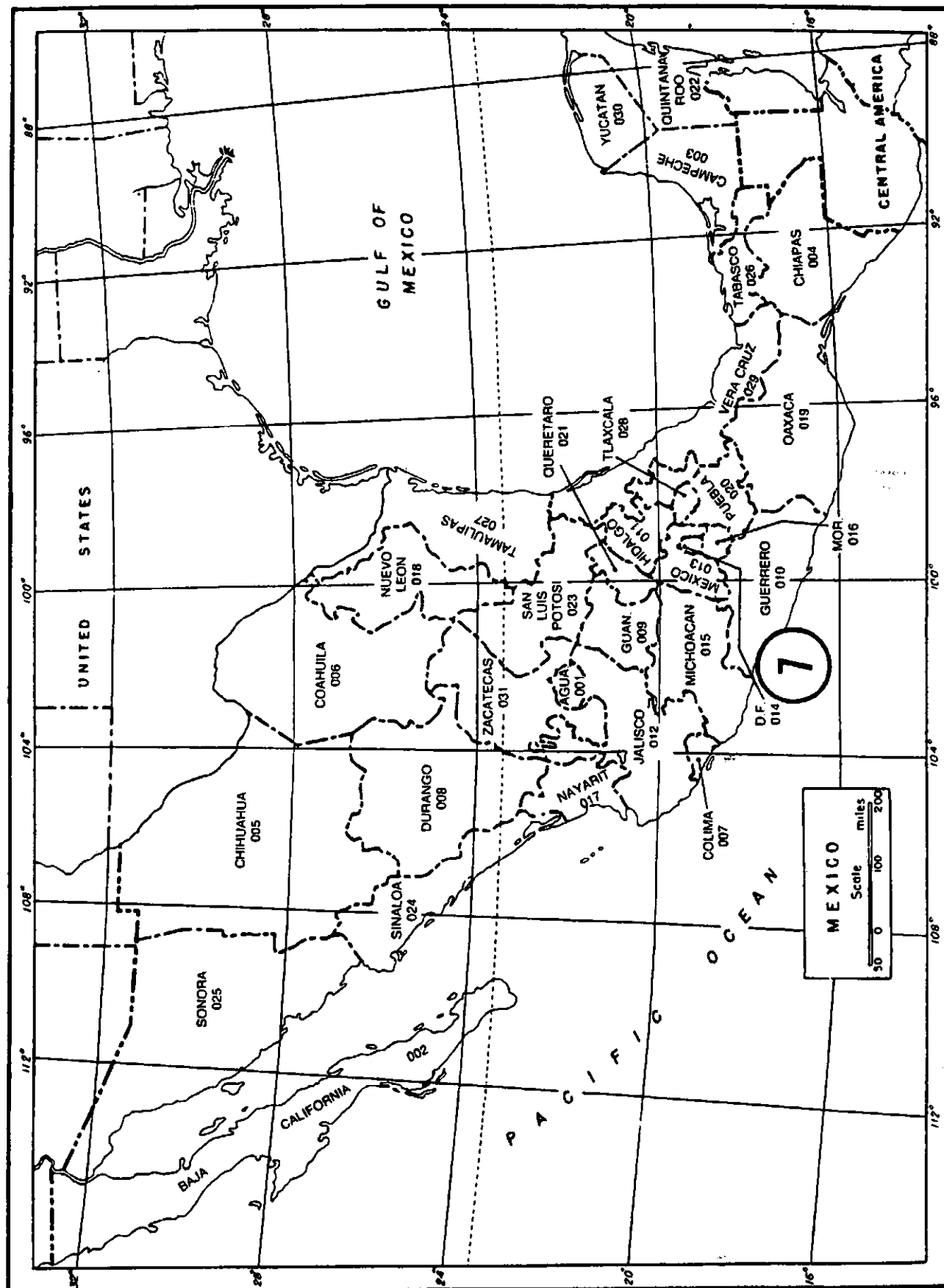


Figure 5-9. Mexico and Central America Flyway Codes: 7 and Numeric Region Codes

State Name	State Code and Abbreviation*	State Name	State Code and Abbreviation*
Aguascalientes	001 AGS	Nayarit	017 NAY
Baja California	002 BCF or BC	Nuevo Leon	018 NL
Campeche	003 CAM	Oaxaca	019 OAX
Chiapas	004 CHIS	Puebla	020 PUE
Chihuahua	005 CHIM	Queretaro	021 QRO
Coahuila	006 COAH	Quintana Roo	022 QROD
Colima	007 COL	San Luis Potosi	023 SLP
Durango	008 DGO	Sinaloa	024 SIN
Guanajuato	009 GTO	Sonora	025 SON
Guerrero	010 GRO	Tabasco	026 TAB
Hidalgo	011 HGO	Tamaulipas	027 TAM or TAMPS
Jalisco	012 JAL		
Mexico	013 MEX	Tlaxcala	028 TLAX
Mexico DF	014 DF	Vera Cruz	029 VER or VC
Michoacan	015 MICH	Yucatan	030 YUC
Morelos	016 MOR	Zacatecas	031 ZAC
* These codes appear in the last three columns in the Lat-Long of the record (e.g., Colima 000-0007) with 748 as the region code if (1) specific location cannot be determined and (2) for all records previous to June 1, 1989.			

Figure 5-10. Mexican Coordinates and State Codes

Banding or Recoveries Occurring in:	Corner of 10-minute Block Used:	Alpha Direction Code	Numeric Equivalent
West Longitude:			
North of equator	Southeast corner	O	O
South of equator	Northeast corner	S	2
East Longitude			
North of equator	Southwest corner	E	1
South of equator	Northwest corner	C	3

Figure 5-11. Coordinates and Direction Codes

Code Number	Interpretation
7	If a county is given for location, the coordinates of the geographical center of the county are used and the last digit of the longitude is replaced with a "7". For example, Talbot County, Maryland, 384-0760, would become 384-0767.
8	In some instances, it is not possible to narrow the location to a 10-minute block, a county or a single 1-degree block. For example, the hunter merely states that he killed the bird in "Chesapeake Bay, Maryland" and fails to respond to subsequent requests for additional information. In these cases the intersection of the latitude and longitude lines nearest the southeast corner of "Chesapeake Bay" would be determined. If, for example, these coordinates were 370-0760, the last digits of <u>both</u> latitude and longitude would be replaced by the numeral "8". In this instance, the approximated coordinates would read read 378-0768.
9	When it is possible to determine that the location is contained within a single 1-degree block, the last digit of both latitude and longitude would be replaced with the numeral "9". For example, a hunter may indicate only that he shot a bird on Nezpique Bayou, Louisiana. This bayou extends into several 10-minute blocks and several parishes but is contained within a single 1-degree block. The coordinates of the southeast corner of the degree block that contains Nezpique Bayou are 300-0920. Thus, the inexact coordinates would read 309-0929

