Volunteers and Training in MAPS

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ABSTRACT—Mist netting and banding are important, well-established tools for researching and monitoring landbird populations; increasingly they are being used in large-scale monitoring efforts. The long-term success of these large-scale efforts depends on the participation of amateur volunteers. Volunteers are critical to the Monitoring Avian Productivity and Survivorship (MAPS) Program. An estimated 64% of the effort expended in running MAPS stations in 1995 was contributed by volunteers involved in all aspects of station operation, and the need for MAPS volunteers is likely to increase because of federal budget cuts. Unfortunately, the number of skilled, well-trained volunteers available to contribute to banding programs is limited. Thus, there exists a pressing need for accessible, affordable training programs in mist-netting and banding. To this end, The Institute for Bird Populations (IBP) offers a large number of internships and has established a nationwide program of low-cost, intensive, bander-training courses. In addition, IBP is facilitating a bander-apprenticeship program whereby trainees are paired one-on-one with qualified trainers. Benefits from these training and apprenticeship programs include: (1) increased participation of the private sector in landbird research and monitoring programs; (2) development of a pool of skilled amateurs and professionals into which agencies can tap for assistance in landbird research and monitoring; and (3) improvements in the accuracy, standardization, and thoroughness of banding data collected in research and monitoring programs. Some suggestions are offered for the development and maintenance of a viable volunteer cadre. The development of an effective North American Bird Conservation Plan must take training needs into consideration.

INTRODUCTION

Mist netting and banding are important, well-established tools for researching and monitoring landbird populations (Baillie 1990, Butcher et al. 1993, Nur and Geupel 1993, Ralph et al. 1993). These techniques increasingly are being used in large-scale monitoring efforts such as the Monitoring Avian Productivity and Survivorship (MAPS) Program and Constant Effort Sites (CES) Scheme; various migration-monitoring programs; and winter-season monitoring programs both in temperate latitudes and in the Neotropics (Baillie et al. 1986, DeSante 1992, DeSante and Burton 1995, DeSante et al. 1993a, Peach et al. 1990, Ralph and Peach in prep.).

MAPS, like the Breeding Bird Survey, Christmas Bird Count, and Project Tanager, is a continentwide, standardized monitoring program that relies heavily on volunteers for the collection of data. Unlike these programs, however, MAPS entails the capture and handling of live birds and the collection of complex morphometric data. Because the number of skilled banders available to operate monitoring stations is limited, the long-term success of MAPS will depend on its ability to recruit, train, and maintain a viable volunteer base.

This paper demonstrates that volunteers play a critical role in the operation of MAPS stations, and that the need for volunteers in MAPS and other research and monitoring

programs is likely to increase in the near future. The paper also outlines the steps being taken to build a viable MAPS volunteer base.

MAPS VOLUNTEERS: ROLE AND NEED

MAPS is a standardized monitoring program utilizing mark-recapture data gathered at a network of constant-effort banding stations throughout the continental U. S. and Canada (DeSante et al. 1993b). MAPS stations fall into two categories: (1) those operated by IBP using volunteer interns; and (2) independently operated stations.

In 1995, IBP operated 138 out of 391 MAPS stations (35%). Interns contributed approximately 85% of the effort involved; paid IBP biologists contributed the remainder. At the 253 independent stations, volunteers contributed an average of 53% of the effort (based on a sample of 66 stations). Thus, we estimate that volunteers were responsible for 64% of the total effort involved in MAPS data collection in 1995.

Volunteers can be responsible for every aspect of MAPS-station operation, including selecting and preparing mist net sites; opening and closing nets; extracting birds from nets; identifying species (even among difficult groups such as *Empidonax*); banding captured birds; determining age and sex with the aid of appropriate reference materials; accurate scoring of morphometric data such as skull pneumatization, cloacal protuberance, brood patch, fat, molt, feather wear, juvenal plumage, wing chord, and weight; and collecting habitat data. At some independent stations, volunteers are designated to perform a single task such as extracting birds or recording data; this assistance can be particularly helpful on busy days.

