Oxwich Marsh

Ringing Report 2015

Report to Natural Resources Wales and The Gower Society

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1 Introduction

Background

1.1 Oxwich Marsh is located on the south coast of the Gower Peninsula approximately 13km to the west of Swansea. The 'marsh' supports a range of habitats, including extensive reed bed, scattered scrub and wet woodland, ditches and areas of open water and species-rich grassland.

1.2 From a local ornithological perspective, the populations of reed bed warblers are the most notable feature, as there is very little reed bed in Gower. Reed warbler, sedge warbler and Cetti's warbler all breed at Oxwich, with the former two species also using the reed bed in considerable numbers during passage periods. Other migrant species such as whitethroat, blackcap and chiffchaff hold territory in fringing scrub and woodland.

1.3 Bird ringing has been undertaken at Oxwich Marsh for many years, most recently (up to 2010) by Barry Stewart, and more historically by Derek Thomas, who completed a detailed academic study on reed warbler at the site. In March 2013 the Gower Ringing Group began ringing at Oxwich Marsh, with the support of the land managers, Natural Resources Wales. 2013 was essentially a reconnaissance year.

1.4 In 2014 the ringing effort at the marsh was increased. This was made possible by a number of things: increased knowledge of the marsh allowing us to work it more effectively; the commitment of a number of experienced and dedicated ringers and the growth of the Gower Ringing Group (which allowed the amount of net it was possible to put up to be considerably increased); and, the ongoing support of Natural Resources Wales with regard to the expansion of our activities. In addition to weekends, we undertook weekday visits during passage periods, evening (autumn) visits to catch swallows, made our first attempts at catching snipe at the site, and more than doubled the number of net rides used.

1.5 In 2015 we continued to expand operations through the creation of new net rides, including a new 400 foot net line across the marsh, and a permanent pipit triangle. A Gower Society grant did much to cover the cost of rings and seed, and was absolutely critical to enabling us to maintain our efforts. The group continued to grow, and (as in 2014) the number of people we could call on and the commitment of some experienced group members allowed intensification of effort during passage periods and the completion of a number of evening swallow roost sessions.

1.6 The profile of both the Gower Ringing Group and the Oxwich site was raised through the Welsh Ringing Course taking place on the site (along with excursions to Overton and a morning at the Wildfowl and Wetland Trust's Llanelli reserve) between 11 and 14 September. Despite having to work around wind and rain, over 400 birds were processed, and feedback from participants was very positive. Readership of the group blog also increased in 2015, with many posts reaching 150 - 250 readers, and the most popular 400 - 500 people.

Purpose of Bird Ringing

1.7 Bird ringing involves fitting a small metal ring with a unique identification code (a series of letters and numbers) to the leg of a bird in order that information can be collected about its movements. Small birds are typically captured using mist nets. These are light nylon nets which are strained between upright poles and held in place with guy lines. Birds flying into the net drop into 'pockets' within it, from which they are then carefully extracted.

1.8 Ringing has a number of aims. These include understanding bird migration i.e. where birds migrate to, where they stage during these journeys, how long it takes them to reach their wintering or summering quarters, and how they move in response to periods of harsh weather. Ringing and recapturing individual birds therefore allows us detailed insight into bird movements.

1.9 Ringing also enables understanding of how long individual species live, their moult strategies, how site faithful they are, the stage they have reached in the breeding process, and what physical condition they are in. For example, the amount of fat and muscle on a bird, and the stage of

development of brood patches in females (and some male birds) can be visually assessed and categorised using a basic standardised scoring system.

1.10 Ringing activities are regulated by the British Trust for Ornithology (BTO), and all ringers have several years of training and need to hold licenses prior to working unsupervised. All data collected are collated centrally, following entry into a database (Integrated Population Monitoring Recorder [IPMR]). In 2014, almost 1,050,000 birds were ringed in the UK.

1.11 The data collected by ringers allows insight into the ecology and population dynamics of the bird species concerned, and forms an excellent basis for research. This is of particular importance in the context of climatic change, with many birds having to adapt to changing seasonal temperatures and peak times of food availability if population levels are to be maintained. Understanding where birds breed, winter and stage (stop during migration) also enables more effective international conservation, principally through the designation and management of important habitats vital to sustaining populations.

Aims of Ringing at Oxwich Marsh

1.12 As the capture and handling of birds inevitably results in a degree of physical stress, it follows that all ringing activity should be driven by scientifically robust aims. At Oxwich Marsh, the aims are as follows:

- To capture reed bed warblers in order to obtain data on site fidelity, timing of breeding, and to gain insight into whether the site appears to be of greater importance to these species during the breeding season or passage periods;
- To capture large numbers of reed bunting, a species that previous ringing effort has established occurs at the site in good numbers, and which existing data suggests moves around numerous sites locally during the year (including other ringing sites);
- To capture good numbers of finches, particularly goldfinch, greenfinch and chaffinch. These species began visiting feeders in the marsh with regularity in early 2014. All typically undertake seasonal movements and greenfinch in particular has been subject to recent widespread decline due to trichomonosis;
- To capture a range of migrant and wintering passerine species that are not likely to breed in the marsh, as the area is very challenging to survey due to its extent and inaccessibility, and also due to the fact that only a few birdwatchers regularly visit it. This will therefore provide baseline information with regard to the importance of the site for a variety of species;
- To make a substantial contribution to the total number of birds ringed in Wales during the calendar year; and,
- To raise the profile of ringing locally, ultimately leading to more awareness of birds locally.

1.13 In aiming to capture breeding, passage and wintering migrants, it is inevitable that a large number of resident and largely sedentary species are also trapped. While not a primary aim of ringing at the site, capturing these species allows detailed site-specific information on e.g. survival rates and timing of breeding and moult to be built up.

1.14 It should also be noted that Oxwich is an excellent site for training ringers. This is due to the number and diversity of birds captured. As a result, it complements some of the other projects the group is involved in (such as the Retrapping Adults for Survival (RAS) study on pied flycatcher at Cwm Clydach, and the Constant Effort Site at WWT Llanelli which result in extremely valuable data, but comparatively few birds being captured.

2 Methods

Further Development of the Site

2.1 In February 2013 a series of net rides were cleared in the reed bed and adjacent scrub using a brushcutter: the rides were raked to remove the cut material. These allowed for a total of 440 feet of net to be erected. In 2014 the length of available net ride was increased with the creation of a 330 foot net ride through tall rush, ruderal and scattered scrub we called the 'fen meadow.'

2.2 The marsh was wetter during 2015 than 2014. As a result of high water levels and deep mud (caused by trampling of the well-established rides) the fen meadow and reed bed rides became very difficult to use safely in the late summer and autumn. We therefore cut further rides along a bund running right across the marsh (in a north-westerly direction), in the scrub and in a relatively dry area of rush pasture, the latter to target pipits during the autumn migration period. This allowed us to typically deploy approximately 800 feet of net during sessions when good numbers of experienced ringers were available. Further temporary net rides were established ahead of the Welsh Ringing Course to provide us with further options during unfavourable weather.