Figure 5-12. Inexact Coordinates Codes

Code	Condition of Bird	Status of Band
00	Unknown	Unknown
01	Unknown	Left on bird
02	Unknown	Removed
03	Dead	Unknown
04	Dead	Left on bird
05	Dead	Removed
06	Alive - Released	Unknown
07	Alive - Released	Left on bird
08	Alive - Released	Removed
09	Alive - In captivity	Unknown
10	Alive - In captivity	Left on bird
11	Alive - In captivity	Removed
12	Alive - Unknown whether released or in captivity	Unknown
13	Alive - Unknown whether released or in captivity	Left on bird
14	Alive - Unknown whether released or in captivity	Removed

Figure 5-13. Present Condition of Bird and Band Codes

Code	Definition
20	MISCELLANEOUS - From a source not included in any of the other categories.
21	FINDER - The band was reported either by the person who found or shot the banded bird, or by members of his or her family, hunting party, or acquaintances who are not employees of conservation agencies. This code is not to be used if a Federal, State, or Provincial conservation agency employee is reporting a bird he himself found or shot.
22	STATE, PROVINCIAL, OR FEDERAL - This code combines previous codes 02 and 03. It is used when State, Provincial, or Federal conservation agency personnel report bands on behalf of members of the general public, and bands from birds found or shot by themselves. This code should also be used when conservation agency personnel report banded birds recaptured during official banding operations.
23	BIRD BANDERS - This code is used to identify band numbers reported by bird banders other than known State or Federal conservation agency employees.
24	U.S. PARTS COLLECTION SURVEY - Each year the U.S. Fish and Wildlife Service requests wings or tails of birds shot by hunters. This code designates bands reported as part of this survey.
25	U.S. HUNTER MAIL QUESTIONNAIRE SURVEY - Each year the U.S. Fish and Wildlife Service conducts a survey of hunters via a mail questionnaire. This code indicates bands reported as part of this survey.
26	CANADIAN PARTS COLLECTION SURVEY.
27	CANADIAN MAIL QUESTIONNAIRE SURVEY.
28	SPECIAL MAIL QUESTIONNAIRE SURVEY.
29	SPECIAL PARTS COLLECTION SURVEY.

Figure 5-14. Who Reported Codes

Code	Definition
00	Unknown
01	The band number was reported by or as a result of the initiative of the person who found the band, a member of his or her family, or a personal acquaintance. Why Reported code 01 is used if a conservation agent reports a band <u>at the finder's request</u> .
02	The band number was reported by or as a result of the initiative of someone other than the hunter or finder, his family, or his immediate acquaintance. Code 02 is use if a person who both finds and reports the band indicates that he is reporting it at the direction of someone other than a member of his or her family or a personal acquaintance, for example, because an official conservation agency employee or bander told him to report it.

Figure 5-15. Why Reported Codes

Code	Present Definition	Date Added (New Codes)	Former Definition	Date of Change
00	Found dead. See also codes 21,30,45,50			
01	Shot. See also codes 16,91			
02	* Caught or found dead due to: starvation			
03	* Caught due to: injury			
04	* Caught by or due to: traps or snares other than devices used to catch birds for banding. (Muskrat traps, pole traps, etc.) See also code 26.		Caught in trap (not banding)	09-01-65
05	Code discontinued. See code 31.		Killed by carnivore (not cat)	09-01-65
06	* Caught by or due to: rodent			
07	* Caught by or due to: miscellaneous birds			
08	* Caught by or due to: shrike			
09	Caught by or due to: hawks, owls, or other raptors. Also includes bands found in raptor pellets. See also code 51.		Killed by hawks and owls	09-01-65
* On September 1, 1965, the word "killed," where found in a definition of a How Obtained code, was replaced where possible by the word "Caught," "Caught by," or "Caught by or due to". The Present Condition codes describe whether the bird is dead or alive, etc. and should be considered in conjunction with the How Obtained codes.				

Figure 5-16 (sheet 1 of 8).
How Obtained Codes

Code	Present Definition	Date Added (New Codes)	Former Definition	Date of Change
10	Banding Mortality: birds accidentally killed during banding operations. Includes birds killed in, by or due to traps, holding devices or handling. Does not include birds killed by weather or predators. See code 51.		Killed by accidents, traps, etc.	09-01-65
11	* Caught by or due to: dog			
12	* Caught by or due to: cat			
13	* Caught due to striking: stationary object other than wires or towers. See also code 54.		Killed by flying into object	09-01-65
14	* Caught due to striking or being struck by: motor vehicle. See also code 45.		Killed by automobile	09-01-65
15	* Caught or found dead due to: weather conditions. See also code 51.			
16	Collected as Scientific Specimen or captured for a Scientific Study. See also code 53.			
17	Drowned.			
18	* Caught or found dead due to disease: botulism (part of confirmed die-off).			

Figure 5-16 (sheet 2 of 8).
How Obtained Codes

Code	Present Definition	Date Added (New Codes)	Former Definition	Date of Change
19	* Caught by or due to: reptile			
20	Caught due to disease. See also codes 18,32 and 43.		Caught due to disease: unknown type	01-01-73
21	Bird caught or found dead in building or enclosure.		Found in building	09-01-65
22	Code discontinued		Died from "fright"	09-01-65
23	* Caught or found dead due to: oil or tar.		Killed from oil in plumage	09-01-65
24	* Caught or killed due to fall from nest.		Fell from nest and was killed	09-01-65
25	Caught or killed due to poisoning. Does not include lead poisoning, avicides or pesticides. See codes 40,44,55.		Poisoned	09-01-65
26	Caught by or due to: entanglement in fishing gear (line, hooks, nets, etc.). See also code 57.		Entangled in strings, nets, fish hooks, etc.	09-01-65
27	* Caught or found dead due to striking or being struck by: moving train			
28	Caught by hand.			

