

Oxwich Marsh

Ringling Report 2018

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 13 km to the west of Swansea. The 'marsh' supports a range of habitats, including extensive reed bed, scattered scrub and wet woodland, ditches, 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 Since Gower Ringing Group (Gower RG) began ringing at Oxwich (in March 2013), possibilities for collecting data sets on different species have been explored. This has seen us create a variety of different net rides through reed bed, rush pasture and scrub habitats. The work has been supported by Natural Resources Wales (NRW), the land managers, and for the past four years by grant funding from The Gower Society.

Aims of Ringing at Oxwich Marsh

- 1.4 Bird ringing has a number of aims. These include understanding 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 or food shortage. Ringing and recapture of individual birds therefore allows us detailed insight into bird movements.
- 1.5 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 basic standardised scoring systems.
- 1.6 The cumulative data collected by ringers allows insight into the ecology and population dynamics of birds, 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.
- 1.7 As the capture and handling of birds inevitably results in a degree of physical stress, it follows that all ringing activity should have a clear purpose. 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 the importance of the site to these species during the breeding season and passage periods;
 - To capture good 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, siskin, greenfinch and chaffinch. All typically undertake seasonal movements and greenfinch in particular has been subject to a recent national-level 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;
 - To raise the profile of ringing locally, and to integrate our efforts with other local groups involved in bird conservation in South Wales; and, overall,

- To collect a long-running, high quality data set on birds at Oxwich Marsh.

Training and Awareness Raising

- 1.8 Oxwich is an excellent site for training ringers. This is due to the number and diversity of birds captured, and the fact that the site operates year-round. It complements some of the other projects the Gower RG 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. In 2018 we saw the Group grow to over twenty members.
- 1.9 We produce regular on-line summaries of our activities on the Gower RG blog (<http://gowerbirdringinggroup.blogspot.co.uk/>). These are often accessed by 500-1,000 people.
- 1.10 In 2018 we also had articles summarising ringing activity published in the the Gower Ornithological Society's annual publication 'Gower Birds' and hosted the Welsh Ringing Course for the fourth (successive) year, between 7 and 10 September 2018.

Group News

- 1.11 The ringing group has grown steadily over the past few years. We now have approximately twenty members, of whom around sixteen regularly come to Oxwich.
- 1.12 During the year Stephen Vickers and Kirsty Franklin both achieved their C Permits. That they did this in little over 12 months was testimony to their hard work and commitment. They attended almost all sessions at Oxwich during their first 6-8 months of training, spent time on the Calf of Man and an extended period of volunteering on Skokholm (spanning several months) during which they were ringing on a daily basis. They also found time to go out with Tony Cross and Matt Prior, gaining a very good grounding in various aspects of ringing as a result. They have both now moved on (to the University of East Anglia) to begin ornithologically-focussed PhDs.

2 Methods

Overview

- 2.1 Water levels were lower in the reed bed and in marginal habitats throughout the year than in 2017 (also a dry year) and previous years. Cattle were absent for much of the year.
- 2.2 No new ringing rides were created in 2018. The ringing rides used in 2017 all remained in use. Although in theory the number of net rides available means we could deploy in excess of 1600 feet / 500 metres of net at the site, we vary net locations based on time of year, water levels and available personnel. It is rare that we have more than 800 feet of net at the site.

Data collected

- 2.3 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 and alula feathers 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.
- 2.4 For some species additional data were collected. Basic wing formulas were taken for chiffchaff and willow warbler to confirm species (willow warbler is a long 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.
- 2.5 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.
- 2.6 Four standard reference texts were used as guides:
- Svensson, L. (1992). Identification guide to European passerines (5th Ed). Privately published, Stockholm.
 - Baker, K. (2016). Identification of European non-passerines. British Trust for Ornithology, Thetford.
 - Demongin, L. (2016). Identification guide to birds in the hand. Beauregard-Vendon.
 - Redfern, C.F & Clark, J.A. (2001). The ringer's manual. British Trust for Ornithology, Thetford.
- 2.7 The former three 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, how to take non-standard measurements etc. Further information on any aspect of this is available through the BTO.