2.3 The feeding station initially established in March 2013, and comprising two feeders stocked with sunflower hearts, was maintained throughout 2015. The feeders were filled and cleaned regularly throughout the season. Occasional diseased birds were noted, but the level of disease (particularly trichomonosis) in local populations appeared lower than in 2014, and there was no need to remove the feeders at any time during the year.

2.4 Session reports were regularly produced, and were published on the Gower Ringing Blog (http://gowerbirdringinggroup.blogspot.co.uk/).

Data collected

2.5 For each bird captured, the following information was recorded:

- species;
- initials of the individual that processed the bird;
- time and date of capture;
- age;
- sex (where apparent) and sexing method;
- moult stage (including a moult code / primary moult score / count of retained old greater coverts where relevant);
- presence and stage of development of brood patch (using a standardised scoring system);
- presence of cloacal protrusion (male birds in the spring and summer);
- fat (presence and extent of deposit);
- wing length; and
- weight.

2.6 For some species additional data were collected. Basic wing formulas were taken for chiffchaff and willow warbler to confirm species (willow warbler is a longer distance migrant and as such has a longer wing which is different in shape and has different feather tipping [emargination] to that of the similar chiffchaff), measurements of hind claw length and bill depth were taken to help determine pipit species, and tail fork length (the distance between the shortest and longest tail feathers) and total tail length was measured in adult swallows, as this can be used to determine sex in the species.

2.7 Despite the amount of information recorded, birds were handled for less than 1 minute in most cases. If there was any concern about their condition, or they were diseased, they were released without ringing.

2.8 Three standard reference texts were regularly used to inform the work:

- Svensson, L. (1992). Identification guide to European passerines (5th Ed). Privately published, Stockholm.
- Baker, K. (1993). Identification guide to European non-passerines. British Trust for Ornithology, Thetford.
- Redfern, C.F & Clark, J.A. (2001). The ringer's manual. British Trust for Ornithology, Thetford.

2.9 The former two texts are concerned with techniques for species identification, sexing and ageing of birds. Accurate ageing is often dependent on an understanding of moult strategies in individual species and the typical characteristics of juvenile and adult feathers. The latter text provides considerable information with regard to standardised techniques for scoring / coding of moult state, fat, the development of the brood patch etc. Further information on any aspect of this is available through the BTO.

3 Results

Overview

3.1 In 2015 **3,531** birds of **47** species were ringed at Oxwich (5,124 birds were captured including birds re-trapped on a number of occasions). The most frequently trapped 'new birds' were greenfinch (444 ringed), swallow (398) and goldfinch (395). In 2014 **3,371** new birds of **48** species were captured, and in 2013 (the pilot year) a mere **831** birds of **29** species were ringed on the marsh.

3.2 Table 1 (below) provides overall totals for 2015, while Table 2 provides data for unique birds only in 2013-2015 inclusive (birds captured on more than one occasion during the calendar year are omitted from the total in Table 2).

Table 1. Total numbers of birds trapped in 2015 at Oxwich Marsh

Species		New	Re-trapped / Controlled	Total
1	Jack Snipe	2	0	2
2	Snipe	4	0	4
3	Kingfisher	3	0	3
4	Green Woodpecker	2	0	2
5	Great Spotted Woodpecker	20	39	59
6	Skylark	2	0	2
7	Sand Martin	8	0	8
8	Swallow	398	1	399
9	Tree Pipit	3	0	3
10	Meadow Pipit	65	0	65
11	Pied/White Wagtail	7	0	7
12	Wren	79	50	129
13	Dunnock	33	87	120
14	Robin	58	90	148
15	Redstart	1	0	1
16	Whinchat	2	0	2
17	Stonechat	10	0	10
18	Blackbird	32	32	64
19	Song Thrush	18	8	26
20	Redwing	99	0	99
21	Mistle Thrush	1	0	1
22	Cetti's Warbler	19	22	41
23	Grasshopper Warbler	11	1	12
24	Sedge Warbler	140	21	161
25	Reed Warbler	152	14	166
26	Lesser Whitethroat	2	0	2
27	Whitethroat	32	7	39
28	Garden Warbler	5	0	5
29	Blackcap	189	13	202
30	Chiffchaff	99	4	103
31	Willow Warbler	85	1	86
32	Goldcrest	164	9	173
33	Firecrest	3	0	3
34	Long-tailed Tit	26	18	44
35	Coal Tit	7	4	11
36	Blue Tit	368	419	787
37	Great Tit	105	245	350
38	Nuthatch	2	9	11
39	Treecreeper	7	0	7
40	Magpie	1	0	1
41	Chaffinch	234	89	323
42	Greenfinch	444	129	573
43	Goldfinch	395	169	564
44	Siskin	55	30	85
45	Lesser Redpoll	7	0	7
46	Bullfinch	9	5	14
47	Reed Bunting	123	77	200
Total:		**3531**	**1593**	**5124**

Table 2. Totals of unique birds[1] captured in 2013-2015

Species		2013	2014	2015	2014 vs 2015
1	Sparrowhawk	0	3	0	-3
2	Jack Snipe	0	1	2	1
3	Snipe	0	11	4	-7
4	Woodpigeon	0	1	0	-1
5	Kingfisher	1	7	3	-4
6	Green Woodpecker	0	0	2	2
7	Great Spotted Woodpecker	3	14	23	9
8	Skylark	0	2	2	0
9	Sand Martin	0	14	8	-6
10	Swallow	23	382	399	17
11	House Martin	0	1	0	-1
12	Tree Pipit	0	13	3	-10
13	Meadow Pipit	8	48	65	17
14	Pied/White Wagtail	0	0	7	7
15	Wren	41	74	96	22
16	Dunnock	17	61	50	-11
17	Robin	24	101	68	-33
18	Redstart	0	0	1	1
19	Whinchat	0	0	2	2
20	Stonechat	0	6	10	4
21	Blackbird	14	32	39	7
22	Song Thrush	5	7	18	11
23	Redwing	0	8	99	91
24	Mistle Thrush	0	0	1	1
25	Cetti's Warbler	10	28	24	-4
26	Grasshopper Warbler	2	6	11	5
27	Sedge Warbler	62	120	145	25
28	Reed Warbler	113	153	159	6
29	Lesser Whitethroat	0	2	2	0
30	Whitethroat	17	42	34	-8
31	Garden Warbler	0	21	5	-16
32	Blackcap	51	300	190	-110
33	Yellow-browed Warbler	0	1	0	-1
34	Wood Warbler	0	1	0	-1
35	Chiffchaff	43	140	100	-40
36	Willow Warbler	22	94	85	-9
37	Goldcrest	20	73	167	94
38	Firecrest	1	3	3	0
39	Long-tailed Tit	17	30	37	7
40	Marsh Tit	0	2	0	-2
41	Coal Tit	0	3	7	4
42	Blue Tit	224	393	469	76
43	Great Tit	36	127	153	26
44	Nuthatch	0	0	2	2
45	Treecreeper	2	1	7	6
46	Magpie	1	1	1	0
47	Starling	0	2	0	-2
48	Chaffinch	30	196	265	69
49	Brambling	0	1	0	-1
50	Greenfinch	3	355	468	113
51	Goldfinch	3	445	464	19
52	Siskin	0	62	58	-4
53	Lesser Redpoll	0	0	7	7
54	Bullfinch	17	19	13	-6
55	Reed Bunting	40	157	147	-10
Total:		**850**	**3564**	**3925**	**361**