Figure 5-16 (sheet 3 of 8).
How obtained Codes

Code	Present Definition	Date Added (New Codes)	Former Definition	Date of Change
29	Sight record: identified by color band, marked plumage or marker other than standard, numbered metal band. See also 52.		Identified by colored band (sight record in same 10-minute block where banded).	09-01-65
30	Died in nest. See also codes 33,49,55.			
31	* Caught by or due to: miscellaneous animal. See also codes 06,11, 12,49,51.			
32	* Caught due to: parasite infestation		Killed by parasites	09-01-65
33	Caught or observed at or in nest. See also codes 30,49.		Found nesting (in same 10-minute block where banded)	09-01-65
34	Caught by or found dead due to: fish (includes bands reported found inside fish).		Eaten by fish	09-01-65
35	Code discontinued		* Caught by or due to: clam	12-13-71
36	Caught due to: exhaustion			
37	Code discontinued		Caught due to: electric shock	12-13-71
38	Code discontinued		*Caught due to: fire	12-13-71

Figure 5-16 (sheet 4 of 8).
How obtained Codes

Code	Present Definition	Date Added (New Codes)	Former Definition	Date of Change
39	* Caught or found dead due to striking or being struck by: moving aircraft.		Killed by airplane	09-01-65
40	*Caught or found dead due to: Lead poisoning			
41	Code discontinued. See "Present Condition" codes 09,10,11.		Held for propagating	09-01-65
42	Caught due to striking or being struck by: moving farm machinery.		Run over by farm machinery	09-01-65
43	* Caught or found dead due to disease: trichomoniasis		Died from Trichomoniasis	09-01-65
44	Caught or found dead due to: control operations (roost bombing, gassing, avicides, wetting agents, etc.). See also code 55.			
45	Found dead or injured on highway. No information as to whether hit by motor vehicle or not. See also code 14.		Found dead on highway	11-23-71
46	Caught due to: joined flock of domestic or captive birds or fowl		Joined flock of domestic ducks	09-01-65
47	Discontinued code. See code 98 or "Present Condition" codes.		Band removed (no more information)	09-01-65

Figure 5-16 (sheet 5 of 8).
How Obtained Codes

Code	Present Definition	Date Added (New Codes)	Former Definition	Date of Change
48	Discontinued code. See "Present Condition" codes.		Held in captivity	09-01-65
49	Caught at, on or in nest by predator. See also codes 24,30, 33.		Killed in nest by predator	09-01-65
50	Found dead: band with skeleton or bone only.			
51	Banding mortality: bird killed by predators, weather, etc. while in trapping or holding devices. See also code 10.			09-01-65
52	Sight record: band read by telescope or other means while bird was free. See also 29.			09-01-65
53	Captured for Scientific Purposes (not collected). Bird captured, Status changed(dyed, neck-banded, bled, etc.) for scientific purposes, bird released. See also code 16.	09-01-65	Previously included rebanded	06-30-72
54	Caught due to striking: radio, TV, high tension, etc. wires or towers, or ceilometers. See also code 37.	09-01-65		

Figure 5-16 (sheet 6 of 8).
How Obtained Codes

Code	Present Definition	Date Added (New Codes)	Former Definition	Date of Change
55	Caught due to: pesticides. Birds reported killed or captured as a result of spray programs. Does not include avicides. See code 44.	09-01-65		
56	Obtained - Letter simply states in effect "I obtained this bird". No further information available. See 98.	09-01-65		
57	Caught due to: entanglement in anything other than fishing gear, e.g., in wire, string, vines, fence, shrubs, etc. See also code 26.	10-07-69		
58	Bird located by electronic sensors (Note: location reported is for receiver, and not necessarily the bird).	09-01-73		
87	Discontinued code. See codes 29,52.		Sight record in a different 10-minute block from one where banded	09-01-65
88	Discontinued code. See code 33.		Found nesting in a different 10-minute block from one where where banded	09-01-65

Figure 5-16 (sheet 7 of 8).
How Obtained Codes

Code	Present Definition	Date Added (New Codes)	Former Definition	Date of Change
89	Previously banded bird trapped and released during banding operations in different 10-minute block than where originally banded. See also code 99.			
91	Illegally taken: reported by conservation agency employees or other law enforcement officials as illegally taken.		Shot out of hunting season	09-01-65
96	Discontinued code. See code 98.		Band only	09-01-65
97	Miscellaneous. Method of recovery not covered by other codes.			
98	Band or band number only obtained. No further information available. See 56.			
99	Previously banded bird trapped and released during banding operations in same 10-minute block where originally banded. See also code 89.			

Figure 5-16 (sheet 8 of 8)
How Obtained Codes

Month Codes	Day Codes
82 Summer	41 1st 10 days in month
83 Spring	42 2nd 10 days in month
92 Winter	43 3rd 10 or 11 days in month.
93 Fall	45 Encountered during special hunting season
94 Hunting Season	1-81 Encounter letter date or postmark plus 50
99 Unknown month of encounter	00 Unknown day of banding
00 Unknown month of banding	
* 12-65-70, for example, indicates that the letter was dated or postmarked 12-15-70 (50 having been arbitrarily added to the day).	

Figure 5-17. Inexact Date Codes

Code	Material (First Digit)	Type (Second Digit)
0	unknown	unknown
1	aluminum	butt-end
2	monel	lock-on
3	titanium	tall
4	incoloy	wrap-around
5	stainless steel	flipper
6	bimetallic	rivet
7	not used	short
8	not used	pre-opened
9	miscellaneous	miscellaneous

Figure 5-16 (sheet 67 of 8).
How Obtained Codes

Numeric Code	Age Designation	Corresponding Current Alpha Code
0	Unknown	U
1	Adult	AHY (not in all cases)
2	Immature	HY
3	Juvenile	Discontinued in 1962
4	Nestling	L
5	Sub-adult	SY (not in all cases)

Figure 5-19. Obsolete Age Codes

Code	Adult Designation
0	No designation
1	Flying adult not on territory
2	Adult on territory
3	Molting adult
4	Adult with brood
5	Adult on nest
6	Adult undetermined

