

BIRD BANDING IN SOUTH AUSTRALIA

By MAX MELVIN

The extension, in 1955, of the C.S.I.R.O. Bird-Banding Scheme to this State gave South Australian bird students a wonderful means to explore further the lives of our native birds. This move has enabled us to add this recognised research method to the other, and more traditional means, we use in our studies—for systematic bird-banding will reveal precise details of some aspects of a bird's life history which are available in no other way.

Long before 1953, when large scale bird-banding began in Australia, this method had been recognised overseas as one of the most valuable tools available to the ornithologist. It has been said by J. Hickey, one of America's best known ornithologists, that there have been two revolutions in bird study in the last fifty years; one was the substitution of field glasses for the collector's gun, while the other, and he feels the more important, was the beginning of systematic bird-banding (in America) about 1920.

In Great Britain and Europe, bird-banding has been in long use. In his classic study of the English Robin, David Lack made much use of information gathered by banding his subjects. The work of James Fisher and Peter Scott with gannets and geese is also well-known, as is that of N. Tinbergen with the Herring Gull. In all of these studies large numbers of birds were banded.

Of course, we all have heard the occasional news of some bird which has made a prodigious flight from one side of the earth to the other. Who has not thrilled when the incredible distance flown by the bird has been established beyond doubt by means of the numbered leg band? This is probably the most dramatic use of banding—the establishing of the migration routes of these global birds of passage—and an absorbing study in itself. It is not, however, the only use of bird-banding, despite the publicity it receives. There are other very important uses as the studies mentioned earlier indicate.

The extent of nomadic movement of some Australian birds is a matter of perennial interest. In investigations of this sort bird-banding helps to supply the answers. In life

history studies, where the banding of nestlings is carried out, the age at which a bird begins to fend for itself, attains adult plumage, begins to breed, and finally dies, can be established accurately by this method. In other words, banding makes it possible to differentiate an individual bird from its fellows. This type of study is often made easier by using coloured bands. These light weight plastic rings are available in many colours, and by using them in different combinations it is possible to recognise at sight individual birds within a study area.

Because bird-banding is a tool used to aid the study of free-flying, wild birds, there are two essentials which must be satisfied for it to be effective. Firstly, there is the need for an organising body which is capable of operating over a wide area, and also of dovetailing its activities with similar bodies in overseas countries. Secondly, there must be a large and active body of people who have the specialized knowledge, and the time, necessary to successfully undertake the all-important field work.

Bird-banding in Australia is organised by the Division of Wildlife Research of the C.S.I.R.O. in Canberra. This body collaborates with the fauna authorities in the various States. In South Australia this authority is the Fisheries and Game Department which issues the final operating permit to those nominated as suitable people to engage in banding activity.

It is the practice of the C.S.I.R.O. to appoint a Regional Organiser for each State. These honorary officers act as co-ordinators of local activity and are always prepared to give advice and demonstrations of trapping, netting and banding techniques to novice banders. They also act as publicity and information officers for the Scheme.

The South Australian membership of the Scheme has been increasing steadily since 1955, and at the time of writing stands at 22 members. These members, fortunately, are fairly widely spread throughout South Australia, which gives a reasonably good cover of the State, an important factor in this type of investigational work. In this way, the chances of detecting nomadic move-

ment are greatly enhanced, for each bander is always on the lookout for 'strange' bands on the birds he captures. This is part of the fascination of the work. Many banders help to give a better coverage by making regular, and often distant, trips to special areas which contain particular birds, or nesting colonies.

Apart from the licenced banders the Scheme has a number of other helpers. There are the country people who allow banders to operate on their properties, often making available accommodation and sometimes vehicles as well. These people invariably are able to assist with information on where birds are to be found and their patterns of movement. These are important pieces of information for the bander operating in an area for the first time. Also there is a group of youths in Adelaide who, because of their age, are unable to get banding permits, but who are ever ready to assist licenced banders. These lads, most of whom are members of the Association, as well as junior members of the Bird Banders Association, willingly assist in erecting nets and carrying equipment. Although unable to actually apply the bands to the birds, they are receiving an excellent training for this work, and cannot help acquiring great skill in bird identification because of the wonderful opportunities they have of observing birds at close range.

