NON-PROFESSIONAL CONTRIBUTIONS TO SWAN RESEARCH

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Introduction

As non-professional ornithologists the authors have taken an interest in the population of *Cygnus columbianus columbianus* which winters and migrates through the Upper Eastern Shore of the State of Maryland, USA. These swans arrive early to mid-November and continue to migrate through the area to more southerly wintering grounds in the coastal marshes of North Carolina. Some, however, stay for the whole winter in the Upper Eastern Shore counties. The birds spend a considerable amount of their winter feeding in grain fields, chiefly corn and winter wheat, in large flocks sometimes numbering as high as 7000 individuals. Plastic neck-collars and tarsus-bands placed on these birds are readable by the observer with a 60 x spotting scope, at a distance of over 300 m (collars) and of up to 70 m (tarsus-bands).

It is our hobby to pursue these birds, with such a scope, to read the collars and tarsus-bands and report the data observed thereon. The authors spend 10 to 15 hours a week (and drive many hundreds of miles) from 1 November to 1 April each winter, pursuing the swans. Even though this hobby is time-consuming, it is interesting and much like the sport of hunting, to locate and read these collars and report them. The birds are in the area when other outside activities are at a minimum and it is a most enjoyable form of recreation to pursue them.

It is obvious that the use of volunteers by professionals engaged in research, where intense field observation is required, can save the research programme many thousands of dollars which would be required if salary at standard wage rates were paid.

Methods

The birds themselves are highly mobile, normally spending the night (and some of the day) resting on sheltered coves in tidewater areas, usually well isolated from man and his habitations. When the urge comes to feed, they fly in skeins from their resting area to nearby fields. By using available spare time and living in the area, a non-professional can acquire sufficient skill to locate the fields holding the birds on a given day and manoeuvre his or her automobile (or spotting scope on tripod) close enough to these feeding flocks so that he can read the neck-collars and, with luck, even the tarsus-bands.

In order to save gasoline and time, liaison is developed with local people (chiefly farmers) so that they call and tell when they see swans in various fields. In some cases the use of a 'Citizen Band' radio is helpful in learning this information.

Another chief factor to keep in mind in locating the field occupied by the swans on a given day is that, when swans are seen wheeling lower to the ground, rather than in a direct flight in a skein, they are almost always homing in on other birds which are on the ground feeding. It is also helpful for the volunteer to learn the difference in the flight wing movement characteristics of a swan from that of other large waterfowl. By knowing this, he can spot a swan by silhouette at extremely long distances. With proper training and after spending some hours and days searching for swans, the volunteer will become adept at finding them and knowing where they are most likely to be on a given day. The birds seem to spend up to three or four days in one large field area before leaving it and starting in another area. Furthermore, at any given time, some of the birds will be in the resting area and others in the field. Therefore, full coverage of the population requires viewing the same flock on more than one day. Totally different sets of collars will be seen in what appears to be the same flock of birds that was in the same field area the day before.

Recruiting volunteers

It would be wise to look at some of the problems involved in obtaining volunteers. Naturally, the first thing to set up is a thorough screening process in order to select persons who are reliable and possess some prior knowledge of bird life, sprinkled with a little common sense. Local bird clubs are one good source. Once persons are selected, it is most beneficial to engage them in a training session with another experienced volunteer. These sessions should be done in the field in very small groups so that the volunteers get to do a lot of sighting and talking to various landowners.

One must become highly proficient in the use of a 15-60 x zoom spotting scope in order to survey a large flock of birds in the shortest amount of time. The birds feed on the grain in such a tightly packed fashion that, at most times, about half of the birds are not visible because they are behind other birds with their heads and necks down. This problem can be somewhat alleviated if the viewer can get above the birds, on a hill or even on the top of his car.