Figure 5-20. Obsolete Adult Designation Codes

Code	Source of Report
01	From hunter, his family, or his hunting companion and reported by means other than 3-1807.
02	From State or Provincial conservation agency or employees in U.S., or Canada and reported by either 3-1807 or other means.
03	From Federal conservation agency or employees in Canada, U.S., and Alaska and reported by either 3-1807 or other means. This includes all F.W.S. employees, C.W.S. employees and R.C.M. Police.
04	From hunting club caretakers or officers, hunting guides or boat captains and reported by either 3-1807 or other means.
05	From a source which cannot be determined as including any of the other categories.
06	From hunting and fishing editors, etc. and reported by either 3-1807 or other means.
07	From poultry houses, pluckers, plucking stations, cold storage lockers, etc., and reported by either 3-1807 or other means.
08	From individuals using form 3-1807 not included in other categories and bird banders other than State/Provincial or Federal.
09	From an intermediate person, outside the U.S., such as a Hudson Bay Company employee, missionary, or Latin American intermediary and reported by either 3-1807 or other means.
10	Ducks Unlimited (officials and employees).
11	Reported as a result of Duck Club contest.
12	Reported by hunter on 3-1807.
13	Delta Waterfowl Research Station.
14	Parts Collection Survey (Duck Wing, Goose Tail, etc.). Each year the U.S. Fish & Wildlife Service Requests a sample of hunters to furnish parts of the birds which they have bagged. The hunters are asked to note any bands they have recovered. This code designates bands thus reported.
15	Mail Questionnaire Survey - Each year the U.S. Fish & Wildlife Service conducts a survey of hunters via a mail questionnaire. The hunters are asked to note any bands they have recovered. This code designates bands thus reported.

Figure 5-21 (sheet 1 of 2)
Obsolete Who Reported Codes

Code	Source of Report
16	Parts Collection Survey – Canadian
17	Mail Questionnaire Survey – Canadian
18	Special Mail Questionnaire Survey
19	Special Parts Collection Survey

Figure 5-21 (sheet 2 of 2)
Obsolete Who Reported Codes

PART 6**REQUESTS FOR DATA****PURPOSE**

1. Banding and encounter data are gathered and filed for the primary purpose of facilitating migratory bird research in North America. Therefore, all conservation agencies, universities, private organizations and individuals are encouraged to request banding and encounter information.

DATA SOURCE

2. Files of banding data are maintained in Ottawa, Ontario by the Bird Banding Office of the Canadian Wildlife Service and at the Bird Banding Laboratory in Laurel, Maryland. Researchers in Canada should request information from the Canadian Wildlife Service while those in the United States should contact the Bird Banding Laboratory. In Canada, a data request form (Request for Data on Bird Banding and/or Recoveries), available from the Banding Office, should be completed. Normally data will be supplied free of charge for legitimate research purposes.
3. These files are updated annually in late August and are usually available for use in early October.

DATA RETRIEVAL FILES

4. Banding and encounter data available to the investigator exist in two retrieval files:
 - (a) Banding Retrieval File - This file contains SUMMARIZED banding data through the last full calendar year for all game birds banded since 1908 AND all non-game birds banded since 1954. Banding data are summarized as follows:
 - (1) All birds of the same species, age and sex, with the same status and additional information codes, banded under the same permit number, within the same 10-minute block of latitude and longitude, during the same 5-day period, with the same band type, and schedule or prefix are "totaled" into a single record. See Figure 6-1 for record format.
 - (2) One summary record could represent anywhere from 1 to 99,999 birds. The summary records do NOT contain complete band numbers.
 - (3) The Banding Retrieval File contains approximately 7.6 million RECORDS representing 43.4 million birds as of August 1990.
 - (4) The records in the Banding Retrieval File are sorted in the sequence of data fields shown in Figure 6-1.
 - (b) Encounter Retrieval File - This file contains banding and encounter data for game and non-game birds. Each record contains all banding and encounter data for each band number. See Figure 6-2 for record format.

The recovery files had 2,702,828 records as of August 1990. The annual increase has been about 50,000 encounter records since 1978.

