

TABLE OF CONTENTS

SUMMARY	i
ACKNOWLEDGMENTS	ii
CHAPTER 1 INTRODUCTION	1
1.1 Background perspective	1
1.2 Objectives and rationale of the study	2
1.3 A resume of the biology of the study species in Britain	3
1.3.1 Description	3
1.3.2 Distribution, status and habitat	5
CHAPTER 2 METHODS	7
2.1 Introduction	7
2.2 Background habitat assessment	7
2.3 The observational study areas	9
2.3.1 Introduction and selection criteria	9
2.3.2 The Welsh study areas	9
Study area W1: Mwnt - Cemaes	9
Study area W2: Strumble	10
Study area W3: Newgale - Solva	10
Study area W4: Marloes	10
2.3.3 The Cornish study areas	11
Study area C1: Pentire - Cant	11
Study area C2: West Penwith	11
Study area C3: The Lizard	11
2.4 Historical habitat assessment	12
2.5 Bird observations	12
2.5.1 The detectability of Choughs	12
2.5.2 General observations	13
2.5.3 Activity patterns	13
2.5.4 Invertebrate sampling	14
2.5.5 Faecal sampling	15
CHAPTER 3 STATUS AND DECLINE	16
3.1 Introduction	16
3.2 Background to studies in southern Britain	17
3.3 Demographic trends	19
3.3.1 Cornwall	19
3.3.2 West Wales	20
3.3.3 Northern France and the Channel Islands	21
3.4 Factors contributing to decline	22

3.4.1	Introduction	22
3.4.2	Climatic effects	22
3.4.3	Genetic depression	23
3.4.4	Disease	24
3.4.5	Interspecific relations	25
	3.4.5a Predation	25
	3.4.5b Competition	25
3.4.6	Human interference	26
	3.4.6a Shooting and intentional killing	26
	3.4.6b Trapping for captivity	27
	3.4.6c Accidental trapping	28
	3.4.6d Egg collecting	28
	3.4.6e Changes in land-use	28
	3.4.6f Impact of human presence	30
CHAPTER 4 HABITAT		31
4.1	Introduction	32
4.2	Present day background habitat assessment	32
	4.2.1 Introduction	32
	4.2.2 Methods	32
	4.2.3 Results	34
4.3	Selection of habitat by Choughs	36
	4.3.1 Introduction	36
	4.3.2 Methods	37
	4.3.4 Results	39
	4.3.3a Feeding time spent in different habitats	39
	4.3.3b The effect of habitat availability	44
	4.3.4 Discussion	44
4.4	The botany of Chough feeding sites	47
	4.4.1 Introduction	47
	4.4.2 Methods	47
	4.4.3 Results	48
	4.4.4 Discussion	49
4.5	Historical habitat assessment	49
	4.5.1 Methods	49
	4.5.2 Results	51
4.6	Changes in habitat over time	51
	4.6.1 Methods	51
	4.6.2 Results	52
	4.6.3 Discussion	54
CHAPTER 5 FOOD INTAKE		56
5.1	Introduction	56
5.2	Methods	56
	5.2.1 Prey sampling methods	56
	5.2.2 Faecal sampling methods	58

5.3	Results	59
5.3.1	Prey sampling and selection	59
5.3.2	Similarity coefficients of study areas	62
5.3.3	Seasonal effects on prey availability	63
5.3.4	Comparison of prey availability in Wales and Cornwall	64
5.3.5	Faecal sampling	65
5.3.6	Prey size	68
5.3.7	Pellet and faeces comparison	68
5.3.8	A comparison of Cornish and Welsh faecal samples	69
5.4	Discussion	70
CHAPTER 6 FORAGING BEHAVIOUR AND ACTIVITY PATTERNS		77
6.1	Introduction	77
6.2	Methods	77
6.3	Results	78
6.3.1	Activity patterns	78
6.3.2	Foraging success	81
6.3.3	Interspecific interactions	82
6.4	Discussion	83
CHAPTER 7 RE-ESTABLISHMENT OF THE CHOUGH IN CORNWALL		87
7.1	Introduction	87
7.2	Methods of assessing feasibility	89
7.3	Summary results	90
7.3.1	The decline	90
7.3.2	The habitat and prey base	90
7.3.3	Causes of extinction in Cornwall	94
7.3.4	Re-establishment strategies	95
7.3.5	Captive breeding	96
7.3.6	Potential re-establishment sites	98
7.4	Habitat management	99
7.5	Discussion	100
CHAPTER 8 GENERAL DISCUSSION		102
BIBLIOGRAPHY		108