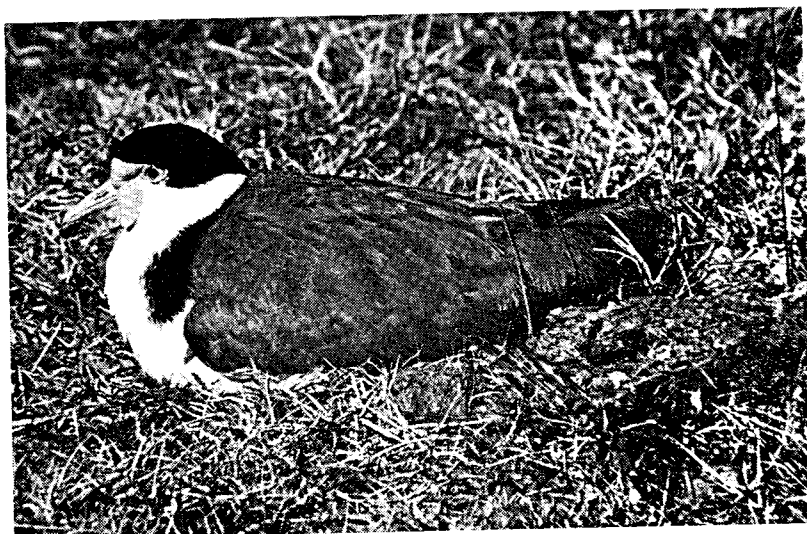


VORG Spur-winged Plover Survey

PETER ALLAN



• Spur-winged Plover on nest.

Photo: R. P. Cooper

The results of seven years' banding of Spur-winged Plovers (*Lobibyx novaehollandiae*) on Phillip Island, Victoria, are summarised in this second report. The survey was initiated by members of the Victorian Ornithological Research Group (VORG) and the first report appeared in this Journal in June, 1963 (Vol. 1, No. 5). Recoveries revealed one bird 70 months old at last retrap, the attainment of sexual maturity by the end of the second year and movements of 91 and 68 miles from banding point.

The main study area has continued to be Phillip Island, 80 miles south-east of Melbourne.

Emphasis has been placed primarily on the regular banding and retrapping of adults and secondly on banding as many runners as possible. Details of the numbers banded and recovered on Phillip Island are set out in Table 1.

"Nest Retraps" are adult birds recovered sitting on eggs or with small young. "Other Recoveries" include returns from the CSIRO Banding Office and other sources, but exclude runners recovered prior to flying. The value of nest trapping to provide a worthwhile recovery rate is evident from Table 1.

Visits to the Island were made from June to December. However, the number banded in each year has depended largely on the time which the banders (all Melbourne residents) have been able to devote to the survey. The most time spent

TABLE 1

Year	Birds Banded		Total	Birds Recovered		Total
	Adults	Runners		Nest Retraps	Other Recoveries	
1960	—	38	38	—	—	—
1961	16	119	135	—	2	2
1962	29	142	171	—	5	5
1963	32	102	134	2	2	4
1964	20	52	72	4	3	7
1965	25	66	91	2	1	3
1966	18	49	67	5	3	8
TOTALS	140	568	708	13	16	29

in the field was in 1962 and 1963 and the least in 1964 and 1966. The reduction in numbers banded in recent years is also a reflection of a decline in the number of breeding birds due to closer settlement, better drainage (for a housing project) and farm improvements. Lower rainfall may also be an important factor although at this stage such a conclusion cannot be definitely drawn.

TABLE 2

Birds banded as runners on Phillip Island and recovered more than nine months later.

Band Number	Date Banded	Date Recovered	Approx. Period (Months)	Remarks
080-69947	30.10.60	29.8.64	46	Retrapped at nest on Phillip Island
		13.8.66	69	Retrapped at nest on Phillip Island
080-24197	6.8.61	28.10.63	26	Retrapped at nest on Phillip Island
080-43341	16.9.62	16.4.66	43	Recovered dead on Phillip Island
080-69928	2.10.60	24.8.62	22	Recovered dead at Eildon Weir, Vic. 91 miles N.N.E.
080-24805	9.10.61	2.10.64	36	Recovered dead at Bacchus Marsh, Vic. 68 miles N.W.

Eight other runners were recovered on the Island within two months of banding and one runner (080-98803) was recovered when three months old at Wonthaggi, 21 miles east.

080-69947 is the oldest plover known to date, being over 70 months at date of last retrap (see Table 2). It breeds about two miles from its natal area. 080-24197 (see Table 2) is the first proof that plovers attain sexual maturity by the end of the second year. This bird was retrapped with two small young about $\frac{1}{2}$ mile from its natal area.

It is noteworthy that of the five birds listed in Table 2 and recovered when they could be assumed capable of breeding, two were recovered in the breeding season well away from the Island i.e. 91 miles N.N.E. and 68 miles N.N.W. This would indicate that a sizeable proportion of young birds leave the island permanently, a theory strengthened by the fact that birds remaining on the Island have a far greater chance of being recovered due to retrapping and to the close examination of dead birds by banders and residents. In view of the large number of young raised on the island each year such a dispersal is not unexpected. The theory is further strengthened by the fact that the majority of birds present in the breeding season take up territories and try to breed; there are few non-breeding birds.

TABLE 3

Birds banded as adults on Phillip Island and recovered more than nine months after banding.