The need for volunteers in MAPS and other large-scale research and monitoring programs is likely to increase for two reasons. First, MAPS continues to grow; the number of stations increased from 17 in 1989 to 391 in 1995. Second, federal support of the program, after growing steadily during the early 1990s, is now declining in relation to other sources of funding. During the first two years of MAPS, 1989 and 1990, slightly more than 10% of MAPS stations relied at least partly on federal money. This figure more than doubled in 1991 and then doubled again in 1992, when the majority (52%) of MAPS stations received some federal funding, owing largely to the involvement of federal agencies in Partners in Flight. From 1993-1995, the number of stations receiving federal support increased more slowly, peaking at 63% in 1995. In 1996 the number declined to 60%.

BANDER TRAINING: OBJECTIVES AND IBP APPROACHES

The limited pool of qualified banders, combined with the growing number of MAPS stations in the face of reduced federal support, creates a pressing need for accessible and affordable training programs in mist netting and banding. And because the basic data required for MAPS—accurate aging of all birds captured—necessitates the collection of detailed supporting data: skull pneumatization, breeding condition, molt, and feather wear—we support the establishment of a standardized, continentwide, bander-training program.

Such a program should be designed to achieve the following objectives: (1) increase the number of banders who can capture, identify, band, and release birds without harming them, their mates, or their offspring; (2) improve the skill of banders to

increase the quality of data collected; (3) improve the standardization of data-collection and data-recording procedures to make the data more useful for large-scale, long-term monitoring programs; and (4) get existing banders more involved in monitoring programs.

To meet these objectives, IBP has taken a five-pronged approach to bander training.

Internships. Since 1992, IBP has recruited and trained interns to operate federally funded MAPS stations. Interns are recruited through ornithological and environmental job bulletins, university professors and placement offices, and the American Birding Association. Internships begin with intensive, two-week, spring training sessions conducted by experienced MAPS biologists, at a student-teacher ratio of about 6:1. The interns receive additional, intermittent training and supervision throughout their internships. As a result of this internship program, IBP produced about 250 skilled banders from 1992-97, and six MAPS stations have been established by former interns.

Bander-training courses. In 1995, IBP initiated a program of seven-day summer courses at various locations. The courses are open to the general birding community for a modest fee, and are patterned to some extent after our intern-training sessions. Courses are taught by experienced MAPS biologists at a 6:1 student-teacher ratio, and are offered at the height of the breeding season, so that students are exposed to breeding condition, molt, and incompletely pneumatized skulls. We use low-cost facilities such as biological stations and scout camps to keep the courses affordable. Course graduates are encouraged to assist at MAPS stations for the remainder of the field season, and are allowed to attend part of the following year's intern-training session as a "refresher." Approximately 150 people, ranging from birders to professional wildlife biologists, enrolled in our courses from 1995-97, and course graduates have established a total of nine MAPS stations and assumed operation of three pre-existing stations.

Special DoD/NAS bander-training courses. In fall 1997, IBP and the National Audubon Society (NAS) signed a Memorandum of Understanding whereby NAS is providing information and encouragement to its chapters to take over the operation of existing MAPS stations or establish new stations on DoD military installations, and IBP is providing, through funding received from the DoD Legacy Resources Management Program, free training in mist-netting and banding procedures and MAPS protocol, through special spring and/or summer bander-training courses, to members of Audubon Society chapters and other individuals that agree to take over the operation of existing stations or establish new stations on DoD military installations. Four such courses were scheduled to be offered in 1998 and many more are being scheduled for 1999 and 2000.

"On-request" training sessions. Since 1995, IBP has provided training sessions for agency groups by request. These sessions are similar to the summer courses but vary in length and content depending on the needs, skills, and resources of the group being trained. Also, the sessions are conducted at sites that are selected and prepared in advance by the group. With a large group, most agencies find this training approach to be more flexible and more cost-effective than sending individual trainees to the summer classes. As of 1997, four MAPS stations have been established by graduates of these training sessions.