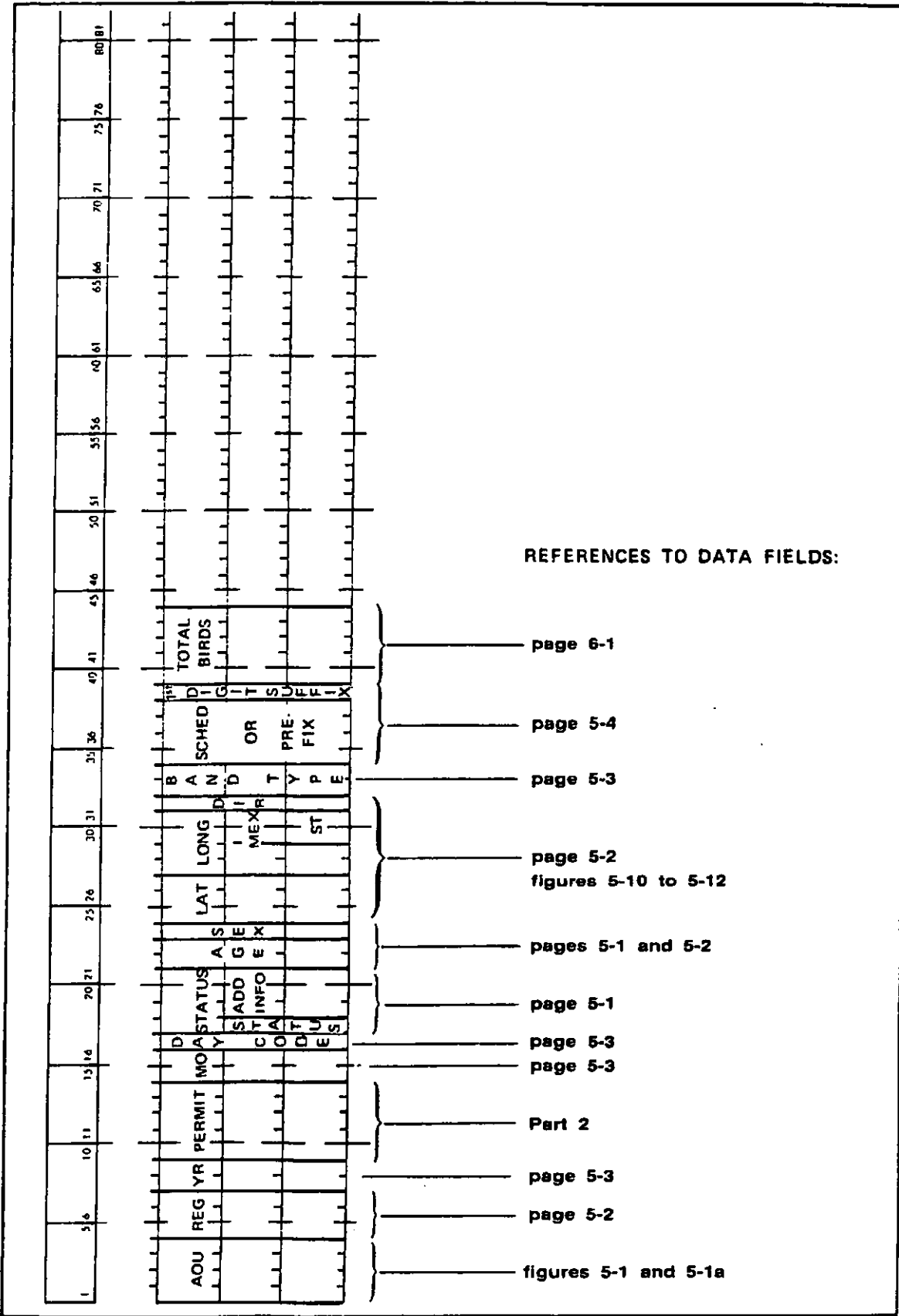


Figure 6-1. Banding Summary Record Layout

Figure 6-2. Recovery Record Layout

FORM IN WHICH DATA CAN BE SUPPLIED

5. Banding data can be supplied as listings (single or multiple copy), on magnetic tape or diskette. A request for data should specify the form in which you want the information provided.

6. In most instances, the Bird Banding Laboratory will not summarize and tabulate data. In some cases information requested may have already been tabulated by research or management biologists. In these cases, the information can be made available. The Canadian Wildlife Service has developed a small number of standard programs that manipulate raw data in a number of ways. One of these programs may perform the summarization that a researcher would otherwise have to do himself.

7. Data from the Retrieval Files on magnetic tape or diskette will be in the format shown in Figures 6-1 and 6-2.

Persons who receive data on magnetic tape or diskette should copy and test it to determine if the data are complete. The original tape or diskette should be copied and returned as soon as possible.

INFORMATION REQUIREMENTS FOR DATA RETRIEVAL

8. The following information should be specified when making a request for data retrieval:

- (a) A justification or need for use of the data.
- (b) Which files are to be used - Encounter Retrieval File, Banding Retrieval File, or both.
- (c) Type of encounter data required (recovery, foreign retrap, or return). The Encounter File contains only selected returns (retraps in the same 10-minute block) since 1958.
- (d) Species, age, and sex.
- (e) Area, (State and/or Province plus latitude-longitude if necessary) and time period involved.
- (f) How obtained codes desired (shot, found dead, etc.).
- (g) Status and additional information codes desired (normal wild, experimental, etc.).

TRANSLATION OF DATA

9. The numerical codes in the data can be translated with the aid of this Banding Manual (see Part 5 Codes).

10. Status code (1) in the first column indicates that something was done to the bird upon recapture that changed the original status.

LIMITATIONS ON USE

11. Bird Banding data maintained in the computer files have been gathered at a significant cost to the many persons and agencies who cooperate in the North American Bird Banding Program. These cooperators have certain proprietary interests in the data they produce. The person who first bands a bird has prior publication rights to any data resulting from that banding and/or the subsequent encounter of that band. Information may be withheld where endangered or threatened or sensitive species are involved.

12. OBTAIN PERMISSION FROM BANDERS BEFORE USING THEIR DATA FOR PUBLICATION. Banders have a prior right to analysis and publication of data resulting from their banding efforts. To protect their interests, a "Policy on Release" is included with each request, describing current limiting criteria.

13. Exceptions to the above limitations will be made where data are required by federal, state or provincial governments for management or administrative purposes.

14. Data are provided exclusively for the purpose described in the data request. Data are not to be used for any other purpose or made available to other persons without receiving prior clearance from the Chief, Office of Migratory Bird Management, or from the Director General, Canadian Wildlife Service, or their authorized representatives.

REQUESTS FOR VERIFICATION OF BANDING DATA

15. Banders are encouraged to analyze and publish the results of their banding activities. However, data on "Report-to-bander" listings may be erroneous, because not all encounters are checked for authenticity. Therefore, before unusual records are published, they should be verified. Also, any suspicious data should be reported whether it is to be used or not. In the U.S., it is necessary to send both the BAND NUMBER and the BATCH NUMBER (or permit number and date processed if no batch number is given) to the Bird Banding Laboratory so that the source documents (the banding schedule, and the encounter letter) can be located and examined. The batch number (not included in data files from CWS in Ottawa) is a 5-digit number in an encounter record referring to the file location of the report of that encounter.

PART 7**BANDING IN COUNTRIES OTHER THAN CANADA AND THE UNITED STATES****GENERAL**

1. There are many government or privately sponsored banding programs throughout the world. Cooperators in the North American Bird Banding Program are encouraged when traveling to contact participants in other banding programs. North American bird bands may not be used in another country without written authorization from the Bird Banding Laboratory (U.S. permittees) or the Canadian Banding Office (Canadian permittees). Also, banders should not trap or mark birds nor use North American bands in another country without first obtaining any permits or licenses required in that country.
2. In instances where banders wish to extend their banding research activities into foreign countries, the Banding Offices can issue special authorization covering the USE ONLY OF U.S. FISH AND WILDLIFE SERVICE BANDS ON NORTH AMERICAN MIGRANT SPECIES in Mexico, Central and South American countries, the Bahamas and West Indies, contingent upon the bander's receipt of necessary permits from authorities in those countries in which the bander proposes to band. Request permission from Mexico at least seven months in advance of any planned banding.
3. When applying for such authorization, the bander should furnish the appropriate Bird Banding Office with a resume of the research he proposes in the foreign country. Any proposed auxiliary marking of North American migrant species in foreign countries must also be cleared with the Banding Office.
4. Banders should also furnish similar information when writing to foreign officials for permission to band in their countries. They should include their U.S. Bird Marking and Salvage Permit or Canadian Scientific Permit to Capture and Band Migratory Birds Banding Permit numbers, and list any special authorizations he may wish such as mist nets, auxiliary marking, etc.

BANDING IN OTHER THAN NORTH AMERICAN COUNTRIES IN WEST LONGITUDE

5. If a bander needs to use North American bands in other areas in West Longitude he should request authorization from the appropriate Bird Banding Office at least 60 days prior to the date the permit is needed. In order to expedite the request, the letter requesting authorization should include:
 - (a) The geographic area (country and/or state) in which he plans to operate,
 - (b) the likely duration of the banding program,
 - (c) a brief resume of the study,

BANDING IN AREAS OUTSIDE WEST LONGITUDE

6. Except under extraordinary circumstances, the use of North American bands in Europe, Africa, Asia or other areas outside of West Longitude is not authorized. The Bird Banding Offices maintain liaison with other banding programs and will provide addresses to banders traveling abroad.