3 Results

Overview

- 3.1 In 2018 **3,428** birds of **53** species were ringed at Oxwich (3,492 of 46 species in 2017).
- 3.2 Recaptures from previous years and controlled birds (those initially ringed at other sites) took the total of unique birds processed at the site to **3,899** (3,857 in 2017). Blue tit (553), swallow (480) and reed warbler (271) were the most frequently captured species.
- 3.3 In 2017 3,857 birds of 46 species were processed. Swallow (709), blue tit (427) and goldfinch (324) were captured most regularly. The breakdown of annual totals is shown in Table 1 below (and over page). 2013 was a pilot year, with the lower numbers reflecting far more limited trapping effort.

Table 1. Total number of (unique) birds trapped at Oxwich Marsh, 2013-2018.

No	Species	2013	2014	2015	2016	2017	2018
1	Mute swan					7	1
2	Sparrowhawk		3		2		1
3	Water rail				3		
4	Jack snipe		1	2	14	10	8
5	Snipe		11	4	19	55	60
6	Woodpigeon		1				
7	Kingfisher	1	7	3	1	2	
8	Green woodpecker			2			1
9	Great spotted woodpecker	3	14	23	21	33	47
10	Skylark		2	2			
11	Sand martin		14	8	33	19	44
12	Swallow	23	382	399	595	709	480
13	House martin		1		5	104	
14	Tree pipit		13	3	37	19	9
15	Meadow pipit	8	48	65	14	45	32
16	Yellow wagtail					3	1
17	Grey wagtail				1	7	3
18	Pied/White wagtail			7	44	101	41
19	Wren	41	74	96	76	70	76
20	Dunnock	17	61	50	39	74	97
21	Robin	24	101	68	49	77	71
22	Redstart			1	1		
23	Whinchat			2			1
24	Stonechat		6	10	21	14	5
25	Wheatear				1		
26	Blackbird	14	32	39	29	57	58
27	Song thrush	5	7	18	10	17	23
28	Redwing		8	99	42	92	10
29	Mistle thrush			1			1
30	Cetti's warbler	10	28	24	26	40	37
31	Grasshopper warbler	2	6	11	19	13	5
32	Sedge warbler	62	120	145	177	142	194
33	Reed warbler	113	153	159	227	192	271
34	Lesser whitethroat		2	2	1		1
35	Whitethroat	17	42	34	36	23	29
36	Garden warbler		21	5	16	8	12
37	Blackcap	51	300	190	71	98	172
38	Yellow-browed warbler		1		16		4

No	Species	2013	2014	2015	2016	2017	2018
39	Wood warbler		1				
40	Chiffchaff	43	140	100	145	101	128
41	Willow warbler	22	94	85	146	72	98
42	Goldcrest	20	73	167	106	83	36
43	Firecrest	1	3	3	4	2	2
44	Long-tailed tit	17	30	37	42	21	27
45	Marsh tit		2				3
46	Willow tit				1		1
47	Coal tit		3	7	8	7	11
48	Blue tit	224	393	469	235	427	553
49	Great tit	36	127	153	135	149	259
50	Nuthatch			2	1		3
51	Treecreeper	2	1	7	7	3	7
52	Magpie	1	1	1	1		1
53	Starling		2			2	10
54	Chaffinch	30	196	265	208	157	187
55	Brambling		1		1	8	22
56	Greenfinch	3	355	468	244	139	88
57	Goldfinch	3	445	464	479	324	261
58	Siskin		62	58	150	218	251
59	Lesser redpoll			7	2	2	1
60	Bullfinch	17	19	13	2	14	11
61	Yellowhammer					1	
62	Little bunting				1		
63	Reed bunting	40	157	147	117	96	145
Total		850	3564	3925	3681	3857	3899

3.4

Statistical comparison between years is not possible, as the total amount of net, the net rides used, and the number of visits each month varied depending on the personnel available and the weather conditions. 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, and it is possible to draw broad comparisons based on the data supplemented by field observations. Features of 2018 were:

- A second very good year catching snipe. We have now caught over 150 common snipe and 25 jack snipe on the marsh, and have recaptured both species in consecutive winters, indicating between-year site fidelity.
- A predominantly good year for reedbed warblers. We captured our highest number of reed and sedge warblers to date, while Cetti's warbler numbers were also above average. It was a poor year for grasshopper warbler however, with only one late summer / early autumn capture.
- A productive year for a number of common resident species including dunnock, blue tit, great tit and great spotted woodpecker; the overall totals of these species were the highest recorded during a calendar year to date.
- An excellent first few months of 2018 for brambling (by our own relatively modest standards). We captured a total of 30 birds during winter 2017/18, with 22 of these trapped between 16 January and 14 April 2018.
- Good siskin numbers. Birds were present between early January and mid-September, and three generations of young were recorded.
- A drop off in goldfinch numbers, and a further decline in greenfinch numbers, the latter almost certainly as a result of trichomoniasis.
- A disappointing August and early September for tree pipit and garden warbler, and a poor late autumn for redwing and goldcrest. The low totals mainly reflected weather patterns during key passage periods preventing sessions being completed, but there appeared to be a lack of a late autumn influx in goldcrest.

- 3.5 There were no new bird species ringed at the site in 2018 - the first year to date we have not added a new species to the site tally. There were also no rare birds processed during the year, albeit it was good to capture four yellow-browed warblers, which are a relatively scarce species in Gower, in the autumn. Other nice species to capture were green woodpecker, yellow wagtail, whinchat, lesser whitethroat, mistle thrush, willow tit and marsh tit.
- 3.6 Absentees from the annual total were kingfisher and house martin; the former seemed scarce at Oxwich this year, and may have been affected by the cold end to the winter, while catching the latter is always unpredictable. Despite the abundance of jays around the marsh, we have yet to catch one; this is surely the next bird to be trapped at Oxwich.

Species Accounts

Mute Swan

- 3.7 One of the resident (breeding) mute swans (the female from the South Pond pair), was ringed at Goodrington Park, Torbay in January 2010. It remained on the marsh in 2018 (it was also recorded in 2017 and 2016). The bird had moved 135 km in a north north-westerly direction from its ringing location to take up residence at Oxwich.

Sparrowhawk

- 3.8 A second calendar year male bird was captured on 1 September.
- 3.9 It was subsequently recaptured approximately one week later, during the Welsh Ringing Course.

Jack snipe

- 3.10 Eight jack snipe were captured in 2018 (ten in 2017, fourteen in 2016).
- 3.11 Birds were trapped between January and March, in October and December. They were captured close to the South Pond and in a series of rides cut into the edge of the reedbed (with a view to capturing snipe species).
- 3.12 Weight always seems very variable (range 48.8 – 77.3 g [49.1 g - 75.0 g in 2017]). There was no obvious correlation between time (in the season) of capture and weight of birds; the heaviest bird was captured on 20 October, with the second and third heaviest on 14 January.
- 3.13 There were no recaptures of jack snipe in 2018.

Snipe

- 3.14 Sixty snipe were captured at Oxwich in 2018 (fifty-five in 2016).
- 3.15 Most snipe were captured close to the South Pond, but we also had considerable success capturing them elsewhere on the marsh, including in a strimmed-out partially-inundated area on the edge of the reedbed.
- 3.16 The best result was the recapture of a snipe initially ringed in December 2017 during November 2018. This was the first evidence we had obtained of between-winter site fidelity, and gave us far greater confidence in ageing other birds (as we were able to study the features of this known age bird and relate them to published criteria). We recaptured several other more recently ringed snipe during the year, with the results indicating that some individuals at least spend several months on the marsh (as opposed to using the area in a transient manner).
- 3.17 Weights varied considerably. The heaviest bird was captured in January and weighed in at 141.4 g, while the lightest, captured in December 2018 was a mere 88.8 g.

Green woodpecker

- 3.18 A young male green woodpecker was captured on 7 September 2018.

3.19 This was only the third of the species to be ringed on the marsh, and the first since 2015.

Great spotted woodpecker

3.20 Forty-seven individual great spotted woodpeckers were captured, making 2018 the best year to date for the species.

3.21 There were fifteen recaptured birds from previous years, with the newly ringed birds comprising twenty-six juveniles and six adults.

3.22 The first juvenile was captured on 31 May (17 June in 2017, 4 June in 2016). As in previous years, the capture of new woodpeckers in November suggests birds forage or disperse more widely during the late autumn and winter period.