3.3 A statistical comparison between 2014 and 2015 is not possible, as the total amount of net, the net rides used and the number of visits each month varies depending on the personnel available and the weather conditions. Feeders are generally kept out and topped up, but were removed during part of 2014 due to the prevalence of disease in local finch populations. 2013 was a pilot year, and only small numbers of birds were captured, so is not a useful comparator.

[1] This includes newly ringed birds in the respective years, plus re-trapped birds from previous years when re-trapped for the first time in that year, and controlled birds (those ringed at other sites).

3.4 Notwithstanding this, however, we aim to ring in the marsh twice a week during passage periods and at least once a week at other times. Where there are very obvious differences between years, these tend to be apparent. Clear differences between 2014 and 2015 include:

- Lower numbers of blackcap in each month from June to September inclusive. Although a considerable difference in the September total between years (55 in 2015 and 110 in 2014) may in part be attributable to weather, far lower totals in the summer are less explicable.
- Few garden warbler during autumn passage. In 2014 we captured birds relatively regularly between 26 July and 2 September inclusive (21 individuals), while in 2015 the total of five birds were all captured between 31 July and 8 August inclusive. Future years will establish whether 2014 was exceptional.
- None of our sessions coinciding with an influx of chiffchaffs in September 2015. The lower total in 2015 in comparison with 2014 is largely due to capturing 38 less birds during the month. Totals for other months are broadly comparable.
- A considerable influx of goldcrest during October, reflected in far larger numbers of the species being captured (we targeted the species in both 2014 and 2015 using tape lures and setting nets among scrub habitats to capture the species)
- A far more noticeable passage of redwing in autumn 2015 than in 2014. A more suitable net ride for capturing the species (along a slightly raised bund through the marsh), combined with tape luring resulted in far greater success than in 2014.

3.5 Some differences are explained by weather / rainfall. We have not been able to get into areas we worked successfully for snipe in 2014 due to very high water levels making safe access very difficult. Unsettled weather in late August and early September coincided with the peak period in which we captured tree pipit in 2014, and may account for the lower numbers captured of that species.

3.6 Captures of several other species have increased as a result of the 'bund' ride. This passes through an area of bracken and rosebay willowherb on the edge of the marsh. It is here that we have captured the whinchats, most of the stonechats and the redstart which appear to favour this warm invertebrate-rich area during autumn passage.

3.7 Grasshopper warbler bred on the marsh in 2015. Capturing (assumedly) both adults of the pair along with recent fledglings (also assumedly from this pair), and passage migrants has increased the total in comparison with 2014 when there was no evidence of local breeding.

3.8 Table 3, which combines data for newly ringed birds for 2014 and 2015 shows that some seasonal patterns are starting to emerge.

Table 3. Selected breakdown and totals of newly ringed birds in 2014 and 2015 combined

Species	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Great Spotted Woodpecker	0	0	0	3	2	17	2	1	2	1	1	2	31
Wren	1	1	3	3	4	9	29	38	18	28	4	1	139
Stonechat	0	0	2	0	0	0	0	2	8	3	1	0	16
Cetti's Warbler	0	0	0	6	0	2	8	12	10	3	1	0	42
Grasshopper Warbler	0	0	0	1	2	0	1	9	3	1	0	0	17
Sedge Warbler	0	0	0	3	9	4	48	131	58	3	0	0	256
Reed Warbler	0	0	0	3	9	11	61	143	66	3	0	0	296
Whitethroat	0	0	0	0	2	4	15	42	9	2	0	0	74
Garden Warbler	0	0	0	0	0	0	2	20	4	0	0	0	26
Blackcap	0	0	0	20	5	65	79	137	154	22	4	2	488
Chiffchaff	2	0	4	7	1	15	19	24	95	61	8	3	239
Willow Warbler	0	0	0	7	4	4	34	108	20	0	0	0	177
Goldcrest	1	3	1	1	0	0	0	3	27	169	27	4	236
Firecrest	0	0	0	0	0	0	0	0	0	5	1	0	6
Blue Tit	37	29	44	16	7	68	75	69	116	129	73	17	680
Greenfinch	5	43	126	45	35	45	112	93	100	122	59	12	797
Goldfinch	4	57	138	97	25	103	53	13	84	162	78	24	838
Reed Bunting	15	20	33	16	5	18	20	13	73	48	4	2	267

3.9 New great spotted woodpeckers, for example, tend to be principally captured in June. The birds ringed at this time are all recently-fledged juveniles. The table above omits recaptures: adult birds ringed during previous years are also recaptured in June, assumedly bringing their young to the easiest source of local food. Both adults and young are then regularly recaptured in July and August.

3.10 Late summer and autumn increases in new birds are extremely marked in reed and sedge warblers, indicating the marsh is mainly used on passage (although both species breed). As the season progresses, the catches become dominated by juvenile birds: for example, of the last 60 sedge warblers ringed in 2015 (between 29 August and 1 October) only two were adults. For sedge warbler in particular if a session coincides with a fall of the species this can have a massive bearing on year totals.

3.11 Other interesting aspects of the data are the clear peaks in timing in willow warbler and chiffchaff, with the former principally passing through in August and the latter in September and October. Later still are goldcrest and firecrest, for which the numbers are greatest in October (albeit opportunities for ringing in November have been few and far between in both 2014 and 2015) and the totals of both species are likely to be depressed for that month.

3.12 Data on blue tit are also interesting. Despite the fact that almost 700 blue tits have been ringed in 2014 and 2015, only seven have been ringed in May. This suggests that there is abundant food available in the spring, and few territories close to the ringing site. It is worth noting that while further birds were re-trapped following ringing in previous years (and are omitted form the table), the numbers of re-traps is similarly very small.

3.13 Some data are potentially misleading if interpreted without care. During settled weather in the late summer and autumn we concentrate our ringing activity in the reed bed as opposed to around the feeders, as we are more likely to capture migrant warblers. In addition, during the winters of 2014/15 and 2015/16 (to date), very few sessions have been possible due to wind and rain. It follows that numbers of goldfinch and greenfinch ringed during these periods may not be representative of the numbers present. In fact, all that can be concluded is that there is a clear late winter increase in goldfinch numbers, and that greenfinch numbers are high between July and the late autumn.