In any case, the viewer must sight back and forth across the flock in order to achieve complete coverage. Also, new individuals are continually arriving and others leaving. The scopes are expensive, as is the window mount adapter. Unhappily, it usually takes a considerable time for the average person to become adept at using them. A person with poor eyesight cannot do this work at all. The workers must be trained in using the scope when it is mounted on a roll-up window of a motor vehicle. Most of the time, the volunteer can get closer to the birds in an automobile than he can on foot. The birds come to know a certain automobile, and it can be stopped within 30 m of a group of feeding swans without alarming them, but if another vehicle drives up and stops, the birds will fly immediately. When the birds

are on the water or in marshy areas, then one must hike off the road to get close enough to read the collars. Under those circumstances, a tripod is necessary and this tripod should be a very heavy one so that the scope will not be affected much by the wind. It is most difficult to read a number on a collar at a distance of 200 m when the scope is jiggling in the wind.

The director of the research programme must make absolutely sure that volunteers realize the significance of accuracy and of recording the sightings. When the birds are at a distance and the wind and heat waves begin to distort the view of the collars, an over-zealous volunteer may be disposed to guess the number. Naturally, the information and recorded sightings from a volunteer who is not positive of his accuracy become next to worthless to the scientist.

Transport for volunteers can be a problem. They must have a vehicle available to them and it is most helpful to supply them with gasoline or to reimburse them on a mileage basis. It is also helpful for these volunteers to have a pair of 10 x 50 field binoculars.

Probably the most important factor to consider when recruiting volunteers is to get people who are good in public relations. The volunteer must be able to go upon a farmer's land, get permission from him and explain what his objectives are in such a manner as not to cause either damage or bad feelings. One of the largest problems encountered in collar reading is getting close enough to the birds. They are usually feeding on private property.

Most farmers and landowners have no objection if approached in the right manner by a presentable person. Quite the contrary, most farmers, and especially those with large families, have become interested in the swans and can provide helpful information.

The volunteer should be trained and made aware of the conservation laws involving the birds. Thus, the volunteer can serve as a game warden. An example of this occurred when a large group of swans was being observed near Route 301 in Queen Anne's County, Maryland. A hunter popped up out of the hedgerow across the field and shot two of the birds down. The 60 x scope provided a good look at the culprit. The local game warden was contacted, which resulted in the violator's arrest and subsequent conviction for illegal hunting. Once it becomes common knowledge that civilians will be witnesses and report game law violations, the preventive benefits are obvious.

Feedback to volunteers

Finally, there is the problem of keeping volunteers, once they have developed the skill necessary to do the work. Since they are not paid, if their task becomes boring

or too expensive, they are likely to be less active. In order to gain proper coverage of the population, it should be observed constantly throughout the season because the birds are constantly moving through the area, especially in the early part of the fall migration from November to December and again from February to early April. This means that constant, steady viewing is required in order to get accurate results. One way to maintain the interest of volunteers is to make sure that they are provided with an easy-to-use recording form which requires little time to fill out and return. This way, the volunteer is not spending large amounts of his time doing paperwork. It also helps to maintain interest if the volunteer is supplied with plenty of information as to the progress of the research programme, including banding and other return information from faraway locations. This enables the volunteer, if he wishes, to keep and maintain his own records and appreciate the value of his work in reaching the overall goals of the project. Care should be taken to meet often with the volunteers, most preferably before the beginning of the season, for a luncheon or dinner meeting, and then again towards the end of the season. It may also be helpful to award prizes for the person who reports the most collars. However, lest the prize rather than accuracy become the most important goal, this device should be used with caution.

Summary

'Swan watching' is a most fascinating form of recreation. Other bird-watchers and groups interested in birds can, if properly trained, equipped and motivated, provide a considerable saving in the cost of swan research done by live sightings through neck-collars and other markings. This work will be extremely enhanced if the suggestions and principles presented in the paper are followed.

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THE SWAN SUPPORTER SCHEME AT SLIMBRIDGE AND A PROPOSAL FOR AN AUDIO-VISUAL PROGRAMME ON SWANS

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History of the Swan Supporter Scheme

The Swan Supporter Scheme, by which a member of the public could take an interest in the *Cygnus columbianus bewickii* flock in general and one individual