PART 8

BANDING ASSOCIATIONS AND OBSERVATORIES

GENERAL

1. Banders are urged to become active in regional banding associations. There are four banding associations in North America. Each association has an annual meeting, and some have additional meetings. Each supports a publication which provides a forum for current banding studies and problems.
2. In addition to the regional associations, there are a few active State, Provincial and local banding organizations. Officers of the regional associations can advise banders whether there are other active banding organizations in their vicinity.
3. All banding associations welcome new members. By joining, a bander can benefit from the experience of others and can communicate his own findings to others.

REGIONAL BANDING ASSOCIATIONS

4. Persons interested in obtaining the names and addresses of the current officers of any association should write to the appropriate Bird Banding Office.
5. Eastern Bird Banding Association covers D.C., Delaware, Florida, Georgia, Maryland, North Carolina, New Jersey, New York, Pennsylvania, South Carolina, Virginia, West Virginia, Ontario, and Quebec. Publication: *North American Bird Bander*, published quarterly.
6. Inland Bird Banding Association covers Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Texas, Wisconsin, Manitoba, and Saskatchewan. Publication: *North American Bird Bander*, published quarterly.
7. Western Bird Banding Association covers the remainder of the United States including Alaska, also Alberta, British Columbia, Northwest Territories, Yukon, and Mexico. Publication: *North American Bird Bander*, published quarterly.
8. Ontario Bird Banding Association covers the Province of Ontario. It is the only Banding Association now operating from Canada, so is of special interest to all Canadian banders. Publications: *Ontario Bird Banding Association Newsletter*, quarterly; and *OBBA Contributions*, occasionally.

BIRD OBSERVATORIES

9. Beaverhill Bird Observatory. 18624 70th Avenue, Edmonton, Alberta, T5T 2V8, Canada.
10. Cape May Bird Observatory. New Jersey Audubon Society, P.O. Box 3, Cape May Point, New Jersey 08212.
11. Long Point Bird Observatory. P.O. Box 160, Port Rowan, Ontario, NOE 1M0, Canada. Publications: *LPBO Newsletter* and *LPBO Annual Report*. Visits can be arranged. Advance

registration required of visitors in order to ensure transportation (416-444-7939). Research and educational programs at Long Point, Ontario.

12. Manomet Bird Observatory. Box 936, Manomet, Massachusetts 02345. Telephone: (508) 224-3559. Publications: The *Manomet Observer*, semi-annual; and *Research Reports*. Program includes a banding station and education program.

13. Point Reyes Bird Observatory. 4990 State Route, Stinson Beach, California 94970. Telephone: (415) 868-1221. Publications: *PRBO Newsletter* and *PRBO Annual Report*. Research and educational program at Point Reyes National Seashore and on Farallon Islands, California.

14. San Francisco Bay Bird Observatory. Box 247, Alviso, California 95002. Telephone: (408) 946-6548.

15. Whitefish Point Bird Observatory. 6253 N Westnedge, Kalamazoo, Michigan 49007. Telephone: (616)382-5290

APPENDIX A

GLOSSARY OF BIRD BANDING TERMINOLOGY

TERM	MEANING
ADDITIONAL INFORMATION	A code describing conditions existing when a bird is banded that may affect the chance of survival or of subsequent reports of the bird.
ADDITIONAL INFORMATION CARD	A postal card (Form 3-1831) used to solicit necessary additional information from the "hunter" or band reporter to enable the report to be processed.
AGE (OR YEAR) CLASS	<p>Alpha and numeric calendar year ages for birds. See Figure 5-4 for specific designations and definitions. Use of the following age designations was discontinued by the Bird Banding Laboratory on July 1, 1967:</p> <p>NESTLING: A bird incapable of sustained flight.</p> <p>IMMATURE: A young bird capable of sustained flight known to have hatched during the same calendar year in which it was banded.</p> <p>SUB-ADULT: A bird known to have hatched in the year preceding the year of banding.</p> <p>ADULT: A bird known to have hatched at least two years before the calendar year of banding. Sub-adults of some species cannot be distinguished from adults, so birds of both these age groups become "Adults" on their first January 1.</p>
ALPHA CODE	Since 1988 a four-letter code for common names has replaced the use of common names on banding schedules
AOU NUMBER	Numbers assigned to birds by the American Ornithologists' Union and published in the <i>Check-List of North American Birds</i> , 1983 Edition. The Bird Banding Offices have adopted these numbers (with a few modifications and additions) for use in data processing.

TERM	MEANING
AUTOMATIC DATA PROCESSING (ADP)	Data processing performed largely by electronic equipment utilizing data on cards, tapes, and discs. This is interchangeable with EDP.
AUXILIARY MARKER (or colour marker)	A marking device other than the standard metal leg bands and including colored neck and leg bands, paints, dyes, streamer, tags, nasal discs, and radio transmitters.
AVISE	A word in the legend of bands used in the North American Banding Program. "Avisé" is loosely interpreted in French, Spanish, and Portuguese as "Advise".
BAND LEGEND	The reporting address: "Avisé Bird Band, Write Wash. D.C., U.S.A." inscribed on bird bands. On bands smaller than size 2, the legend is stamped on the inside of the band. Older bands have different legends.
BAND NUMBER	<p>Each band used in the North American Bird Banding Program carries a unique serial number. With but few exceptions, these serial numbers consist of 7, 8, or 9 digits divided as follows:</p> <p>PREFIX: The first 2, 3, or 4 digits of the band number. On bands of size 2 or larger the prefix is usually separated from the suffix by a hyphen (-). On smaller bands the prefix is usually stamped above the suffix.</p> <p>SUFFIX: The last 5 digits of the band number after the separation or dash. See Part 3, paragraphs 22 to 24 inclusive.</p>
BAND REPORTING RATE	The percentage of banded birds shot and retrieved by hunters that are reported to the Bird Banding Laboratory. This statistic is used primarily in the analysis of migratory game bird banding data.
BANDING RETRIEVAL FILE	One of two principal Bird Banding Office computer files. In this file are data for groups of birds of one species banded at the same time, and with all other banding information identical.
BATCH NUMBER	A 5-digit number in an encounter record referring to the file location of the report of that encounter.

