

SUGGESTIONS FOR A REVISED BIRD-BANDING
TERMINOLOGY¹

By MABEL GILLESPIE

THE object of bird-banding is to obtain sufficient data over a period of years to furnish answers, in part at least, to many ornithological problems. In order to make correct interpretations of an accumulation of data, the facts should be arranged as systematically as possible. A terminology, therefore, should be based primarily on the facts of greatest importance, and the same name should in every case be given to occurrences of *like ornithological significance*.

The terms "repeat" and "return" are in common use by individual bird-banders, in the publications of the various associations, and by the Bird-Banding Department of the Bureau of Biological Survey; but they are used with different meanings in many instances.

According to the Biological Survey, repeat is used to refer to birds that "repeatedly return to a trap."² "The term 'repeat' is used to designate a short-time return at the original station. It is used in case of recoveries of banded birds that have apparently not been absent from the immediate neighborhood since the time they were last handled. . . . Sedentary species may perhaps repeat continually throughout the year."³

"By 'return' is meant the record of any banded bird recovered in a succeeding season, or the record of any bird termi-

¹ At the meeting of the American Ornithologists' Union in October, 1929, at Philadelphia, the author read a paper entitled "Some Theories Regarding Returns of Banded Birds." An introductory paragraph stated the difficulty that had arisen in attempting to analyze results because of the present inadequacy of bird-banding terminology. Some terms commonly employed by the author and Mr. J. A. Gillespie were used in this paper to distinguish between various kinds of returns. Discussion, following the reading of the above-mentioned paper, concerning the inadequacy of bird-banding terminology, has encouraged the author to elaborate her criticism of the terminology into a paper of constructive suggestions, which is herewith presented for the consideration and criticism of bird-banders.

[Since this article went to press there has appeared the U. S. Dept. Agri. Misc. Publication No. 53, "Manual for Bird Banders," by F. C. Lincoln and S. P. Baldwin. The definition of repeat on page 100 is essentially the same as the one quoted above. The definition of return on page 101 is worded so as to include birds taken during a given season at different points on the migration route, but is not otherwise essentially different from the definition of return above quoted.]

² *Annual Report of the Smithsonian Institution, 1927, Bird-Banding in America*, F. C. Lincoln, page 337.

³ *Instructions for Banding Birds*, F. C. Lincoln, 1924, U. S. Dept. Agri. Misc. Circular, No. 18, page 25.

nated by its death.”⁴ “Return” has, accordingly, these interpretations: 1, the retaking of a bird at the original banding station after an interval of several months, during which interval the bird has presumably migrated; 2, the finding of a banded bird dead at the original banding station regardless of the interval that has elapsed since the date of banding; 3, the taking of a banded bird alive at some other point than the original banding station during a succeeding season; 4, the finding of a banded bird dead at some other point than the original banding station at any time. However, the Biological Survey classifies also as returns birds taken during a given season at different points on the migration route, such as the Purple Finch (*Carpodacus p. purpureus*) banded at Groton, Mass., May 6, 1929, and taken thirteen days later at Bar Harbor, Maine.⁵

The *Bulletin of the Northeastern Bird-Banding Association* uses the word “return” as applied “to birds which, banded at one station, are retaken at the same station after having returned from an annual migration or migrations for the first time.”⁶ The convenient notations “return-1,” “return-2,” etc., refer to banded birds returning (according to above quoted definition) for the first and second recorded seasons following original season of banding.

The use of the word “recovery,” also sanctioned by this *Bulletin*, is fairly common among bird-banders, though not in use by the Biological Survey. This word is used to indicate birds retaken elsewhere than at the original banding station.⁷ The Purple Finch previously mentioned was referred to as a recovery in the *Bulletin*.

Thus it is evident that confusion exists because of the varied usage and inadequacy of definition. It is impossible for the individual bird-bander to use or understand loosely (and sometimes contradictorily) defined terms intelligibly. The difficulty confronts him both in attempting to analyze his own records and in endeavoring to communicate his results to others in adequate, comprehensible phraseology.

Further problems have arisen that have greatly handicapped any attempt at studying an accumulation of data, because like

⁴ *Annual Report of the Smithsonian Institution, 1927, Bird-Banding in America*, F. C. Lincoln, page 337.