3.23 All woodpeckers were captured in close proximity to feeders. These are more than 300 m from the nearest mature woodland.

Sand martin

3.24 It was the best year to date for sand martin, despite the fact that we put less effort into catching roosting swallows than in the previous two years (the birds are captured coming in with the swallows).

3.25 Of the forty-four birds captured (nineteen in 2017, thirty-three in 2016), forty were recent fledglings.

Swallow

3.26 Of four hundred and ninety swallows captured in 2018, three hundred and eighty-nine were juveniles and one hundred and one adults. Seven hundred and nine swallows were captured in 2017, reflecting greater roost effort in that year.

3.27 There were no controls in 2018, and two between-year recaptures of birds ringed in 2017. Of these, one had been ringed on 21 August 2017 and was recaptured on 20 August 2018, showing remarkable synchronicity.

Tree pipit

3.28 Tree pipits were captured between 9 August and 1 September inclusive (10 August and 9 September in 2017, 14 August and 29 August in 2016).

3.29 The nine birds captured compares poorly with the totals of nineteen in 2017 and thirty-seven in 2016. Capture is highly weather-dependent, and unseasonably windy and wet conditions during peak passage undoubtedly impacted the total.

3.30 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 short hind claw and the sturdy bill of tree pipit are often immediately apparent, along with plumage features.

3.31 Weights varied between 19.1 g and 25.5 g (eighty-one birds captured at the site to date have ranged between 18.2 g and 25.5 g) and wing lengths between 83 mm and 90 mm.

Meadow pipit

3.32 We attempted to tape lure meadow pipits on several dates between mid-September and mid-October, capturing thirty-two birds as a result.

3.33 There were few days when pipits were visibly migrating in number, and we concentrated on other species with higher likely recapture / control rates.

3.34 There was no indication of breeding on the marsh in 2018 (breeding was proven in 2016 but not in 2017).

Yellow wagtail

- 3.35 An immature female yellow wagtail was captured on 20 August 2018, coming into roost with pied / white wagtails.
- 3.36 In 2017 three yellow wagtails were captured (on 30 August, 8 and 9 September).
- 3.37 Yellow wagtail is an excellent species to capture in Wales. In 2017 there were nine birds ringed in Wales (three at Oxwich) and in 2016 none.

Grey wagtail

- 3.38 Three first winter grey wagtails were captured in 2018 (seven in 2017). The birds were tape lured into a triangle of nets at dusk / within one hour of sunrise.
- 3.39 Weights were 17.4 g – 18.1 g.
- 3.40 The birds were captured on 7 and 22 September and 14 October, during which times we regularly noted passage birds commuting over the marsh.

Pied / white wagtail

- 3.41 Pied / white wagtails were captured between 20 August and 14 October inclusive (7 August and 24 September in 2017, 30 August and 20 September in 2016).
- 3.42 The wagtails were captured at dusk using tape lures; the majority were kept overnight in roost boxes and released the following morning.
- 3.43 After finding birds easy to capture in 2017 (a peak of thirty-three birds were captured on 9 September 2017), it was a slight shock to the system when unsettled weather followed by a period with a north-westerly airflow reduced catches considerably (one to no birds at all – with a swallow catch on the same night returning nine birds). The total of forty-one birds was less than half the 2017 total of one hundred and one, with twenty-two of the 2018 birds were captured on 14 October.
- 3.44 The weight of the wagtails varied considerably (between 19.5 and 25.6 g [19 g and 28 g in 2017]), and some birds were noted carrying reasonable fat deposits (up to a score of four based on the British Working Group [BWG] system).

Wren

- 3.45 Wren holds territory in various locations around the marsh, and seventy-six unique birds were captured in 2018 (seventy in 2017, seventy-six in 2016, ninety-six in 2015, seventy-four in 2014). Other than 2015, when a spike in numbers was noted, totals appear relatively consistent.
- 3.46 There were nine recaptures from previous years. The oldest of these was a bird ringed in August 2014 and recaptured in October 2018.
- 3.47 The first fledgling was captured on 30 June (17 June - 3 July in 2014-2017).

