

# Chatham petrel (*Pterodroma axillaris*) studies—breeding biology and burrow blockading

SCIENCE FOR CONSERVATION 131

Phillipa Gardner and Kerry-Jayne Wilson

Published by  
Department of Conservation  
P.O. Box 10-420  
Wellington, New Zealand

*Science for Conservation* presents the results of investigations by DOC staff, and by contracted science providers outside the Department of Conservation. Publications in this series are internally and externally peer reviewed.

This publication was approved for publication by the Manager, Science & Research Unit, Science Technology and Information Services, Department of Conservation, Wellington.

© November 1999, Department of Conservation.

ISSN 1173-2946

ISBN 0-478-21858-3

Cataloguing-in-Publication data

Gardner, Phillipa.

Chatham petrel (*Pterodroma axillaris*) studies : breeding biology and burrow blockading / Phillipa Gardner and Kerry-Jayne Wilson. Wellington, N.Z. : Dept. of Conservation, 1999.

1 v. ; 30 cm. (Science for conservation, 1173-2946 ; 131).

October 1999. - Includes bibliographical references.

ISBN 0478218583

1 *Pterodroma axillaris*. 2. Sea birds—New Zealand—Chatham Islands.

I. Wilson, Kerry-Jayne. II. Title. Series: Science for conservation (Wellington, N.Z.) ; 131.

# Contents

## ASPECTS OF THE BREEDING BIOLOGY OF THE CHATHAM PETREL (*Pterodroma axillaris*)

Phillipa Gardner

Abstract	5
1. Introduction	6
2. Objectives	8
3. Methods	8
3.1 General methods	8
3.1.1 Handling protocols	8
3.1.2 Burrow monitoring	8
Prospecting	9
Incubation	9
Chick rearing	10
3.1.3 Failed burrows	10
3.2 To establish whether a period of abandonment occurs before chick fledging	10
3.3 To establish the sex of chatham petrels	11
4. Results	11
4.1 Prospecting, pre-laying exodus, incubation and chick periods	11
4.1.1 Prospecting	11
4.1.2 Pre-laying exodus	12
4.1.3 Incubation	13
4.1.4 Chick period	13
4.1.5 Meal size and feeding frequency	14
4.1.6 Fledging	15
Fledging weights	16
Feather development	16
4.1.7 Failed burrows	16
4.2 Abandonment before fledging	17
4.3 Sexing individuals by feather analysis	17
5. Discussion	17
6. Acknowledgements	20
7. References	21

# BURROW COMPETITION BETWEEN CHATHAM PETRELS AND BROAD-BILLED PRIONS: THE EFFECTIVENESS OF BURROW BLOCKADING AS A MANAGEMENT STRATEGY

Phillipa Gardner and Kerry-Jayne Wilson

Abstract	23
1. Introduction	24
2. Objectives	25
3. Method	25
4. Results	25
4.1 Effectiveness of burrow blockading	25
Natural versus artificial burrows	26
4.2 Frequency of broad-billed prion interference	26
4.3 Effect of interference on Chatham petrel productivity	28
5. Discussion	30
Burrow blockading	30
Frequency and types of interference	32
Effects of interference on Chatham petrel productivity	33
6. Recommendations	35
7. Acknowledgements	36
8. References	36