Species Accounts

Jack snipe

3.14 Two jack snipe were captured in 2015 (1 in 2014), with further birds flushed during reconnaissance of areas likely to hold snipe species.

3.15 Birds were trapped on 18 March and 20 October. The first was captured in an l-shaped configuration of nets erected on the edge of a large pool (with rush tussocks) with the primary purpose of day-roosting snipe, while the second flew into a triangle of nets erected in order to capture meadow pipits.

3.16 Both jack snipe were aged as 1st winter birds on the basis of a narrow outer primary feather, the pattern of the under tail coverts (not spotted / streaked), the pattern of the wing coverts and a number of other supporting features.

Snipe

3.17 Due to a combination of cattle poaching the mud (resulting in deep sludge) and high water levels in parts of the marsh, an area close to the South Pond that held good numbers of snipe in winter 2014/15 was difficult to access safely in the first half of winter 2015/16. As a result we did not attempt to catch snipe in this area.

3.18 Notwithstanding this, fewer snipe were present during reconnaissance work than at the equivalent time in the previous year. It was unclear whether this reflected a change in local distribution due to water levels, a change in abundance associated with the milder weather in winter 2015 to date or other factors.

3.19 During 2015 two snipe were mist-netted near the South Pond in March, and an additional two birds on the bund through the marsh. The capture of these latter birds was fortuitous, as the extent of suitable habitat for snipe in the area is very limited.

3.20 These results are a little disappointing, as we had hoped to build on the results from 2014 (11 birds captured). Due to the number of snipe that are shot across northern Europe, there is the potential

for some useful (if slightly depressing) data being returned on them. However, it may be that we just have to accept that fluctuations in snipe catches between years are beyond our control.

Kingfisher

3.21 Kingfishers were captured in each of July, August and September 2015.

3.22 All three were juvenile / 1st winter birds, with ageing based on the colouration of their bills and feet. One was sexed as a female, and the sex of the others was undetermined. The range of wing lengths of the birds was 73 mm – 80 mm, but the weights were all exactly the same, 36.6 g.

3.23 In 2014 kingfishers were trapped on five dates between 18 April and 5 November 2014, including three on 9 August 2014. A total of seven birds were captured, of which five were sexed as females. The wing lengths of the birds were in the range 78 - 81mm, but weight varied more widely (34.7 - 41.9 g). A dispersing bird was controlled at Llanrhidian, on the Burry Inlet, by Barry Stewart.

Green woodpecker

3.24 Birds were captured in the reed bed on 7 February and 9 October. They were aged as adult and first winter males respectively (based on the colour of the malar stripe). The wing length of both birds was 165 mm, albeit the adult weighed almost 40 g more than the first winter bird (201.8 as opposed to 162.0 g).

3.25 In both cases the birds responded to play back of calls. They regularly commute over the ringing site between foraging areas in the dunes to the seaward side of it and parkland and woodland to the landward side where they assumedly breed and roost.

Great spotted woodpecker

3.26 Twenty-three individual great spotted woodpeckers were captured (11 in 2014), three of which had been initially ringed in 2013 (there were no recaptures from 2014). The remainder were new birds. Half of these twenty new birds were juveniles captured in June 2015, with the first juvenile captured on 7 June.

3.27 A day total of 10 great spotted woodpeckers were captured on 20 June 2015.

3.28 It is interesting to note that two bird feeders relatively remote from woodland (c. 300 m to the closest mature woods across an open marsh) can have over twenty woodpeckers visiting them.

Skylark

3.29 As in 2014 we captured two skylarks. The first may have been drawn to some ‘zipping noises’ on a whinchat tape that we were playing on the bund through the reed bed on 19 September, or it may have flown into the net coincidentally. The second was captured in a more calculated manner (on 3 October), through play back of song in a triangle of nets erected with the principal aim of capturing pipits. If the wind speed had been lower, we might have caught more birds, as there was considerable passage of skylark overhead.

3.30 The moult strategy of skylark, with adults and juveniles undertaking a full post-breeding and a full post-juvenile moult respectively, makes ageing straightforward (you can’t do it in the autumn – code 2 [unknown]).

Sand martin

3.31 Small numbers of sand martin were trapped among swallows during evening visits to the marsh in August and September. Of eight birds captured (14 in 2014), seven were recently fledged juveniles. Due to the number of Hirundines captured during these visits, full biometrics were not taken. The birds were over-nighted in specially made roost boxes.

Swallow

3.32 Of 399 swallows captured in 2015 (382 in 2014), 329 were juvenile birds and the remaining 70 adults. All bar one, captured in a mist net in mid-April, were trapped at dedicated evening roost sessions between 23 August and 12 September.

3.33 During these sessions three sixty-foot nets were erected, and swallow song was played from approximately 1-hour before sunset until after the birds had come into roost.

3.34 A bird ringed as an adult male at a breeding site at Leason, North Gower, in August 2014 was among the birds captured in September 2015.

Tree pipit

3.35 Tree pipits were captured on three dates between 18 August and 6 September inclusive (in 2014 between 23 August and 9 September inclusive). Audio was used to lure birds towards nets on days that they were initially heard calling in flight overhead.

3.36 Biometrics taken included bill depth and hind claw length, as these, together with a range of other supporting features, can be used to definitively separate birds from the relatively similar meadow pipit. In the hand the shorter hind claw and the sturdier bill of tree pipit are often immediately apparent, along with plumage features.

3.37 All of the three birds in 2015 (13 in 2014) were recently fledged juveniles. Weights varied between 19.7 and 24.2 g (18.3 - 25.1 g in 2014) and wing length between 86 and 90 mm (82 – 90 mm in 2014). None of the birds was carrying a large amount of fat, albeit one was given a fat score of four based on the British Working Group scoring system.

3.38 Weather during late August and early September was unseasonally wet and windy, which is likely to account for the relatively low numbers of tree pipits captured in 2015. Passage birds were noted in flight over the marsh until 19 September, although had ceased to be heard regularly well before this.

Meadow pipit

3.39 In late autumn and early winter 2014 whenever flocks of meadow pipits were noted on the marsh or overhead passage of birds was apparent, audio equipment available and wind speed conducive, we tried taping for them.

3.40 In 2015 we put together a pipit triangle, comprising three forty-foot, four-shelf nets around a ‘lawn’ cut into an extensive area of rushy pasture that the pipits tend to favour. Audio equipment was placed within the triangle, and the poles and guys left in place to allow nets to be put up easily. Small mounds of brash were heaped within the triangle, and a couple of branches pushed into the ground to provide perches.