Dunnock

- 3.48 The 2018 total of ninety-seven dunnocks was by far the best year total to date for the species.
- 3.49 There were thirty-six between year recaptures, the oldest of which was a bird ringed in March 2014 and recaptured in July 2018.
- 3.50 Fledged birds were first noted on 19 May. Recently fledged birds, with un-feathered breasts and obvious gape flanges) continued to be captured until early September, indicating that some pairs had at least two broods.
- 3.51 A dunnock ringed in Ivybridge, Devon, in July 2015 (when a juvenile), had made its way to Oxwich by March 2018. This is a movement of 133 km in a northerly direction.

Robin

- 3.52 Seventy-one unique robins were captured (seventy-seven in 2017).
- 3.53 Robin holds territory at the marsh. The first fledged juvenile was trapped on 31 May (7-23 May in 2014-2017). Ringing returns indicated local fledging occurred in late May and early June, with a second brood in early to mid-July. There was no obvious autumn influx to the marsh in 2018.
- 3.54 There were thirteen recaptures of robins ringed in previous years. The oldest of these recaptured birds was initially ringed as a juvenile in May 2015.

Whinchat

- 3.55 A young male whinchat was captured in an area of dry reed bed on 25 August 2018.
- 3.56 This was the third whinchat to be ringed at Oxwich; birds were previously ringed in August and September 2015 respectively.

Stonechat

- 3.57 Five stonechats were captured in 2018; a poor year for the species. Fourteen stonechats were ringed on the marsh in 2017 and twenty-one in 2016.
- 3.58 All 2018 birds were recently fledged juveniles captured August and September.
- 3.59 Hay fields outside the trapping area were not grazed / trampled in 2016 or 2017, which has resulted in the bracken component increasing and makes them more attractive to stonechat. The stonechats do not tend to move into ruderal habitats and stands of bracken and bramble on the edge of marsh until these fields have been cut, which was late in 2018. A very cold end to the winter may also have affected between year survival (in addition to catching less birds, they were encountered less frequently in 2018 than in previous years).

Blackbird

- 3.60 It was marginally the best year to date for blackbirds, with fifty-eight individuals captured (fifty-seven in 2017).
- 3.61 There were eight recaptures from previous years, the oldest of which were birds ringed in 2015.
- 3.62 The species holds territory around the edges of the marsh. However, in 2018 the first fledgling was not captured until 23 June, suggesting very limited first brood success. In 2017 the first fledgling was captured on 29 April (3-30 May in 2014-2016).

Song thrush

- 3.63 A good year for song thrush, with twenty-three individuals captured (seventeen in 2017).
- 3.64 There were five recaptures from previous years, the oldest of which was a bird ringed in October 2015 as a first winter and re-trapped in July 2018.
- 3.65 The first fledged juvenile was caught on 2 June. The primary feathers of the bird were still in pin, indicating it had fledged very locally.

Redwing

- 3.66 Redwing were captured between 20 October and 1 November 2018.
- 3.67 While there was considerable passage of the species noted locally, the weather conditions at the time were not conducive to ringing. As a result it was a poor year for the species.

Mistle thrush

- 3.68 A first winter bird was tape lured on 5 October 2018. During the day parties of mistle thrushes were present, indicating passage.
- 3.69 The only previous Oxwich record was of a bird captured and ringed in 2015. Mistle thrushes are relatively rarely captured in Wales; a few are ringed as pulli, and there are typically a handful of additional birds mist-netted each year.
- 3.70 The weight of the bird was 126.5 g (to illustrate the bulky nature of the bird, in 2018 song thrush weights were 59.5 – 83.9 g, blackbird weights 74.8 – 103.4 g and redwing weights 51.8 – 66.8 g).

Cetti's warbler

- 3.71 Cetti's warbler is one of the more obvious species at Oxwich Marsh due to its explosive song.
- 3.72 A total of thirty-seven unique birds were captured (forty in 2017, twenty-six in 2016, twenty-four in 2015, twenty-eight in 2014). The first young bird was captured on 7 July, a late date (the first young were captured on 17 June in 2017 and 25 June in 2016).
- 3.73 An influx of new birds carrying fat was noted in October (as per previous years), with ten birds ringed between 14 October and 1 November. Cetti's warbler does not typically carry visible fat, and in previous years we noted this indicated likely migration / dispersal of birds into the marsh in the autumn period.
- 3.74 In 2018 our theory was borne out. A Cetti's warbler ringed at Brandon Marsh, Warwickshire as a recently fledged juvenile in June 2018 was recaptured at Oxwich on 20 October. This was a west south-westerly movement of slightly in excess of 200 km.