TERM	MEANING
BIRD BANDING NOTES	A former newsletter (1922-1966) for disseminating information between and among the Bird Banding Laboratory and cooperating agencies and individuals.
CERTIFICATE OF APPRECIATION	A computer-produced certificate providing general and specific banding information on an individual band to the band finder or reporter and expressing appreciation to him for reporting it.
COORDINATES	Banding and subsequent encounter locations are identified by coordinates of latitude and longitude as shown on many maps. The coordinates used identify a 10-minute block of latitude and longitude (grid) within which the banding or recovery occurred. The latitude and longitude used as the reference point for each 10-minute block in North and Central America is the lower right-hand (south-east) corner. North latitude and west longitude are assumed unless otherwise specified.
DATA BASE	Direct access files stored on discs. Files contained in the data base are: (1) Active Banding File; (2) Current Encounter File; (3) All reference files; (4) Incoming Schedule Control File; Compressed Banding File.
DIRECT RECOVERY	A banded bird killed or found dead before, during, or immediately following the first period of migratory movement following banding and before return migration would likely have occurred.
DIRECTION CODE	Tells in which quarter of the earth the banding or encounter took place. The equator and the prime meridian are used as reference points. See Part 5, paragraph 10 and Figure 5-11.
ELECTRONIC DATA PROCESSING (ED?)	Data processing performed largely by electronic equipment utilizing data on cards, tapes, and discs. This is current terminology but is interchangeable with ADP.
ENCOUNTER	An observation of a previously banded bird. Encounters occur through hunting or finding birds dead (recoveries), trapping (repeats, returns, retraps), or sightings by observers.

TERM	MEANING
ENDANGERED SPECIES	Species declared "endangered" by the Secretary of the Interior and listed in the U.S. Department of the Interior's "Red Book" entitled Rare and Endangered Fish and Wildlife of the United States or supplements thereto and also includes lists produced in Canada by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
EXPERIMENTAL	Conditions which render a wild bird "experimental" include, but are not limited to: colour marking (using markers other than leg bands), disease, serious injury, any degree of domestication, transportation prior to release; confinement for more than 24 hours or the removal of a blood sample. Also see the "Status Codes" listed in Figure 5-2.
FILE REFERENCE NUMBER	See BATCH NUMBER.
FIRST HUNTING SEASON RECOVERY	A banded bird killed or found dead during the first hunting season following banding. The same as a direct recovery.
FLYWAY	Convenient subdivision of the new world into administrative areas. Refer to maps in Part 5, Figures 5-7, 5-8 and 5-9.
FOREIGN RETRAP	A banded bird captured and released in a different 10-minute block than the 10-minute block within which it was originally banded.
GAME BIRDS	Migratory birds that are commonly hunted including waterfowl, cranes, doves, pigeons, woodcock, snipe, rails, coots, and gallinules. Birds having species numbers: 129-181,206-221,227-230, and 312.1-322.1
GRID	An area bounded by 10' of latitude and 10' of longitude. The "grid" boundaries are established along every ten minute line which ends in zero (00,10,20, etc.).
HAND-REARED BIRDS	Birds reared from eggs hatched in an incubator or under a setting hen or other domestic fowl. Also includes local or hatching year birds captured and kept in captivity before such birds are fully independent.
HARVEST RATE	The band recovery rate for shot birds adjusted by the proportion of banded birds taken by hunters and reported to the Bird Banding Laboratory.

TERM	MEANING
HUNTING SEASONS SURVIVED (HSS)	A code that essentially describes the number of hunting seasons during which a bird was alive. It was designed to increase the efficiency of summarizing game bird band recovery data to determine recovery and mortality rates. See Part 5, paragraph 18.
INDIRECT RECOVERY	A banded bird killed or found dead during or after its second migration season following banding. For example, a bird banded in July and recovered the next January would be a direct recovery. One banded in July and recovered 15 months later in October would be an indirect recovery.
KILL RATE	The proportion of a population dying as a result of hunting. It is calculated by adding to the harvest rate an estimate of the proportion of birds crippled by shooting and not retrieved.
LIFE TABLE	specialized tabulation of band encounter data used historically as the basis for computing annual rates of mortality. With the development of contemporary statistical model of the Seber-Robson-Brownie family, most life table methods are considered obsolete.
LISTING	A computer printout of each record in a data file. A listing differs from a tabulation in that it includes complete data for each record rather than totals and subtotals.
MEMORANDA TO CANADIAN BANDERS	Irregularly issued memoranda from the Canadian Bird Banding Office. They are intended to update policy and procedures concerning all banding activities in Canada. Likewise, they will serve as previews to revisions in the Bird Banding Manual.
MORTALITY RATE	The number of birds dying in a defined time period divided by the number alive at the beginning of the period. In most cases the time period is 12 months.
MTAB (Memoranda to all Banders)	Irregularly issued memos from the Bird Banding Laboratory to U.S. banders. MTABs are intended to keep banders informed concerning Bird Banding Laboratory activities and problems. They will also serve as a cover memo for Bird Banding Manual supplements and revisions.
MEMORANDUM TO BANDERS	Irregularly issued memos from the Canadian Bird Banding Office to Canadian banders.

TERM	MEANING
NORMAL WILD BIRD	A wild bird, apparently in good health, which has been captured, marked only with a standard leg band, and immediately release at the location where it was captured.
OSSIFICATION	The natural process of bone formation which also provides the basis for skulling birds to separate hatching year from older birds.
PERIODIC REPORT-STATE OF BANDING	A report containing both banding and encounters for birds processed during each run of the "Report to the Hunter System." It provides each State or Province with information on encounters banded in that State or Province. See Part 4, paragraph 25.
PERIODIC REPORT-STATE OF ENCOUNTER	Same as above except the listing includes all those birds encountered in the State or Province but banded elsewhere.
PERMITTEE	The holder of a Federal Migratory Bird Banding, Marking and Salvage Permit or a Canadian Scientific Permit to Capture and Band Migratory Birds (see Part 2).
POST-SEASON	This term applies to a period of banding between the time the hunting season closes and northward migration is well under way. For waterfowl, this has been loosely defined as the period January 16 through March 15, inclusive.
PRE-SEASON	This term applies to game birds banded during the summer and early fall prior to the opening of the hunting season. For waterfowl the preseason banding period is July 1 through September 30, and for Mourning Doves, June 1 through August 31.
PREVIOUS REPORT (PR)	Each year the Bird Banding Laboratory receives terminal recovery reports for band numbers which have already been so reported. Most "PRs" result from erroneously read band numbers or from multiple reports of the same band.
RECAPTURE	See REPEAT or RETURN.
RECOVERY	A banded bird killed or found dead and reported to the Bird Banding Offices. Note that a recovery relates to a dead bird and is a terminal record.