Band Number	Date Banded	1st year	2nd year	3rd year	4th year
080-69964	5.8.61	—	20.7.63N	—	—
080-34480	20.8.61	—	—	—	7.8.65N
080-89923	19.8.62	—	—	—	24.7.66N
080-98830	30.6.63	—	—	2.6.66D	—
080-98981	20.7.63	—	—	14.8.66N	—
080-98831	20.7.63	25.7.64D	—	—	—
080-96710	1.9.63	26.7.64N	—	—	—
080-96735	22.9.63	25.7.64N	—	—	—
080-90062	29.8.64	8.8.65N	—	—	—
081-11045	7.8.65	23.7.66N	—	—	—
081-16944	18.9.65	14.9.66N	—	—	—

N=At nest
D=Dead.

No adults banded on the Island have been recovered away from the Island. Table 3 shows that there is little variation in the dates on which pairs usually breed in succeeding years (080-96710 and 080-96735 are exceptions) especially when it is realised that trapping may take place from early incubation until the first two weeks of the chicks life—a period of about five weeks.

The work on Phillip Island has shown the regularity with which a pair returns to its breeding area in succeeding years. Nests have been found on the same mounds or identical sites year after year despite minor or sometimes major alterations to the landscape and improved drainage. At the dam where 080-96735 appears to be a resident, a nest has been found on an identical site for three years running. The nest was covered with water after heavy rain in 1964 and one month later the bird was retrapped on a new nest only 25 yards away.

At this stage it is thought from observation that pairs mate for life and that if one of a pair dies, the survivor returns to its former breeding area with a new mate. We have been unable to conclusively prove either of these theories as yet as insufficient breeding pairs have been banded. Only on two occasions have we been able to trap both adults together at the nest whilst on another two occasions we have been able to band both adults. As a general rule, however, we have avoided trapping at a nest more than once in the season as we feel this could lead to desertion.

We also assume that there are a few other banded pairs breeding on the Island unknown to us.

Potential predators and causes of mortality are very numerous on the Island. During the seven years of the survey, banded birds have been killed by car (4), dog or fox (3), rabbit trap (2) and unknown causes (7). Unbanded birds have been found shot (1), and killed by cars (about 50). Strangely enough, after some 12 years of

observing plovers quite intensively and usually during the breeding season. I have never seen a single bird or egg actually taken by a predator.

Colour Banding

Flocks of 100-200 birds are often recorded in Victoria in areas in which the local breeding population could not possibly attain such numbers.

Few recoveries were obtained from natural mortality and the birds proved too difficult to trap in any other manner than with nest traps.

The survey therefore was extended in 1961 to include colour banding in an effort to:

- (i) trace distant movements by observation;
- (ii) establish originating areas of birds in the summer-autumn flocks.

Different colours were used for three separate areas in southern Victoria. However, worthwhile numbers were banded only on Phillip Island and to a lesser extent the Bellarine Peninsula near Geelong.

The colour bands were found to be difficult to see, usually being hidden by grass, and were frequently lost even when the ends were joined with adhesive. They also faded in a relatively short time.

The additional work necessary to promote the project and the time and cost involved were not considered to be justified by the results. After retrapping birds which had lost colour bands, the project was abandoned. This is not to say that colour banding could not effectively be used by other banders particularly those wishing to study local pairs.

In carrying out this survey all banders were faced with a major difficulty—we were not in close proximity to our subject material, the birds. A round trip of about 250 miles was involved in each trip to Phillip Island and in my case this included 60 miles of metropolitan driving. For amateurs this greatly restricts the time which can be devoted to the survey.

Appreciation

Particularly in its early years the survey was very much a team effort. Mention should be made however of the work of Messrs. B. Hall, L. Burgess, J. McKean, I. Lane and G. Setford. Other VORG members assisted from time to time and offered good advice. Mr J. Wheeler and Miss G. Bowker carried out helpful work in their own districts.

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NETTING RATE

Writers in *The Australian Bird Bander* have often made statements such as "300 birds were netted in a weekend". This may be disconcerting as it is not known if they used 1,000' x 9' of nets during every daylight hour of Saturday and Sunday, or were very lucky in using 20' x 9' for one hour in a snowstorm!

I therefore suggest that writers state the variables of time and net length and also give information about netting conditions when writing of the number of birds netted. This information can then be combined to form a "netting rate" which may be useful in comparing results of each visit to a given area, or one's own results with those of others.

I have done this by dividing the number of birds netted by the number of effective hours of netting and by the number of running feet of nets used. The number of effective hours is counted from half way through net erection to half way through net dismantling. If few birds are caught during a period, this time and the number of birds caught in that period are subtracted. The running feet of net expressed in terms of the number of feet of standard 9' high net, so that a 60' x 9' net is 60' running feet, and a 60' x 12' net is 80' running feet. Some netting conditions which may be recorded to add meaning to the netting rate are wind velocity, cloud cover, temperature, rain, leaf-litter moisture, and number of assistants. These conditions may be summarised by describing the overall condition on a 5 point scale, i.e. 1 (excellent) to 5 (most unsatisfactory).

I have found that my best netting rates under optimum conditions, for about 5 or 6 hours from dawn, using 300 running feet of nets are 0.18 birds /1' x 9' net/hour in *Banksia ericifolia* scrub at Minnie Water near Grafton, N.S.W. and 0.66 birds/1' x 9' net/hour in the fringe of rainforest at Bulli Pass, Bulli, N.S.W.

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