There are three main methods of capturing birds for banding in use at the moment. The first, the banding of the young of colony-breeding birds, is probably the most productive from the point of view of numbers of birds banded. The banding of several hundred birds of the one species in one visit to a colony is not uncommon. Sea birds, gulls, terns, etc., are usually banded in this manner.

Catching birds in traps, either portable or more elaborate stationary ones, up until a few years ago was the main method used for land birds. This method still has its adherents, and for some situations and for some species it holds its own as the best method available. However, in recent years it has lost much ground to the recently introduced mist net.

Of course, there is nothing remarkably new in using nets to catch birds. This is an art long practised by European fowlers, as well as natives in many parts of the world.

What is new about the mist net is its form, lightness and extreme portability.

Mist nets were introduced into America from Japan by Dr. Oliver L. Austin in 1947. The nets were originally made from silk dyed black, but this has long since given way to synthetic fibre, firstly nylon and later terylene. The characteristic of the mist net, as the name suggests, is the extreme fineness of the thread from which it is made. These nets hung against a dark and broken background, such as shaded foliage, are invisible to the human eye, and also the eye of a bird, as field experience soon proves.

Mist nets have quickly gained popularity among banders. They are strung between poles across a flight path, say, the approach to a watering place, *in front of a tree in blossom*, along a path-way. The bird when it flies into the net tumbles into one of a number of pockets which run along the length of the net. Here the bird is held, gently supported by the net strands, until it is lifted out by the bander. The net in the hands of a skilled bander is a highly efficient catching device. The skill is in knowing where to place the net, as the novice bander soon discovers! Patience in watching the behaviour of birds in a particular area has its reward.

Once the bird is caught the real work begins. The numbered aluminium band is placed around the leg, and is gently closed with the special banding pliers. The number of the ring is recorded with the name of the species, the sex and age of the bird (if these can be discovered from the plumage), the date of banding and the location. Other facts may also be recorded, such as the weight, the length and any other particular measurement, any abnormality or deformity (although these if too gross will preclude a bird from being banded), which may interest the particular bander. The bird is then released bearing its identification ring which it will carry till the day of its death.

The numbered bands, as well as all other banding equipment (excluding mist nets), is supplied by the Division of Wildlife Research. The bands come in many different sizes, and each species can only be banded with the size band recommended for that bird. Very particular attention is paid to this, and lists of recommended sizes are issued periodically to all banders. Additions to those lists, and occasional amendments,

are constantly coming forward. Each bander is informed of these. Also instructions are given regarding the placing of the ring. In parrots, for instance, the band is placed on the tibio-tarsus, or above the leg joint.

What should you do if you find a banded bird? Each Australian band, besides the number, carries the legend—

“WRITE WILDLIFE C.S.I.R.O.
CANBERRA AUSTRALIA.”

In the smaller bands this message is stamped on the inside. If you have the great good fortune to find a banded bird with some other message on the band, this will mean the bird has come from outside Australia. In either case you treat the band in the same way, send it to the above address, including such details as whether the bird was alive or dead, where and when you found it, and in what circumstances.

In due course you will receive a letter from the Division of Wildlife Research, telling you where the bird was banded and by whom, and how far this location is from where you found it. The bander is also told of your find.

The Canberra office is able to discover where your bird was banded because all banders forward details of each bird-banded. This information is consolidated in a central filing system, awaiting the time when your letter arrives.

Nowadays, the general public is aware of the practice of banding birds for research purposes. This knowledge has been spread by newspapers, magazines, and more recently, by radio and television programmes.