TERM	MEANING
RECOVERY RATE	The proportion of banded birds recovered and reported to the Bird Banding Offices.
RECOVERY RETRIEVAL FILE	One of the two principal Bird Banding Office files containing banding and encounter data. This file contains individual data for each encounter.
RELATIVE RECOVERY RATE	The extent to which the encounter rate for one age, sex, or population differs from that of another; used for game birds to express the extent to which one age, sex, or population is more likely to be shot than another.
REPEAT	A banded bird observed or captured and released alive within the same 10' grid of latitude and longitude and within the same 3-month period (as designated for "returns") in which it was originally banded or previously observed or recaptured. Note that a repeat does not necessarily relate to birds recaptured in the location where originally banded.
REPORT-TO-BANDER	A computer-produced form used to notify a bander of an encounter with one of his birds. See Part 4, paragraph 25(b) and Figure 4-9.
REPORT TO THE HUNTER	A computer-produced "Certificate of Appreciation" issued to provide the band finder with banding information.
RETURN	A banded bird observed or recaptured and released alive with a band attached within the same 10' grid of latitude and longitude in which it was originally banded and at least 90 days from the date of banding.
RETURN RATE	The proportion of banded birds observed or recaptured in subsequent years within the 10' grid of latitude and longitude where they were originally banded.
SCHEDULE (Form 3-860)	The form used to report data for newly banded birds to the Bird Banding Offices.
SIGHTING	The process of reading and reporting a band number on a live bird without actually capturing the bird. Includes band reading by means of a telescope and observations of color-marked birds.

TERM	MEANING
SKULLING	A technique for separating some hatching year birds from older birds based on the degree of ossification of the skull.
SPECIES NUMBER	A number assigned to bird species and used in the computer files in the Bird Banding Offices. AOU Check-List species numbers are used for North American birds. Special numbers are assigned to species not included in the Check-List, for certain subspecies, hybrids, Pacific, Caribbean, and Antarctic birds. Species numbers are listed in Part 5, Figure 5-1a.
STATUS	The condition of a bird at the time of banding. See Figure 5-2 for the codes used to describe status.
SURVIVAL RATE	The number of birds surviving at the end of a defined time period divided by the number alive at the beginning of the period. The complement of mortality rate.
TABULATION	A computer-produced data summary. Tabulations differ from listings in that the data are summarized and usually only totals and subtotals are printed.
TERMINAL ENCOUNTER	An encounter which prevents any future reports on that bird from occurring because of death of the bird, removal of the band, or both.
UPDATE	The modification of a data file due to the addition, removal, or correction of data.
WATERFOWL	Swans, geese, brant, coot, and all ducks. For banding purposes, the term waterfowl does not include loons, grebes, cormorants, pelicans, gulls, terns, shorebirds, herons, or other water birds.

APPENDIX B

REFERENCE TO BOOKS AND PERIODICALS USEFUL TO BANDERS

1. This section includes a selection of references on North American ornithology and banding data analysis. Individual species accounts have been omitted.
2. In addition to books and periodicals listed below you may wish to refer to banding association publications mentioned in Part 9.

Periodicals

The Auk. Published quarterly by the American Ornithologists Union. Contact OSNA, P.O. Box 21618, Columbus, Ohio 43221

The Condor. Journal of the Cooper Ornithological Society. Contact OSNA.

The Journal of Wildlife Management. Published quarterly by The Wildlife Society. The Wildlife Society, 5410 Grosvenor Lane, Bethesda, Md. 20814

The Wilson Bulletin. Published quarterly by the Wilson Ornithological Society. Contact OSNA.

Journal of Field Ornithology. Published quarterly. Contact OSNA.

North American Bird Bander. Published quarterly. Contact regional banding associations.

Books

A bibliography of wildlife telemetry and radio tracking. 1981. University of Rhode Island Press, Kingston, Rhode Island

A dictionary of birds. 1985. Buteo Books, Vermillion, South Dakota.

A field guide to bird songs of eastern and central North America. 1983. Houghton Mifflin Co., Boston, Massachusetts

A field guide to western bird songs. 1975. Houghton Mifflin Co., Boston, Massachusetts

Alexander, W.B. 1954. Birds of the Ocean. Van Rees Press, New York

Allen, Arthur A. 1961. The Book of Bird life. D. Van Nostrand Co., Inc., 120 Alexander Street, Princeton, N.J., and D. Van Nostrand Co., Ltd., 25 Hollinger Road, Toronto 16, Canada

Allen, Robert Porter. 1961. Birds of the Caribbean. The Viking Press, New York

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- Bent, Arthur Cleveland. Life Histories of North American Birds. Reprints from Dover Publications, Inc., 180 Varick St., New York, N.Y. 10014
- Blake, Emmet Reid. 1953. Birds of Mexico. University of Chicago Press, Chicago, Illinois
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- Chapman, Frank M. 1932. Handbook of Birds of Eastern North America. D. Appleton & Co., New York. Reprinted by Dover Publications, Inc., 180 Varick Street, New York, N. Y. 10014
- Clark, William S. 1987. A field guide to hawks, North America. Houghton Mifflin, Boston, Massachusetts
- Cooperband, Leslie R. 1985. Ornithology in the neotropics; a dictionary. American Ornithologists' Union, Washington, DC

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- Cramp, S. and K. E. L. Simmons (Eds.). 1977-1988. The birds of the western Palearctic, 5 volumes. Oxford University Press, Oxford
- Eliot, Willard Ayres. 1923. Birds of the Pacific Coast. G. P. Putnam's Sons, New York, N. Y.
- Engbring, John. 1984. Distribution and abundance of the forest birds of Guam. U.S. Fish and Wildlife Service, Washington, DC
- Farrand, John Jr. (Ed.). 1983. The Audubon Society master guide to birding. Chanticleer Press, New York
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- Friedmann, Herbert, Ludlow Griscom, and Robert T. Moore. 1950. Distributional Check-List of the Birds of Mexico. Part 1. Cooper Ornithological Society, Pacific Coast Avifauna No. 29
- Gabrielson, Ira N. and Fredrick C. Lincoln. 1959. The Birds of Alaska. The Stackpole Co., Harrisburg, Pa., and the Wildlife Management Institute, Washington, D.C.
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- Isler, Morton L. and P. R. Isler. 1986. The tanagers. Smithsonian, Washington, DC
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- Johnsgard, Paul A. 1979. Birds of the great plains. University of Nebraska Press, Lincoln, Nebraska
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- Lansdowne, J. F. 1968. Birds of the Eastern Forest: 1. Houghton Mifflin Company, Boston, Massachusetts
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