3.41 Despite the fact that we only used the triangle on a few occasions, we trapped a total of 65 meadow pipits (48 in 2014). Of these, 57 were first winter birds and the remainder adults.

3.42 Factors used in ageing include the shape, colour and definition of the margins of the greater coverts, the shape and size of the black ‘teeth’ in the median coverts, and obvious retained juvenile flight feathers (particularly un-moulted tertials). Wing length varied between 73 and 86 mm and weight between 15.5 and 22.9 g. None of the birds was carrying significant fat, with the maximum recorded level being three (British Working Group scoring system).

Pied / white wagtail

3.43 During swallow roost sessions in the marsh we noted the presence of a small roost of wagtails. The roost built until in excess of 60 birds were present in mid to late October. Unfortunately weather and personnel availability limited our opportunities to target the roost, and we only trapped seven birds (six in early to mid-September and a final bird in early October).

3.44 Birds were determined to race, where possible, using guidance provided by Livingstone (undated) and Evans & Cade (2011), both of which can be downloaded from the Internet. However, there are limitations to what can be concluded (especially by those who don't handle wagtails and see their variability with regularity), and a bird captured during the ringing course provided the participants and trainers with a real challenge. In the end it was concluded that it could not be attributed to race with confidence. This bird was the only one to be carrying significant fat (score of 6), and was clearly on the move.

Wren

3.45 Wren holds territory in various locations around the marsh, and ninety-six individuals were captured in 2015 (72 in 2014). Seventeen of these had been initially ringed in either 2013 or 2014. The first fledgling was captured on 27 June (21 June in 2014).

Dunnock

3.46 A total of 50 unique dunnocks were processed on the marsh in 2015, comprising 33 newly ringed birds and 17 birds initially captured during previous years. In 2014 61 unique dunnocks were processed.

3.47 Of the 33 dunnocks ringed, 29 were recently fledged juveniles and four were adults. The first fledged juvenile was noted on 7 June (24 May in 2014). Wing length in dunnocks varied between 63 and 76mm and weight between 13.7 (an outlier) and 25.8 g.

3.48 Dunnock X872270 ringed in October 2009 as an adult (by Barry Stewart) was recaptured in both March and April 2015. This bird was therefore at least (approximately) seven years of age when recaptured, as it would have fledged in mid-2008 or before.

Robin

3.49 A total of 68 unique robins (101 in 2014) were trapped on the marsh in 2015, of which 58 were new and 10 were re-trapped birds originally ringed in 2014 or 2013.

3.50 In 2014 an influx of robins to the marsh was noted in September, with 43 new birds captured during the month. In September 2015 a more modest 15 new robins were captured. This difference largely accounts for the difference in the annual totals between years. It is unclear whether there was a September influx of robins in 2015, as weather conditions during parts of the month prevented ringing.

3.51 Robin holds territory at the marsh, and the first fledged juvenile was trapped on 23 May (13 May in 2014). Considerable differences in size were noted between birds, with the smallest weighing 14 g and the largest 24 g. Wing length varied between 61 mm and 79 mm.

Redstart

3.52 A redstart was captured on 15 August 2015 in a line of nets across a bund through the marsh. The bird was in post juvenile moult, and was not sexed. It weighed 13.5 g.

3.53 The first capture of the species since ringing recommenced at the site in February 2013.

Whinchat

3.54 Whinchats were captured on 18 August and 13 September (the first ringing records of this species at the site to the best of our knowledge). The second of these captures was during the Welsh Ringing Course. Both whinchats were aged as first year birds, following a degree of deliberation.

3.55 The whinchats were both captured along the bund through the reed bed. Further birds were noted in this area during the autumn passage period, but were not captured. This augurs well for 2016.

Stonechat

3.56 Ten stonechats were ringed on the marsh in 2015 (6 in 2014). Birds were captured between 8 August and 3 October. All were juveniles / first winters (based on visible moult limits in wing feathers).

3.57 In previous years we have spring-trapped stonechats, but in 2015 all of the birds were captured in mist nets. Birds responded well to a tape. They were mainly, but not exclusively, caught on the bund; a bird in the pipit triangle was unexpected.

3.58 The birds weighed between 14.3 and 17.1 g (14.1 and 15.9 g in 2014) and had wing lengths of 65 – 69 mm (62 – 68 mm in 2014). None were carrying any visible fat deposits.

Blackbird

3.59 A total of 39 unique blackbirds were processed at Oxwich Marsh in 2015 (32 in 2014), of which 32 were newly ringed birds and seven recaptured birds from 2013 and 2014. The species holds territory around the edges of the marsh, but despite this the first fledgling was not captured until 30 May (3 May in 2014).

3.60 Birds had a wing length of 117 - 137 mm (the longest-winged bird was caught in June and was therefore likely to be part of the local breeding population) and weights of 76.2 - 112.5 g (in 2013 a blackbird with a weight of 128.5 g was trapped). The highest fat score was 4 (British Working Group system), recorded in mid-March 2015.

Song thrush

3.61 Eighteen unique song thrushes were captured in 2015 (seven in 2014).

3.62 The species breeds locally, and the first juvenile was captured on 30 May. There were no recaptures from previous years. A total of six birds captured in October hinted at an autumn influx (redwing were abundant at this time).

Redwing

3.63 Ninety-nine redwing were captured between 16 October and 22 November 2015 (8 in the second winter period in 2014). There was considerable visible migration of redwing noted during October, and small numbers of birds may have roosted in trees / scrub within the reed bed at this time.

3.64 Redwing were attracted into a line of nets across the marsh using vocalisations recorded in Latvia. Of the ninety-nine birds captured, thirty-eight were adults and sixty first winters, with the age of one bird left undetermined. Fifty-eight of the redwings were captured on 28 October 2015.

3.65 The weight of birds varied between 54.2 and 72.7 g, but none were carrying significant fat (the highest fat score recorded was 3 [based on the British Working Group scoring system]).

Mistle thrush

3.66 A recently fledged juvenile mistle thrush was captured on 30 May in a single sixty-foot net through some overhanging scrub (primarily cut to capture chiffchaffs and crests during the late autumn).

3.67 A welcome bonus, and the first ringing record of this species for the site since Gower RG became active on the marsh in February 2013.

Cetti's warbler

3.68 Cetti's warbler is one of the most obvious species at Oxwich Marsh due to its explosive song. In 2014 at least six males were estimated to hold territory in scrub around the edges of reed bed (based on the peak number of singing males). There was no obvious change to the baseline in 2015.

3.69 A total of 24 unique birds were captured (28 in 2014), of which 18 were confirmed as juveniles. The first young bird was captured on 27 June, and was in entirely juvenile plumage. Adults and juveniles become increasingly difficult to reliably separate in the autumn due to a lack of clear plumage differences following post juvenile / post breeding moult.