⁵ *Bulletin of the Northeastern Bird-Banding Association*, Vol. V, Oct., 1929, page 160.

⁶ *The Auk*, Vol. XLI, April, 1924, page 329, *Further Observations on the Group Habits among Birds*, C. L. Whittle and L. B. Fletcher.

⁷ *The Auk*, loc. cit., page 333.

phenomena have not been grouped under appropriate names. The bird-bander is apt to overlook the meaning or ornithological significance of his data because of the confusion in grouping. Such confusion is inevitable because the terms are defined largely through usage and the usage varies according to individual ideas.

Typical difficulties are illustrated by the following records (J. A. and M. Gillespie, Glenolden, Pa.):

		Banded	Trapped	Found dead at station
61233	Song Sparrow	Dec. 23, '22		Jan. 7, '23
61224	White-throated Sparrow	Nov. 26, '22	Jan. 6, '24	Oct. 30, '24

The Song Sparrow (*Melospiza m. melodia*) figured in one winter season only, while the White-throated Sparrow (*Zonotrichia albicollis*) returned for the second season after first being banded. If both birds had continued to live, the former would be called a repeat and the latter a return. And yet, because found dead, they have both been classed alike as returns. Death concludes the record of a bird, to be sure, but it does not alter the fact of a repeat or return, either of which may be of great importance.

Consider the case of a Junco (*Junco h. hyemalis*), for example, banded by a coöperator on a certain date during the winter season, and found dead a few weeks later by a neighbor several hundred feet from the original trapping station. The Biological Survey calls such a case a return, the *Bulletin of the N. E. B. B. A.* calls it a recovery; but should it not really be a repeat? Are the facts either of death or human identity of particular importance? What should be emphasized in this connection is the fact that the important item is the finding of the bird within a certain locality at a certain time, and that the identity of the capturer does not matter, nor, in most cases, the fact as to whether the bird is dead or alive. In considering migration problems, the important facts about the movements of birds are concerned with time and place.

When two banders, *A* and *B*, are operating stations near enough to each other so that birds would roam from one to the other in the course of normal daily activity, then a bird banded by *A* one season and taken by *B* during that season is actually a repeat. If taken by *B* during a succeeding season, the bird is actually a return scientifically considered.

Numerous complications in the matter of terminology arise in the case of a species some of whose members in any given banding area are successively present as winter residents, summer residents, and migrating visitors during the short period

of spring or fall migrations, and others continuously present as permanent residents. At our station in Glenolden we have had Song Sparrows that spent the winter and left in the spring, Song Sparrows that nested and left for the winter, Song Sparrows that passed through in the spring, and several Song Sparrows that remained through the greater part of an entire year. Birds of the last type are not returns, though they have been so listed if not trapped frequently. The other examples are (where birds return during successive seasons) returns to summer areas, to winter areas, and definite halts on the migration route. The term return is vague when covering all of these possibilities, since the significance in each case is different.

In proposing certain changes in and additions to the banding terminology, the definition of repeat remains very much the same. A repeat is a bird retaken at or in the *near* vicinity of the original banding station during the sedentary (seasonal) or non-migratory interval following the first capture or that of any return. The time cannot be arbitrarily limited, since it varies with different species and during different seasons. In the case of permanent residents, recaptures should be classed under repeats, even if an interval of a year elapses between captures. To illustrate this point, there is the case of a male Cardinal (*Cardinalis c. cardinalis*) that fights daily with its image in the window of a garage, and whose band can be clearly seen. This bird was banded in January, 1928, was retaken in February, March, and May, and then not again until May, 1929, although the bird was seen almost every day. The fact that the bird is trap-shy does not alter the fact that it has never migrated.

A banded migratory bird found dead at the station where it was banded during a seasonal non-migratory interval should be classed as a repeat. Continued repeats are valuable in indicating the duration of seasonal residence, and it is the fact that a bird is still present at a certain date that is important, not that it was found dead.