Grasshopper warbler

- 3.75 Breeding was proven in grasshopper warbler for the fourth successive year. Two of three birds initially captured in April remained on site through May, and were periodically recaptured. One subsequently showed a cloacal protrusion, the other developed a brood patch, and a recently fledged juvenile was captured on 7 July.
- 3.76 Autumn passage was very limited, and the year total of five individuals was disappointing. The peak annual catch in any one year to date has been nineteen in 2016.

Sedge warbler

- 3.77 Small numbers of sedge warbler hold territory on the marsh. Birds were present from at least 19 April (first records have fallen between 12 and 17 April in the period 2014-2017 inclusive). Young birds were captured from 23 June (5 July in 2017, 18 June in 2016) and the final record of the species was of a bird on 29 September (16 September in 2017, 2 October in 2016).
- 3.78 Two birds ringed at Uskmouth in 2016 appeared to have taken up residence on the marsh during the 2018 breeding season. While this is not particularly notable, the birds were both ringed on the same day, 14 August 2016.
- 3.79 There were eight between year recaptures of ringed birds, albeit these were all from 2016 and 2017. The largest day-catch was of fifty-six birds on 4 August.

Reed warbler

- 3.80 A total of two hundred and seventy-one unique reed warblers were trapped on the marsh in 2018 (one hundred and ninety two in 2017, two hundred and twenty-seven in 2016). The first fledgling was trapped on 26 June (20 June in 2017, 30 June in 2016).
- 3.81 Reed warblers were captured between 21 April and 22 October. There were nineteen between year recaptures of reed warbler (eleven in 2017), which was encouraging. The star in terms of longevity was a bird ringed at the site as a juvenile in August 2010 and recaptured in July 2018.

Controls were of a young bird ringed in Warrington in late August that had made its way to Oxwich by mid-September, and of a bird ringed at Teifi Marshes in mid-September and recaptured at Oxwich in early October.

Lesser whitethroat

- 3.82 A second calendar year bird was captured on 21 April 2018.
- 3.83 This was our first spring capture of lesser whitethroat. The other five birds captured to date have all been trapped in the autumn.

Whitethroat

- 3.84 Twenty-nine unique whitethroats were captured in 2018 (twenty-three in 2017, thirty-six in 2016, thirty-four in 2015, forty-two in 2014). The first bird was trapped on 5 May (typically we capture the first in the third week of April) and the last on 15 September (11 September – 3 October 2014-2017 inclusive).
- 3.85 There no evidence of successful breeding within the marsh; the first fledgling was not captured until 14 July.
- 3.86 There was one between-year retrap; a young bird ringed in August 2017 was recaptured in May and June 2018. It was a male, showed a cloacal protrusion and appeared to be holding territory on the marsh.

Garden warbler

- 3.87 Garden warbler is an uncommon passage migrant and a scarce breeder in the Gower recording area.
- 3.88 The number of garden warblers captured at Oxwich varies considerably between years. The 2018 total of twelve, captured between 27 July and 21 August, is one of the lower annual returns. All were young birds.
- 3.89 Between July 2014 and the end of 2018 we have captured sixty-three garden warblers at Oxwich. Of these, sixty-one have been captured between 26 July and 17 September, with fifty of these being from August.

Blackcap

- 3.90 A reasonable year for blackcap.
- 3.91 A total of one hundred and seventy-two birds were processed, a marked increase on 2017 (ninety-eight), but still well short of the three hundred birds captured in 2014.
- 3.92 The first blackcap was trapped on 5 April (8-17 April in 2014-2017) and the last on 28 December, with fledglings noted from 30 June (17 June-7 July in 2014-2017). The highest day count was twenty-nine on 29 September.
- 3.93 There were three between year recaptures of blackcap; one from 2016 and two from 2017.