Apprenticeships. IBP is facilitating the establishment of long-term apprenticeships that pair beginning and experienced banders on a 1:1 or 2:1 student-teacher ratio. Each graduate of our summer courses is sent a list of names and addresses of licensed banders in his area, and is encouraged to contact these people to arrange additional tutelage.

Development of bander-training standards and curricula. In March, 1995, IBP hosted a three-day forum at which 19 banders representing various agencies, educational institutions, and non-profit organizations gathered to discuss recruitment, training, and certification of banders in North America. The primary outcome of this forum was the establishment of the North American Banding Council (NABC), consisting of representatives of major ornithological societies, banding associations, and other ornithological organizations. NABC is developing training standards, curricula, and materials, and will facilitate the formation of partnerships between sources of new banders and sources of banding expertise.

SKILLS AND TOPICS COVERED IN IBP TRAINING PROGRAMS

Both our spring and summer training programs cover the following subjects: overview of avian molt, life histories, and topography; placement and operation of mist nets; extraction of birds from mist nets; proper handling and transport of extracted birds; identification, aging and sexing techniques using plumage, skull pneumatization, external breeding characters, feather molt and wear, and other criteria as appropriate; data scoring and recording following standard MAPS protocol; banding ethics; value of banding and monitoring in bird conservation; and establishment and operation of MAPS stations.

THE MAPS STRATEGY FOR INVOLVING VOLUNTEERS

Based on our six years of using some 250 volunteers to operate MAPS stations, we wish to stress four basic requirements for successfully incorporating volunteers into bird-banding operations. Most of these points are applicable to other volunteer programs as well. While they may seem common sense, too often they are overlooked.

Recruitment. Advertise your operation through as many local channels as possible. Prepare a slide show and present it to your local bird club and chapters of the National Audubon Society, Sierra Club, and The Nature Conservancy. Invite newspaper and television reporters and photographers to feature your operation. Make your operation as appealing as possible, and emphasize the thrill, education, and conservation values of bird banding.

Training. Effective training is key to obtaining accurate, standardized data, and avoiding harm to birds. Training may take either of two basic forms: long-term, on-site, "apprenticeship" training; or short-term, intensive, "crash-course" training, often followed by a less intensive apprenticeship or internship. Due to varying demands on people's time, both of the two approaches are applicable to volunteers.

Supervision. Supervision of volunteers is essential for maintaining data quality and standardization. Supervision may be constant (i. e., with trainer or supervisor always on site and available in emergencies; this type of supervision is concurrent with training an apprentice), or intermittent (i. e., qualified banders work mostly on their own but with

periodic visits by trainers or supervisors). In either case, data should be reviewed and screened for errors before use in any analyses.

Feedback. Few volunteers will stay with a program for long without some reward. By maintaining volunteer enthusiasm and morale, you will improve the quality of your data, and increase the longevity of your operation. Tell and show your volunteers often how valuable they are and how much you appreciate them. Provide perks such as t-shirts and parties. Praise volunteers highly for work well done. At the same time, be sure to point out consistent errors and deficiencies in a constructive manner. Maintaining both data quality and field crews means that volunteer supervisors often must walk a fine line. Invite volunteers to become involved in data analysis and presentation. Show them the results of their work, and let them know how they fit into the larger monitoring or conservation context. Be sure to acknowledge them in any publications resulting from their work, and consider including them as coauthors.

CONCLUSION

Volunteers play a critical role in the success of the MAPS Program. Without them, the number of stations in the program would be insufficient for large-scale monitoring purposes. IBP's internship, training, and apprenticeship programs are (1) increasing participation of the private sector in landbird research and monitoring efforts; (2) creating a pool of skilled amateurs and professionals into which agencies can tap for assistance in landbird research and monitoring; and (3) improving the standardization, thoroughness, and accuracy of banding data collected in MAPS. An estimated 5% of existing MAPS stations are operated by graduates of our training efforts. An effective North American Bird Conservation Plan must take into consideration the need to recruit, train, and certify volunteers to ensure the continuance of programs such as MAPS.

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