number of ecological studies in the light of this concept to obtain
a synthesis which, if not as beautiful as the density-dependent model,
is at least more credible.

The second book is characterized in the preface as "a compact
text that students may use". It is divided into two parts, the first
being a précis of Andrewartha's and Birch's concept of ecology, as
given in the book reviewed above. A few examples are added from
research published since 1954 but several of the original chapters
(unfortunately, some of the most interesting) are not touched upon.

This section is followed by a laboratory course for students in
ecology. A research worker may feel that this part of the book
cannot offer him much, but it is very useful as a rapid reference
work on research procedures. Although it is concerned with labora­
tory populations, it deals at a fairly advanced level with most of the
problems of experimental design and analysis faced by the field
ecologist. If Andrewartha's students can cope with this course, he
must be blessed with a particularly earnest and erudite class.

G.C.

WILDLIFE INVESTIGATIONAL TECHNIQUES, edited by Henry S.

This large volume, first published in 1960 under the rather mis­
leading title of Manual of Investigational Techniques, has run
through two printings and two editions in three years. This gives
some idea of the demand in North American universities and colleges
for a textbook of this kind for the many and varied (both in quality
and quantity) wildlife management degree courses and wildlife
research institutes.

The reviewer would be surprised to see this 400-page book on the
desk of any New Zealand forester, and even more surprised if he
had actually read it. However, the book is of some interest to those
of us who have an animal bent, even though many of the techniques
discussed are of little use for animal research in this country.

In this volume, the work of 8 American and 2 Canadian wildlife
authorities, is a summary and description of the best-known field
and laboratory techniques currently being applied in the manage­
ment of game birds and mammals. An attempt is made, not to
catalogue all techniques, nor to prescribe any single standardized
procedure, but rather to report and illustrate methods that have
been found of value.

The authors have sifted the voluminous wildlife literature up to
1962, plus the unpublished contributions of many individuals. The
contents include consideration of instrumentation in wildlife
research, record keeping, reconnaissance mapping, habitat evalua­
tion, estimation of animal numbers, criteria of age and sex, popula­
tion analysis, methods of preservation, post-mortem examinations,
capturing and marking techniques, measures of mortality, control
of nuisance wildlife, food habits procedures, project planning, use
of wildlife literature, and the reporting of research results.

There is also a glossary of terms frequently used in wildlife work
and in ecology. The appendix has tables on the hatching success of
game birds, clutch size of game and predatory birds, the gestation
periods of selected American mammals, and a list of North American
birds with A.O.U. numbers and recommended band sizes. The bibliographic section lists some 1059 titles and gives some idea of the task involved in preparing this book.

Some of the 124 tables in the text pertain to control measures, repellents, colours for use in marking animals, anaesthetics, sedatives and tranquillisers, chemical preservatives, terms used in population analysis, selected life tables, tooth eruption and replacement, stages in foetal development, and population estimates.

In the foreword, it is stated that “this volume is designed for use by the practising field biologist, by the wildlife administrator and by the college instructors of wildlife management”.

An example of how the “space age” has caught up with wildlife research can be obtained from the section on instrumentation. This includes details of tiny transistorized radio transmitters weighing only a few ounces and which can be tied round the neck of the animal you wish to follow, be it a grizzly bear or a raccoon; the use of selected radioisotopes with suitable half-lives for tracing small mammals with a geiger counter; and the use of radar sets for studying bird migration.

Some of the techniques discussed in this volume, which have been tried with varying degrees of success in this country, include the faecal pellet count technique for determination of deer numbers (relative numbers, not absolute numbers), and the tranquillizer dart gun for marking deer, to trace subsequent movement. The distinct lack of success with these two techniques under New Zealand conditions makes it only too obvious that many of the elaborate and refined techniques for wildlife research will not be of any use to us in New Zealand until they have been thoroughly tested, and possibly modified to suit our rugged conditions.

Quite obviously a volume of this length cannot be adequately reviewed in one page. However, if this only too brief mention of some of the contents encourages a few readers to dip into it sometime, then the review has achieved its purpose.

The volume is well printed and sturdily bound and the many illustrations are well reproduced. For those interested in animal research it is very reasonably priced.

M.J.D.