3.70 News was received in April 2015 concerning Cetti's warbler X343718, controlled at the marsh on 1 November 2014. The bird was ringed at Magor Marsh, Monmouthshire, in July 2012. Since this time it had moved almost 100 km west. It was not recaptured in 2015.

Grasshopper warbler

3.71 It was a good year for grasshopper warbler. A total of eleven birds were captured of which four were adults and seven juveniles.

3.72 A bird initially ringed on 25 April was re-trapped almost a month later (23 May), by which time it could be sexed as a male (due to a clear cloacal protrusion). Reeling was recorded with regularity across the period, with two males sometimes present. On 30 May, a female with a well-developed brood patch was trapped in the same area as the male. Further, a young bird in the early stage of post juvenile moult was trapped on 8 August. This bird was unlikely to have got far from the natal site.

3.73 All of this points to breeding occurring on the marsh in 2015. There was no clear evidence of breeding in 2014, although reeling birds were noted in spring (when they could have been on passage).

3.74 Eight of the grasshopper warblers were trapped in August. The latest bird was ringed on 13 September (during the Welsh Ringing Course).

Sedge warbler

3.75 Small numbers of sedge warbler hold territory on the marsh. The first returning migrant was heard on 15 April (17 April in 2014), young birds were trapped from 23 July onward (20 July in 2014) and the final record of the species was two birds on 1 October (2 October in 2014). During autumn migration some birds were carrying considerable fat: the heaviest weighed 18.2 g with fat covering two-thirds of the breast muscle (score of seven).

3.76 A total of 145 unique sedge warblers were captured at Oxwich in 2015. As in 2014, very few birds were trapped in April (1), May (8) and June (7). August was the busiest month for the species (66 were captured), and the largest day-catch was 29 birds (all juveniles) on 13 September.

3.77 It would appear that the marsh is mainly used by sedge warblers during autumn passage. The year total is likely to fluctuate depending on whether a ringing session coincides with a fall of the species, which can occur throughout August and September. In 2014 the largest day-catch was 41 on 7 August, while on the North Gower coast at Llanrhidian, Barry Stewart captured an impressive 71 birds on 3 August 2014.

3.78 The only news of controls of sedge warblers ringed on the marsh received in 2015 has concerned a 2014 bird. A Spanish-ringed sedge warbler controlled on 7 August 2014 had been ringed at Jaizubia, Hondarribia, Guipúzcoa on 30 August 2013. The ringing site is approximately 930 km in a roughly southerly direction from the marsh.

Reed warbler

3.79 A total of 159 unique reed warblers were trapped on the marsh in 2015 (153 in 2014). The first birds were heard singing on 18 April (17 April in 2014), the first fledgling trapped on 11 July (21 June in 2014), and the final two birds were noted on 3 October.

3.80 As in 2014, catches only reached double figures in July, August and September, with a peak monthly count of 79 birds trapped in August. There were two birds ringed in 2013 and four birds ringed in 2014 captured.

3.81 Size and weight varied. Wing lengths were between 60 - 71 mm, with those at the bottom end of the range checked against the identification criteria for Blyth's reed warbler and those at the top end against those for marsh warbler. Weight varied between 9.3 g and 15.5 g (8.7 – 15.6 g in 2014).

3.82 Reed warblers ringing at the site in August 2014 and July 2015 were controlled at Westdown Plantation, Wiltshire and Slapton Ley, Devon in June 2015 and August 2015 respectively. More local movements were also recorded with young birds moving from Kenfig (East Glamorgan) to Oxwich and from Oxwich to Teifi Marshes (Pembrokeshire), both seemingly on the wrong course for a southerly migration. More notable was a bird ringed in 2011 at Teifi that was recaptured at Oxwich (a breeding female) in July 2014 and also in early June 2015.

3.83 Late news was also received, via the BTO, of a reed warbler that had been ringed on the marsh by Barry Stewart (as a juvenile) in 2010 and recaptured in July 2014 (and therefore four years old).

Lesser Whitethroat

3.84 Two juvenile lesser whitethroats were captured: on 31 July and 12 August 2015. In 2014 an adult was captured on 26 July and a juvenile on 7 August.

Whitethroat

3.85 Thirty-four unique whitethroats were captured in 2015 (42 in 2014). The first bird was caught on 25 April (24 May in 2014) and the last on 3 October (20 September in 2014).

3.86 Birds bred in scrub around the fringes of the reed bed, and the first fledgling was captured on 27 June (5 July in 2014). A juvenile bird ringed on 30 July 2014 was recaptured (and sexed as a male) on 25 April 2015.

3.87 Wing lengths varied between 66 and 76 mm (67 and 76 mm in 2014), and weight between 12.1 and 18.1 g (11.8 - 19.2g in 2014). As in 2014, the heaviest birds were also the latest, with the penultimate bird, ringed on 1 October, having a fat score of 6 (indicating that it was ready to migrate).

Garden warbler

3.88 Garden warbler is an uncommon passage migrant in Gower, and a scarce breeder. In some years there are no autumn records of the species listed in the Gower Bird Report. It was therefore unexpected to catch 21 unique birds in 2014, and a more modest five birds in 2015 may be a more typical return.

3.89 Garden warblers were captured between 31 July and 8 August inclusive (26 July and 6 September inclusive in 2014). Two adult females, with brood patches feathering over, and three juveniles made up the total.

Blackcap

3.90 A total of 190 unique blackcaps were processed in 2015, a considerable decrease on the 300 birds captured in 2014. The species breeds in scrub and woodland around the marsh, but is also caught in the reed bed as birds disperse after the breeding season.

3.91 The first blackcap was trapped on 13 April (12 April in 2014) and the last on 20 October (13 December in 2014), with fledglings noted from 20 June (7 July in 2014). The highest day counts were 23 on 11 August and 20 on 6 September. The lack of late birds is likely to reflect the very poor weather for ringing that dominated November and December.

3.92 The weight of birds varied between 13.9 g and 22.4 g (14.6 g - 24.3 g in 2014), with the heaviest birds trapped during autumn migration and carrying reasonable fat deposits (fourteen birds had a fat score of five based on the British Working Group system).

3.93 Birds ringed at the marsh were recovered at Fontburn, Northumberland and Icklesham, East Sussex. The former was a young male ringed in September 2014 that had moved 434 km north

north-east by July of 2015, and the latter was a bird ringed as a juvenile (unsexed) on 11 August 2015 that had made it 345 km east south-east by 3 October (by which time it could be sexed as a male).

Chiffchaff

3.94 Chiffchaff breeds at Oxwich, occurs in largest numbers in the marsh during autumn passage, and in small numbers in winter.

3.95 A total of 100 unique chiffchaffs were trapped in 2015 (140 in 2014). The first records were of two wintering birds, captured on 4 January. What were assumedly returning migrants were captured from 25 March onward.

3.96 There was one re-trap chiffchaff from 2014, a young bird ringed on 13 September was recaptured on 6 April 2015. The first fledged juvenile was caught on 20 June (21 June in 2014), and the highest number trapped during a ringing session was 12 on 9 October.