For the sake of convenience in writing one's daily banding journal and in filing, repeats taken by a neighbor or coöperator on adjoining territory may be referred to as "recovery repeats," and *vice versa*. "Return repeats" are birds already taken as returns that subsequently repeat during the season of return. There will occasionally be "sight repeats," birds recognized by manner of banding (colored bands, etc.) or by some physical characteristic (albinism or peculiar habit, etc.). In rare cases originality of song may indicate a "song repeat."

A return should be just what the word signifies, a return to

the same area after a period of migration. Returns fall naturally into four classes: "summer resident returns," "winter resident returns," and "spring and fall *migrating* returns." The latter indicate migrating returns going north (spring migrants) and migrating returns going south (fall migrants). These four classes of returns may be further defined as "recovery returns" (returns taken by a neighbor), sight returns, and song returns.

Of particular value is the terminology of the *Bulletin of the Northeastern Bird-Banding Association* for indicating the time element with returns. Thus a bird that returns to its summer habitat for the third consecutive season after first being banded may be referred to as a "summer return-3," or "R-3 S." (A return to winter habitat would similarly be a "winter return-3," or "R-3 W.") If it happens that such a bird was banded one year, retaken the next, not taken the third year, and then taken the fourth, the probability is that it was present but not trapped during the third year. Calling such a bird a return-2 rather confuses the actual facts since it belies the time element. However, the bird can be called a return-3 with an explanatory note, or the notation may be as follows, "return-3 (-1)," thus indicating a season when not taken. Birds taken as returns on the north or south migration journey may be indicated as "returns migrating north or south." The abbreviations "R-1 M-S" or "R-1 M-N" will be of convenience. Death in no way affects the ornithological significance of a return.

Repeats and returns thus apply to birds retaken at or very near the original place of banding. For birds that are retaken away from the vicinity of the original banding station, dead or alive, the term recovery is appropriate. If such recoveries of an individual continue during successive years, migration having taken place in each case, the number of years of recovery may be indicated as in the case of returns. A Purple Finch banded at Middleborough, Mass., on Jan. 26, 1924, was taken during the five succeeding years at Cohasset, Mass., and is called a "recovery-5."¹

In the use of this terminology, remember that time and place of recapture determine whether a bird is a repeat, a return, or a recovery. Use these words as nouns in describing a given bird, and then add qualifying words or symbols when necessary to indicate season, etc. For individual use a good part of

¹ *Bulletin N. E. B. B. A.*, Vol. IV, April, 1928, page 71.

a bird's history may be conveniently indicated by abbreviated annotation.

These proposed changes and additions do not in any way limit the future necessary growth of our bird-banding vocabulary. Repeat, return, and recovery will continue to be the main divisions of classification, no matter how much each group may be subdivided. For bird-banders who are handling small numbers of birds and who are not engaged in special ornithological studies these three terms may be sufficient. But for an accurate analysis of records and for scientific writing, finer distinctions must be used. With these three logically defined divisions as a foundation for classification it is hoped that future needs, as yet undreamed of, may be met without again upsetting our bird-banding terminology.

SUMMARY

Repeat—a bird retaken at or in the near vicinity of the original banding station during the sedentary (seasonal) or non-migratory interval following the first capture or that of any return.

Return—a bird retaken at or in the near vicinity of the original banding station after a period of migration.

Recovery—a bird retaken away from the vicinity of the original banding station.

<i>Terms</i>	<i>Abbreviations</i>
REPEATS	
Repeats	Rep.
Permanent resident repeats	P. R. Rep.
Recovery repeats	Rec. Rep.
Return repeats	Ret. Rep.
Sight Repeats	St. Rep.
Song Repeats	Song Rep.
RETURNS (Numerals indicating number of years bird has returned)	
Summer (resident) returns-1	R-1 S
Winter (resident) returns-1	R-1 W
Returns-1 migrating north	R-1 M-N
Returns-1 migrating south	R-1 M-S
Recovery returns	Rec. R-1 (S, W, M-N, M-S)
Sight returns-1	St. R-1 (S, W, M-N, M-S)
Song returns-1	Song R-1 (S, W, M-N, M-S)
RECOVERIES	
Recovery-1	Rec.-1
Recovery-1 migrating north	Rec.-1 M-N
Recovery-1 migrating south	Rec.-1 M-S