Such was not always the case. In the early 1900's, when banding was in its infancy in Europe, a Bulgarian out hunting shot an eagle which carried a leg band with the number 1285 engraved on it. The local paper reported this unusual occurrence, and pointed out to the readers that the eagle was over 600 years old!

Newspapers often carry stories of long distance recoveries, or of the finding of birds, driven by storm or unusual weather, far from their usual haunts. These stories have news value, for there is a latent public interest in such occurrences. These reports tend to bring home to the general public, if only in a superficial way, the complex and precarious nature of a bird's life.

Films and TV programmes often feature wildlife subjects, particularly birds. If the

visual aspect of these programmes can be supplemented with precise details of the bird's life cycle, then the general public will come to appreciate our wild life a great deal more. Bird-banding is one of the major ways in which this information can be gathered.

Banding has revealed some very interesting facts regarding the movement of birds within this State, as well as movement across the borders of the State. Various species of duck have shown some wide spread movement. Crested Terns (*Sterna bergii*) banded at Beachport S.A. have been found in N.S.W., Queensland and Victoria. A Silver Gull (*Larus novae hollandiae*) banded as a nestling at St. Kilda was recovered in N.S.W.

The recent news of a Mallard (*Anas platyrhynchos*) shot at Narrung, S.A., which had been banded near Dunedin, South Island, New Zealand, two years previously, further confirms other evidence obtained by banding of the trans-Tasman movement of ducks.

An interesting project now well advanced, and in the capable hands of Max Waterman, the S.A. Regional Organiser of the Scheme, is the large scale banding of the two Cormorants, Pied (*Phalacrocorax varius*) and Little Pied (*P. melanoleucus*).

This study involves birds breeding at three large colonies, one at Port Gawler and the others near Port Price and at Port Broughton. These colonies are only reached with some difficulty through mangrove swamps, and the work can only be carried out at low water, which limits the time available.

At the Port Gawler colony some 485 birds, mostly nestlings were banded in the 1962 breeding season. While at the Port Price colony 1,200 birds were banded during the autumn breeding season, 1963.

So far only preliminary results on the Port Gawler study are available, but already some very interesting data are coming to hand. In the first 9 months 32 of the Port Gawler birds or 6.6% of the birds banded have been recovered. When it is remembered how many banded birds must die without trace, this indicates a remarkably high mortality among first year birds.

One of the most isolated of South Australian banders is Mr. Doug. Barnes of Port Lincoln, who with his friend, Mr. Frank Coles, has banded many hundreds of sea birds round the Port Lincoln area. Much

of their work is done in the colonies on the many islands which lie off the coast.

It was on one of these islands that Mr. Barnes banded the young of the White Breasted Sea Eagle (*Haliaeetus leucogaster*). To do this it was necessary to select a fine day, for landing on those islands in anything but calm weather can be extremely difficult. The nest was on one of the prominences on the island, and judging by the scatter of sticks about the immediate vicinity, this nest had been in use for several years. The nest itself was several feet high and contained two young eaglets about 15 inches high. These young birds were not put out by Mr. Barne's arrival at the nest, and in fact opened their beaks to receive food. The nest contained many old fish bones and also a partly eaten fish.

While the two youngsters were being banded one of the parent birds quietly viewed proceedings from a nearby rock,

making no attempt to molest Mr. Barnes. As soon as he left the nest the parent bird returned. The most apprehensive of the quartet was Mr. Barnes, who was rather worried by the size of the young birds' beaks and talons. However, the young birds submitted 'philosophically' to being banded.

One of the original S.A. banders is Mr. Jack Hood of Joanna, Naracoorte. Mr. Hood's work since 1955 for the Scheme has become well-known throughout Australia. He has banded birds which have been recovered in each of the eastern States, as well as Tasmania, and the Northern Territory. This last instance was a Grey Teal (*Anas gibberifrons*) which was shot on the Daly River, N.T., 30 months after banding at Joanna.

It is from results such as these that the Australian Bird-Banding Scheme is gradually plotting the nomadic and migratory movements of our birds.