Willow warbler

3.97 Eighty-five willow warblers were trapped on the marsh in 2015 (94 in 2014). There were no captures of birds initially ringed in 2014 or 2013.

3.98 Willow warblers breed around the marsh. The first bird was trapped on 6 April (12 April in 2014) and the last on 23 September (16 September in 2014). The first fledglings were caught on 15 July (12 July in 2014).

Goldcrest

3.99 Goldcrest is likely to breed in woodland close to the marsh, and in 2014 a recent fledgling was captured. However, it mainly occurs as a late autumn migrant, and is uncommonly captured during much of the year.

3.100 One hundred and sixty-seven unique goldcrests were trapped at Oxwich in 2015. Of these, 139 were captured in October. The total included one bird ringed in late 2014 and still present during January 2015. As in autumn 2014 we used audio playback of calls to increase capture rates.

3.101 Sex was confirmed in 162 of the goldcrests: there were 109 males and 53 females captured. They weighed between 4.3 and 6.4 g (4.7 g - 6.2g in 2014), and had wing lengths of 49 – 60 mm (47-57 mm in 2014).

3.102 A goldcrest controlled at the marsh on 11 October 2015 had been ringed at Kilnsea, East Yorkshire, some 42 days earlier. A movement of 369 km in a south-westerly direction.

Firecrest

3.103 Firecrest is a scarce but regular late autumn passage and winter visitor in Gower. We have now trapped seven birds on the marsh since ringing began in February 2013.

3.104 In 2015 three first winter males were captured, two on 9 October and one on 25 October. Three firecrests were also captured in 2014, all of which were determined as first winter females, while in 2013 we trapped a male on 16 November.

3.105 The four males and three females captured have varied in weight between 5.0 and 5.8 g and in wing length between 50 mm and 56 mm. Body fat has only been recorded (a trace) on one bird.

3.106 The firecrest ringed on 9 October continued moving, only to be killed by a cat in Haverfordwest, Pembrokeshire on 29 October (65 km in a west north-westerly direction).

Long-tailed tit

3.107 Thirty-seven unique long-tailed tits were processed at Oxwich in 2015 (thirty in 2014). Of these, three were originally ringed in 2013 and seven in 2014. The first juvenile bird was trapped on 23

May (14 June in 2014), but it was unclear whether the species bred in the immediate vicinity of the marsh.

Coal tit

3.108 The total of seven coal tits were all trapped around the feeders between 17 October and 13 December 2015. In 2014 only three birds were captured, but these were trapped in the spring and summer. None of these birds were recaptured in 2015.

Blue tit

3.109 Four hundred and sixty-nine unique blue tits were processed at Oxwich in 2014 (three hundred and ninety-four in 2014). These included twelve birds initially ringed in 2013.

3.110 The first juveniles were caught on 7 June (14 June in 2014). The largest day catch was of 63 blue tits on 22 November.

3.111 A first winter bird ringed on the marsh by Barry Stewart in October 2009 was recaptured in October 2015, indicating it was over 6 years of age at the time. A second bird ringed in August 2009 as a juvenile was recaptured in March 2015, and would have been approaching its sixth birthday.

Great tit

3.112 A total of 153 unique great tits were trapped on the marsh in 2015 (127 in 2014). The species breeds locally, and the first juveniles were trapped on 7 June (1 June in 2014). The largest day catch was of 23 great tits on 6 September.

Nuthatch

3.113 Two juvenile nuthatches were captured on the marsh in July. These birds were subsequently recaptured on a number of occasions around the feeders, and following the completion of post-juvenile moult were sexed as male and female respectively.

3.114 The first ringing records of the species on the marsh since the recommencement of activity in February 2013. The species is common in nearby deciduous woodland.

Treecreeper

3.115 Seven treecreepers were captured in 2015 (one in 2014 and two in 2013). Three of this total were captured in October.

3.116 A new net ride through overhanging scrub close to the Natural Resources Wales compound proved good for capturing the species, which may have bred in mature, dense scrub nearby (as birds were often noted in this area).

Magpie

3.117 A magpie was trapped on 6 April in the scrub near the feeders. It was aged as a second calendar year bird, weighed 216.7 g and had a wing length of 188 mm.

3.118 Single magpies have now been trapped at Oxwich in each year since ringing commenced again in 2013.

Chaffinch

3.119 Chaffinches were commonly trapped throughout the year, and were regular visitors to the feeding station. A total of 265 unique birds were processed (196 in 2014). These included three birds originally ringed in 2013 and 27 from 2014. The first juveniles were recorded on 30 May (1 June in 2014), and the species appears to breed commonly in the vicinity.

3.120 There was one older bird, a female initially ringed as a first winter in November 2010 at the marsh by Barry Stewart, and recaptured in February 2015.

3.121 The six heaviest birds were all captured in February and March 2015. Fat deposits of four and five (based on the British Working Group fat scoring system) were recorded on birds at this time. This suggests feeding up prior to breeding / dispersal / migration.

3.122 A bird found dying in Pontardawe, 28 km east north-east of the site had been ringed at Oxwich 77 days previously. It was taken to the Gower Bird Hospital where it was concluded that the cause of death was trichomonosis.

Greenfinch

3.123 A total of 468 unique greenfinches were processed at Oxwich in 2015 (355 in 2014).

3.124 The species breeds locally, and the first juveniles of the year were trapped on 30 May (1 June in 2014). Twenty-four birds ringed in 2014 were re-trapped in 2015.

3.125 The wing lengths and weights of the birds varied between 79 and 94 mm and 16.9 (an emaciated bird) and 31.4 g respectively (18.6 g and 34.1 g in 2014). Of 416 new birds that were sexed, 210 were male and 206 female.

3.126 The largest day catches were of 50 birds on 6 September and 58 birds on 3 October.

3.127 There was less evidence of trichomonosis in the local greenfinch population than in 2014, with only a few apparently diseased birds noted during the year. A handful of underweight birds were noted in the late summer, but these did not show signs of the disease: diseased birds characteristically look 'fluffed up' and have excess saliva around the bill.

3.128 There were five reports of Oxwich ringed greenfinches received via the BTO ringing recovery service. A bird ringed at the marsh in August 2014 was killed by a raptor in Alltwen, some 28 km to the north-east in July 2015, and there were reports of dying and dead birds respectively from Reynoldston (two including one killed by a cat) and Scurlage (both are within 5 km of the site).

3.129 More pleasant late news concerned a young female ringed in July 2014 that had made its way 74 km east north-east by November of the same year, where it was mist-netted at Llangorse Lake, Powys.

Goldfinch

3.130 A total of 464 unique goldfinches were processed at Oxwich in 2015 (445 in 2014). The species breeds locally, and the first juveniles of the year were trapped on 30 May (14 June in 2014).

