Boat Subsistence Allowance : Following the increase in the camp allowance as shown in the preceding paragraph, representations were made to the Public Service Commissioner for an increase in the special subsistence allowance payable to inspectors on departmental vessels. Hitherto it had been a margin over the camp allowance of 2/-d a day for married officers and 1/-d a day for single officers.

The Commissioner has pointed out that the existing boat allowance included an additional amount to cover the lack of a cook on our boats. He has refused to approve any general increase in the rates. He has, however, directed that the same margin over the camp allowance (2/-d) should be paid both to married and to single men. As from July 1, 1955, therefore, boat subsistance allowances payable are :-

Married men - 12/-d a day;
Single men - 8/-d a day.

Single officers who have served on a departmental vessel since last July should claim any arrears on their next PSC Form 10.

MARSUPIAL RESEARCH

From Mr. E.H.M. Ealey, research officer of the Wildlife Survey Section of C.S.I.R.O., we have received a report of the progress made in the kangaroo investigations being carried out at Woodstock Field Station in the Port Hedland district. Mr. Ealey's report, which sets out the problems encountered and the work done so far, appears here verbatim -

KANGAROO INVESTIGATIONS

Woodstock Station is situated south of Port Hedland, in an area of rough hill country. The most common kangaroo in our area is the Euro or "hill" kangaroo, Osphranter antilopinus cervinus. The work on this animal has had to be planned to fit in with its seasonal behaviour. The summer rains allow it to be independent of artificial waters, and appear to

cause a dispersal. Although some artificial waters are visited in hot spells during late summer and autumn, sand soaks and water holes are kept well supplied by occasional rain until the winter rains, which occur in a good season, fall. It is not until September that euros begin using artificial waters regularly, so that much of the work must be limited to an intensive period between September and December.

As it was decided to give toxicological experiments priority, pens were built and euros were easily caught in a funnel trap built arounda water trough. However these animals died in captivity as fast as they were captured, and so this work has been postponed until we have sufficient hand-reared animals for key experiments.

Before the rains, early in January, techniques were tested for use in the coming summer. Chloral hydrate, administered in drinking water, was shown to be an effective narcotic and a number of animals were examined, measured, ear-tagged and marked with Durafur (a black dye) while narcotised in this manner. Ear tags were observed to be a source of constant irritation, but a heavy plastic collar was unnoticed by a hand-reared animal, and with the addition of Scotchlight can be seen at a distance of 400 yards at night. A programme based on these techniques will be carri d out this summer to investigate movements and growth of marked animals.

Emphasis has been on the control aspect of our work, but our main difficulty is in assessing the effectiveness of techniques. Stations that have poisoned thousands of euros regularly each year still have thousands left. Therefore any method must give a very high kill to be any more useful than existing methods. The problem is to estimate the percentage kill. Visual census methods, such as transects at dawn and dusk , are being tested and automatic counters on watering points and salt licks have been devised. A modified type is being tested at present before being used in the poison trials next season, when, with salt as a bait, sodium fluoracetate (1080), and possibly arsenic, will be used.

One of the main features of this year's work has been the sending out of 300 questionnaires to

Pastoralists. We have found pastoralists to take an intelligent interest in vermin problems and are hopeful of obtaining a great deal of information from them on the kangaroo problem.

The water relations of euros are being studied in detail, as the summer watering points are the main places of concentration. All watering places on a study area, some 16 miles in circumference, are being mapped, and as natural waters dry up the expected increase in numbers visiting artificial waters will be noted by automatic counters.

Before we can advise on a control problem, we must have some idea of the breeding rate of euros. A reproductive study, based on monthly samples, is proving interesting. Data ha been accumulated from over 200 specimens of euros, and some idea of size at birth, changes during pouch life, size at which juveniles leave the pouch and mature, has been gained. Judging from a hand reared specimen, males may attain the weight of 20 lb. before they are a year old, but are not mature at that age. Because of the peculiar tooth succession, the dental characteristics of these animals are proving a useful guide for age grouping them. The age distribution in a population gives a valuable guide to the efficiency of a control method. A population that is being effectively controlled should be composed mainly of young animals.

It is a simple matter to kill some kangaroos by any one of a variety of methods, but to control them properly presents a complicated problem. However we are hopeful that a period of intensive study will produce practical methods that will hit the euro where it hurts.