

## BIRD SONGS ON TAPE

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The songs of birds on sound tape is receiving increased attention in ornithological circles at several locations in the United States and Canada, as well as in England, Africa, Venezuela and Mexico. Ornithological studies in several fields have had their "day", as it were, and all have made and are making their rightful contributions. Migration, banding, nomenclature, skin preparation, painting and photography, anatomical studies, nest and egg collection and life lists have been joined, and in some cases superseded, by behavior and life history studies. And now comes perhaps the most intriguing and fastest growing field in ornithological activity, — sound recording.

Although the cost of recording equipment is a present deterrent, preventing the activity from becoming a popular pasttime, the many areas of the world as yet unvisited by recording specialists and the hundreds of fascinating songs and calls still unrecorded remain indeed a real challenge. Beyond the sheer enjoyment of capturing these small musical segments of eternity and replaying them at one's convenience, sound recording can contribute significant information in several fields of study.

The intent of this paper is to describe some of the uses of recording equipment, the equipment needed in the work, and some of the currently available phonograph records prepared from tape.

### USES OF RECORDINGS

The average bird student will get tremendous pleasure simply by recording the songs he hears and playing them back to himself and his friends. He may then proceed to the more useful phases of bird study through the new information provided by the tapes. Learning new birds through their songs and locating them in the field by their notes is obviously of great value. Playback, with amplifier, of a species' song has been used successfully to bring such secretive birds as the Swainson's Warbler out of hiding into plain identifiable view.

Printed "images" of tape-recorded bird song have been made with an audiospectrograph or vibralyzer which shows accurately the pitch, intensity,

deviation and fluctuation of an individual song, note or call. Among the species songs recently so processed and studied are those of Traill's Flycatcher, Carolina Wren, Mockingbird, Wood Thrush, Henslow's Sparrow and Towhee.

Another interesting and productive adaptation of a recorder, microphone, parabola and timing device is the detection of nightflying migrants by recording the call notes as they pass overhead in the darkness. The taped story is then studied at leisure. (Wilson Bulletin, 71:3:220). Undoubtedly other uses of the equipment in the field and laboratory will be investigated as more and more bird students undertake this fascinating hobby.

#### RECORDING EQUIPMENT

It need hardly be said that bird recording requires portable equipment which can be used beyond the limits of available electricity. For professional quality sound recordings, a portable recorder should transport tape at 7" to 15" a second, the latter being preferable. This requisite eliminates most of the available battery and spring-operated sets. The following are makes known to have been used successfully in bird song recording:

1. *Magnemite* (with tubes), and *Transmagnemite* (with transistors), weighing 15 to 19 pounds, and ranging in price from \$325 to \$500, depending on the model and speeds selected. The writer has used each of these with success. A third recorder from the same manufacturer is the *Flyweight Magnemite*, weighing about 8 pounds with batteries, tubes and motor. These three models are sold by the Amplifier Corporation of America, 398 Broadway, New York 13, N. Y.
2. *Kudelski Magnetic Tape Recorder, Nagra III*, made in Switzerland, and costing in the neighborhood of \$1,000. Dr. Paul Kellogg of Cornell has tested this make recently and reports excellent results.
3. *British E. M. I.*, distributed by the Ercona Corporation, 551 Fifth Avenue, New York, N. Y.

#### MICROPHONE

Only first quality dynamic microphones should be selected. They should have as wide a range of frequency response as possible, including from about 50 to 16,000 cycles. The *Electrovoice 650* or *654*, and the Western Electric *Billiard Ball*, and equivalent models are quite satisfactory.

#### PARABOLIC REFLECTOR

Essential for recording distant individual bird songs, particularly when

other songs or noises are present, is a parabolic reflector. The microphone, placed at the reflector's focal point, will receive many times the volume it would if used alone. A lightweight aluminum or magnesium reflector, 16 to 36 or 40 inches in diameter is a good size and will prove invaluable in recording. War surplus parabolas may be found by shopping around, or new ones may be purchased for from \$20 to \$50, depending on their size. Racon Electric Co., Inc., 1261 Broadway, New York 1, N. Y.; or Toronto Metal Spinning Co., Ltd., 32 Eastern Ave., Toronto, Ontario, Canada, make parabolas on order.

