Preface

The relationships among living vertebrates and between them and the environment provide the theme for our studies on the Frances Simes Hastings Natural History Reservation. This tract in the northern Santa Lucia Mountains of Monterey County, California, was turned over to the Museum of Vertebrate Zoölogy of the University of California in 1937, by Mrs. Russell P. Hastings. Work in the field produces a continuous record of biotic change on protected land, with special attention directed to vertebrate animals.

The high numbers and ready availability of mammals, particularly of rodents, early attracted our attention. Information about these animals and some degree of understanding of them have accumulated until they deserve summary in the form of a permanent record. For this purpose, species have been adopted as units. The treatment of one rodent, the California ground squirrel, has been published.

The dusky-footed wood rat is a moderate-sized rodent, but its presence is made conspicuous by the structures it builds for houses. The wood rat population is more stable than that of most rodents, and this stability reflects a continuous and precise adjustment to the brushland and woodland on the Reservation and elsewhere in the animal's range. Our purpose, then, in this book is to provide a record of what we have learned here about the wood rat.

Studies of wood rats have been made by other people in other regions. We have made use of these reports, but we have made no effort to compile and cite all the information they contain. Rather, we have tried to develop as far as possible the analysis of the animal on the basis of the observations made at one place. This limitation of the discussion to the conditions, the plants, and the animals that occur together should make a simpler and clearer explanation than an expansive assembly of information from many sources.

Our efforts have been spent on intensive study of a small area and of the individual rats that lived there in successive generations. In tracing the week-to-week events that concern each animal we have made continuous use of the microscope and of trapping methods that make possible the repeated handling and examination of the rat. Often this coincides with the life span of the individual. The validity of our evidence and conclusions depends on observations written by several people and accumulated through a ten-year period, accompanied by an abundance of specimens preserved from the Reservation

or its immediate vicinity. For the study of this material we have depended on the help of many authorities.

The pyramid of effort that supports this treatise involves several kinds of participation. The provision of the site for field studies by Mrs. Russell P. Hastings, along with the equipment and funds for work in natural history, was the most important element in making possible the prolonged attention to one kind of animal as a part of the wild life of a region. Through the continued interest and help of Mr. and Mrs. Hastings, we were able to complete this segment of the undertaking. Administrative officials at the University of California and the Museum of Vertebrate Zoölogy at Berkeley have enabled us to pursue this single topic with prolonged concentration by providing salaries from the Martens Fund to carry on the field work and by supplying other funds for this research.

Observers who made records in the field and took part in the trapping were the following twenty-one persons who lived at the Reservation and paid particular attention to wood rats:

Walter W. Dalquest	Richard W. Neil
Floyd E. Durham	Chandler P. North
Robert B. Finley, Jr.	Thane A. Riney
Henry S. Fitch	Betty R. Schuck
John A. Gray, Jr.	Charles G. Sibley
Donald F. Hoffmeister	James E. Simpson
Robert Holdenried	P. Quentin Tomich
Douglass H. Hubbard	Howard Twining
E. W. Jameson, Jr.	Marietta Voge
Carl B. Koford	Henry G. Weston, Jr.
Donald D. Linsdale	

The authorities who studied and identified organisms associated with wood rats and who deserve our thanks for special effort in connection with this report include the following:

Edward W. Baker	Harold Kirby
Lee Bonar	Hugh B. Leech
Joseph C. Chamberlin	Earle G. Linsley
Ralph V. Chamberlin	Harlow B. Mills
Asa C. Chandler	Edward S. Ross
Robert A. Cooley	Milton W. Sanderson
Gordon F. Ferris	Betty R. Schuck
Willis J. Gertsch	Morris A. Stewart, Jr.
Helen M. Gilkey	Robert L. Usinger
William L. Jellison	Marietta Voge
Hugh L. Keegan	

In the later stages of preparing the report, numerous persons were generous in helping with the assembly and typing of records and the preparation of illustrations. Max Averitt, Janet Cahoon, Lydia Cahoon, Rachel Davis, Hilda W. Grinnell, Mary Ann Linsdale, Hulda Love, Bernice Riney, Paul Whitman, and Josephine Zane have in the aggregate spent thousands of hours in making our story of the wood rats presentable. The frontispiece is from a lithograph by

PREFACE

vii

Paul Whitman, and the pencil drawings at the beginnings of the chapters are by Josephine Zane.

To Lloyd P. Tevis, Jr., there came the privilege of seeing at first hand nearly all the situations and events recounted in this book. His acquaintance with the Hastings Reservation and the aims and procedures followed there began in 1939. After a long period of acquaintance with the plants and animals in the area, he was able to spend nearly full time at the live trapping of mammals. The wood rat soon became our major topic of interest. After interruptions we undertook to restudy and rewrite what might have been considered a completed account. The results of this extended study have so improved our understanding of the animal that we are reluctant to turn our attention from it to other topics.

JEAN M. LINSDALE

MAY, 1951