

The Centers of Learning

Manomet Bird Observatory by *Susan Roney Drennan*

Situated on eighteen flora- and fauna-rich acres in Plymouth County, Massachusetts, and commanding a memorable view of Cape Cod Bay is Manomet Bird Observatory, a rapidly growing, non-profit, educational institution. The vision of its founders six years ago was the establishment of a unique, independent, membership-supported field research and education station equipped to conduct long-term studies in environmental biology.

Widewater, formerly the main house of a gracious summer estate, has been converted to the headquarters of the observatory and contains well-equipped laboratories, offices, staff living quarters, guest lodgings, and a comfortable library. The basement houses sensitive radiation-measuring instrumentation, bird skin collection cabinets and storage space for the equipment essential to Manomet's active bird banding program. In spite of its youth, the Observatory holds a very substantial and efficiently operated library which has become a valuable resource for staff members and students. Each year significant additions to the reprint files, journal collections, and reference volumes have been made. Expansion of the library appears to enjoy high priority with the administration.

The primary purpose in establishing Manomet Bird Observatory as a year-round field station was to encourage research and education in the fields of ornithology, ecology, and natural history. The salaried staff numbers nine, including five biologists and a physicist. A wide range of research projects is in progress currently. Financial support for the research and educational programs comes from three major sources: active membership backing, research contracts, and foundation grants. Multifirmity of funding seems to have empowered Manomet to launch new research studies as well as maintain the longterm investigations central to the original aspirations of the Observatory. Of incalculable value is an enthusiastic and competent core of volunteers com-

prised primarily of dedicated members and hard-working college students majoring in biological sciences. Volunteers contribute more than 30,000 hours annually to the ambitious MBO programs.

The steady development, impressive accomplishments, and smooth functioning of Manomet Bird Observatory during the past six years have been facilitated by the skillful administration of the Executive Director, Kathleen S. Anderson. The operation continues to thrive under her guidance.

Current research activities at Manomet encompass a wide variety of topics and interests. Considerations of space prevent listing these projects but several long-range studies and programs are briefly noted here in order to illustrate the scope of the MBO scientific endeavors.

The Bird Banding Program provides a data base for studying breeding and wintering birds, migration patterns, longevity, molt, and other behavior. As more years of data accumulate, studies of long-term trends can be made. All banding records are computerized and are easily available as computer print-outs. In this form, analysis of an enormous body of basic information is feasible through the use of computers.

During the spring and autumn migrations considerable staff and volunteer effort is expended in banding migrants. In 1974, information was recorded on approximately 1600 banded birds.

The Avian Nuclide Project, directed by staff physicist Kenneth A. Youngstrom, is a long-term investigation funded by the U.S. Energy Research and Development Administration. Less than two miles from Manomet is located a nuclear power station. Radioactive material leaving the plant becomes part of the food chain. The purpose of the study is to measure the absorption and incorporation of radionuclides by resident birds on the reactor site and several distant control sites. Birds are trapped, banded, measured for radioisotopes by a sensitive whole-body counting instrument, and released unharmed at whichever site they were trapped. This is the first time that the radioecology of small, wild, live birds has been attempted. Additionally, through the combined techniques of bird banding and radiation measurement, such questions as, how are small birds handling the processing and transporting of natural fallout (radiation)? can perhaps be answered. James M. Loughlin, who did yeoman service as a volunteer while an undergraduate, joined the staff in 1974 as laboratory assistant with the avian nuclide study.

The Migratory Shorebird Study, piloted by Assistant Director and staff biologist Brian A

Harrington, strives to explain the use of estuaries and beaches in the northeast by southward migrating shorebirds. This is a general feeding ecology study aimed at better understanding shorebird biology as well as gathering information on the importance of estuaries to the health of shorebird populations. During the summer of 1974 a 100-acre mud flat in Plymouth Harbor was surveyed so that comparisons of the feeding behavior of individually color-banded birds and potential food resources can be made. Hours of painstaking effort have been spent in identifying and quantifying the invertebrate fauna on the various flats in the estuary. Comparisons are being made between flat feeding and beach feeding. The reasons Plymouth estuary is a major staging area for migrating shorebirds in the autumn are becoming clearer.

The Forest Census, conducted by senior staff biologist Trevor L. Lloyd-Evans, is a continuing investigation of the vegetation and breeding birds originally in three twenty-acre sites of Scrub Oak-Pitch Pine forest, each in a different stage of fire recovery (two years, ten years, and thirty years). In 1974 the addition of another twenty-acre burn whose ashes were still warm and which contained white pine, red pine, and part of a housing development was a logical expansion of the study. Future progress depends on the availability of an area of natural forest on which a housing development is to be constructed. By studying the forest cover intact and following the changes in plant and bird populations from the initial clearing and construction through twenty or more stable years as a suburban community, the effects of human disturbance can be gleaned. The end of this exhaustive census should be knowledge of how plant and animal life have responded to normal fires for the past 100 years and how they can be expected to respond sub-

sequently, and the ability to predict the inescapable changes in bird life attendant with proliferating suburbs.

Mr. Lloyd-Evans is also working on the **House Finch Project**, which is a shorter study documenting and explaining molt patterns, and movement of the House Finch, which has newly established itself in the northeast.

Botanizing at Manomet has been carried out under the guidance of staff biologist Bruce A. Sorrie. More than 300 species of ferns and flowering plants have been identified on the observatory property. Over 150 species of cultivated flowers thrive on the grounds. Presently specimens of the many sedges and grasses that add to MBO's floral diversity are being located and identified. Sorrie has completed a preliminary survey of the flora of Plymouth Beach and teaches a field course in wildflower identification each spring.

A Harbor Seal Census and Behavioral Study is being conducted by staff member Frank J. Gardner. Many unclear aspects of the biology of seals and their coastline distribution prompted this investigation.

Manomet offers an internship program designed to aid a student in deciding whether he is suited to professionally pursue field biology. The intern must be especially interested in natural history, should possess some knowledge of biology (elementary college courses), and must submit a formal application to the Observatory. While at Manomet he is exposed to the rigors and trials of a field biologist and is expected to be of assistance with numerous and varied ongoing projects. At the end of his internship he comes away with a considerable fund of information and technique and, with any luck, sufficient background on which to make a lifetime decision.

A Selection of Recently Published Books

A Birder's Guide to Minnesota. — K.B. Eckert. Minnesota Ornithologists' Union, University of Minnesota, Minneapolis. 1974. 114 pp. \$3.50 (softcover). A detailed finding guide to more than 150 birding areas in the state. Includes a fine general introduction, maps of four regions, season-by-season regional guides, with explicit travel instructions — even a directory of helpful experts-in-residence. State highway map and field card included.

A Contribution to an Annotated Bibliography of North American Cranes, Rails, Woodcock, Snipes, Doves, and Pigeons. — Henry M. Reeves. U.S. Fish and Wildlife Service, Laurel, Md 1975. 527 pp. Available from National Technical Information Service, U.S. Dept. of Commerce, Washington, D.C.

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