#### OTHER EQUIPMENT

Standard sound tapes, especially the newer mylar base tapes, are excellent for recording. The thinnest tapes available will require less changing of reels in the field, and this is a distinct advantage when different species are passing by and time is of importance. Headphones should be of the crystal type and should have a wide frequency range. The *Brush "A"* headphone is good.

#### PHONOGRAPH RECORDS OF BIRD SONGS

Ficker Records, 232 Arcadia Road, Greenwich, Conn. J. E. Stillwell recordings. 33 $\frac{1}{2}$  rpm.

Vols. I and II — *Eastern Bird Songs*.

Vol. III — *Western Bird Songs*.

*Symphony of the Birds*.

*Nature Wheel*.

E. M. I. Records, Ltd., Hayes, Middlesex, England. Recorded by Ludwig Koch, cooperating with British Broadcasting Corporation. 45 rpm.

Vol. I — *Songs of British Birds: Gardens and Parks and Birds of the Woodland*.

Vol. II — (idem): *Fields and Hedgerows and Riverside and Marshland*.

Federation of Ontario Naturalists, 187 Highbourne Road, Toronto 7, Ontario, Canada; or, Curtiss and Weir, 54 Priscilla Place, Trumbull, Conn. Recordings by W. W. H. Gunn, Donald J. Borrer, et al. 33 $\frac{1}{2}$  rpm.

*Songs of Spring*

*A Day in Algonquin Park*

*Birds of the Forest*

*Warblers*

*A Day at Flores Moradas (Venezuela)*

Cornell University Records, 124 Roberts Place, Ithaca, N. Y. Recordings by Drs. Arthur A. Allen, Peter Paul Kellogg, et al.

Group I — 33 $\frac{1}{2}$  rpm.

Music and Bird Songs (with amphibians and slowed-down songs), arranged by James H. Fassett, CBS.

*Songbirds of America*

*American Bird Songs* (in two volumes)

*Mexican Bird Songs* (recorded by L. Irby Davis)

*Voices of African Birds* (recorded by Myles North)

*An Evening in Sapsucker Woods*

*A Field Guide to Bird Songs* (two discs, 305 species, following page sequence of Peterson's *Field Guide*.)

Group II — 78 rpm.

*Western Bird Songs* (recorded by Dr. William R. Fish)

*The Mockingbird Sings* (recorded by Dr. and Mrs. Kellogg and H. Vose Greenough, Jr.)

*Florida Bird Songs*

Columbia, SEGO-70006. (Australia) . 45 rpm.

*The Superb Lyrebird*

Witherby's *Sound-Guide to British Birds*. H. F. & G. Witherby, Ltd.

Part I — *Non-passerines; the Larger Birds*

Part II — *Passerines; the Smaller Birds*

As noted, considerable work has been done in the capturing of bird song on tape. Many species, however, are as yet unrecorded. In fact, the complete vocalizations of any one given species have not been taped, to our knowledge. That there are great possibilities of doing something useful as well as enjoyable in this line can hardly be denied. Besides the immense satisfaction of contributing to natural science, the bird student who has been successful in starting a life list of his own recorded bird songs can experience pleasure similar to that of the writer. It is only necessary to sit back and replay his recordings of the songs and cries of such widely varying species as the Least Bittern, Brant, Bald Eagle, Limpkin, Virginia Rail, Piping Plover, Woodcock, Royal Tern, Black Skimmer, Black-billed Cuckoo, Horned Owl, Chuck-will's-widow, Pileated Woodpecker, Raven, Brown-headed Nuthatch, Gnatcatcher, Swainson's Warbler, Blackburnian Warbler, Canada Warbler, Bobolink, Spotted-breasted Oriole, Painted Bunting, Vesper Sparrow, Bachman's Sparrow, Song Sparrow, and others, to take him back in retrospect to certain spots in the fields, woodlands, swamp and shoreline, and urge him on to new memories in sound.

## REQUEST FOR INFORMATION

Papers are being prepared on the further spread of the Mockingbird in this area, and on the increase of the House Finch in the Delaware Valley. Will anyone having records of resident Mockers or occurrence of the House Finch please forward them to the Secretary or to the Editor?