3.131 Wing length and weight of goldfinches varied between 68 (an outlier: there were four birds with a wing length of 71) and 82mm, and 10.9 to 19.6 g respectively (12.0 - 19.1 g in 2014).

3.132 The largest day catch of goldfinches was of 39 birds on 7 June.

3.133 Late news from the BTO concerned a goldfinch ringed at the marsh on 12 April 2014 that was controlled on Lundy, Devon two weeks later (25 April), a south-westerly movement of approximately 57 km. The only other report of a recovery of an Oxwich ringed goldfinch in 2015 was from Knelston (a few kilometres away), where a bird was found dead after (reportedly) flying into a wall in high winds.

Siskin

3.134 Siskins were mainly trapped between early April and mid-August 2015 (in 2014 they began visiting the feeders in early March and had left by July). Outside of this period they were trapped occasionally, with a singleton in January and small numbers of birds joining the regular goldfinches at the feeders during autumn passage.

3.135 A total of 58 unique birds were captured (62 in 2014).

3.136 As in 2014, siskin bred on the marsh, perhaps in response to the opportunity provided by the feeding station. It appears that birds were double-brooded, with juveniles appearing by late May

(first captured on 23 May) and a second cohort in entirely juvenile plumage captured from 11 July onward. This conclusion was reflected in brood patch scoring of adult females, which was undertaken throughout the spring and summer months.

3.137 A bird ringed at Minehead in October 2012 and initially captured on the marsh in June 2014 was trapped again in 2015 (in both April and May). It was a male and showed a clear cloacal protrusion, indicating it was breeding locally.

Lesser redpoll

3.138 Redpoll are regularly heard in flight over the marsh, and appear to breed in small numbers in areas of wet woodland and to pass over the site on passage.

3.139 Seven birds were captured during 2015, three of which were males, two of which were females and two unsexed. A female trapped on 31 July had a well-defined brood patch, with wrinkled skin and the lack of engorgement indicating that breeding had been completed. It is likely that this bird bred locally.

3.140 These are the first redpoll ringed on the marsh since ringing recommenced in February 2013.

Bullfinch

3.141 A total of 13 unique bullfinches were processed at the marsh in 2015 (19 in 2014). Nine newly ringed birds and re-traps from 2013 (1) and 2014 (3) made up this total.

3.142 There were no (obvious) territories close to the ringing rides, but breeding is likely to occur in the local area, and the first juvenile was trapped on 23 July.

3.143 A BTO recovery report indicated that a bullfinch ringed at Oxwich in 2013 was killed by a cat in Llansamlet, Swansea in late June 2015. A movement of 21 km to the east north-east.

3.144 Reed bunting

3.145 A total of 147 unique reed buntings were processed at Oxwich Marsh in 2015 (157 in 2014), of which 123 were new birds. The species occurs on the marsh year-round, and the first juveniles were trapped on 20 June 2015 (14 June in 2014).

3.146 The oldest bird captured was V931950, initially ringed in July 2008 by Barry Stewart. This male bird was recaptured in both March and May 2014 and again on 8 August 2015, so is likely to hold territory on the marsh. It was therefore at least 7 years of age when re-trapped.

3.147 Local movements were recorded from Nitten Field, Mewslade (some 9 km to the west) in October (via the BTO recovery service), and at Cefn Sidan, Carmarthenshire (Paul Aubrey, pers comm) around the same time.

4 Conclusions

4.1 The third year of Gower Ringing Group activity at Oxwich has proven very successful.

4.2 The total number of birds ringed at the marsh increased, albeit marginally, on 2014, with 361 extra birds processed. More importantly, however, we are now starting to get useful data sets that help us meet our objectives, particularly with regard to reed bed warblers, other long distance migrant passerines and local finch populations.

4.3 It has been good to capture a few new species for the site in 2015: green woodpecker (2), mistle thrush, redstart, whinchat (2), nuthatch (2), and lesser redpoll (7), and other highlights have included a great year (by our standards) for goldcrest and redwing, another few firecrests, two more jack snipe and proving local breeding in grasshopper warbler.

4.4 2014 was a very different (and drier) year in the marsh, with the highlights being some notable foreign and domestic controls, whereas while we have controlled / had controlled more birds in 2015, these recoveries have generally been less exciting. We also failed to catch a scarcity (which is always exciting) in 2015, whereas in 2014 we captured both yellow-browed and wood warblers (the latter are uncommon on Gower) and a *tristis* / eastern cline chiffchaff. However, every year is different, which is one of the things that contributes to making ringing birds interesting.

4.5 The profile of the group has undoubtedly risen as a result of the Welsh Ringing Course and through the use of our blog, and this may have in turn helped us grow to the point where we now have 16 members. We now have two (as opposed to one in 2014) ringing trainers, some increasingly capable trainees, and the number of C Ringers within the group has also grown (due to the migration into the area of Paul Aubrey, formerly active in Wiltshire).

4.6 2016 should be another great year at Oxwich.

5 Acknowledgements

5.1 We are extremely grateful to the Gower Society for providing grant funding for rings and seed. Without this grant it would not have been possible to continue ringing on the marsh with the same intensity in 2015, and the data gathered would consequently be far less useful.

5.2 Nick Edwards (of Natural Resources Wales), who manages the marsh, continues to be extremely supportive of ringing at the site, as he has been since we began ringing in 2013.

5.3 Thanks are also due to members of the Gower Ringing Group who have attended regularly over the course of the year and provided the impetus and commitment to maintain our efforts. In particular: Heather Coats, Charlie Sargent, Cedwyn Davies, Keith Vaughton, Wayne Morris, Emma Cole, Darren Hicks, Dan Rouse, Val Wilson, Paul Aubrey and Phil Mead.

5.4 Finally thanks to Kelvin Jones for organising the Welsh Ringing Course, and to Allison Kew, Martin Hughes and Gwyn Roberts, Gower Ringing Group members (including Chris Newberry), and Viola Ross-Smith in helping turn an event that threatened to be ruined by weather into one that received some excellent feedback from participants.

Appendix 1: Photographs

Photo 1.

Kingfisher (Keith Vaughton)

Photo 2.

Lesser redpolls (Keith Vaughton)

Photo 3.

Lesser whitethroat (Keith Vaughton).

Photo 4.

Whinchat (Keith Vaughton)

Photo 5.

Mistle thrush (Owain Gabb)

Photo 6.

(L-R) Phil Mead, Darren Hicks, Wayne Morris and Keith Vaughton processing swallows.

Photo 7.

Redstart (Keith Vaughton)

Photo 8.

Stonechat (Owain Gabb)

Photo 9.

Skylark (Owain Gabb).

Photo 10

Jack snipe on release (Charlie Sargent)

Photo 11.

Redwing (Charlie Sargent)

Photo 12.

Great spotted woodpecker (Owain Gabb)