Yellow-browed warbler

- 3.94 Four individuals were captured in late October (three on 20 October and the fourth on 22 October).
- 3.95 The wing lengths of the birds were between 53 mm and 60 mm and the weights between 5.3 g and 5.9 g. These wing lengths were within the range of chiffchaff (albeit towards the lower end of the range of that species), but the weights were approximately 2 g less than a typical chiffchaff, and only 0.2 g – 0.8 g more than a typical goldcrest. This illustrates the size of these warblers.

Chiffchaff

- 3.96 Chiffchaff breeds at Oxwich, occurs in largest numbers in the marsh during autumn passage, and in small numbers in winter.
- 3.97 One hundred and twenty-eight chiffchaffs were captured in 2018 (one hundred and one in 2017, one hundred and forty-five in 2016, one hundred in 2015, one hundred and forty in 2014).
- 3.98 The first chiffchaff of the year was captured on 20 March and the last on 10 December (five birds). Juveniles were noted from 30 June (range 17 June-25 June 2014-2017). The peak catch was twenty-seven on 7 October. There were two between-year re-traps of chiffchaff from 2016 and 2017 respectively.

Willow warbler

- 3.99 A reasonable year for willow warbler, with ninety-eight birds captured. This total was heavily influenced by a catch of forty-eight birds on 4 August.
- 3.100 Willow warblers breed around the marsh. The first bird was trapped on 1 April (6-15 April in 2015-2017 inclusive) and the last on 15 September (16 September - 2 October in 2014-2016 inclusive). The first fledglings were ringed on 7 July (1-17 July in 2014-2017). There were no between year recaptures of the species.

Goldcrest

- 3.101 It was a poor year for goldcrest, with the thirty-six birds captured being the lowest number since 2013. There was a small-scale influx in October, and one overwintering bird was captured in January 2018 that had been ringed in 2017.

Firecrest

- 3.102 Firecrest is a scarce but regular late autumn passage and winter visitor to Gower.
- 3.103 First winter male birds were captured on 22 October and 24 November, taking the overall total for the species to fifteen. Birds have been captured between 8 October and 2 December inclusive.

Long-tailed tit

- 3.104 A total of twenty-seven long-tailed tits were captured in 2018, which represents a slightly below par year. There was only one between-year recapture, which was of a bird ringed in autumn 2016.
- 3.105 The number of long-tailed tits captured at the site varies based on whether the flocks that commute through the marsh in the late autumn period fly across the net lines and are captured. In 2016, when forty-two unique birds were captured, day totals of twenty-one birds on 29 October and fifteen birds on 3 November heavily influenced the overall total.

Marsh tit

- 3.106 Marsh tits were captured in March (one) and July (two) 2018. The July birds were both adult females in main moult.
- 3.107 Despite marsh tit being locally common in woodland close to the site, these were the first birds captured on the marsh since 2014.

Willow tit

- 3.108 A young willow tit was captured on 27 July 2018.
- 3.109 This was only the second bird to be captured on the marsh, and raises the prospect that there is still a breeding population on the Gower Peninsula. The previous bird, captured in August 2016, was also in its first calendar year.

Coal tit

- 3.110 Eleven unique coal tits were trapped in 2018 (seven in 2017, eight in 2016, seven in 2015).
- 3.111 There was one between year recapture. A bird ringed on 6 January 2016 was recaptured on the same date in 2018.
- 3.112 Coal tits were captured in autumn and winter. There was no indication of breeding on the marsh, but the species is likely to be common in nearby mixed woodland on the Penrice Estate.

Blue tit

- 3.113 Five hundred and fifty-three blue tits were processed at Oxwich in 2018. There appears to have been a continued recovery in the local population following two years of poor productivity (in 2015 and 2016), and it was the best year to date for the species.
- 3.114 One hundred and thirty birds ringed in previous years were recaptured. These included five birds ringed in 2013.
- 3.115 The first juveniles were caught on 9 June (range 3 -18 June 2014-2017). The largest day catch was of eighty-eight blue tits on 28 December.

Great tit

- 3.116 A total of two hundred and fifty-nine great tits were captured on the marsh in 2018. The previous highest count was of one hundred and fifty-three in 2015.
- 3.117 The species breeds locally, and the first juveniles were trapped on 9 June (1-11 June in 2014-2017 inclusive). The largest day catches were of sixty great tits on 20 July and sixty-four on 30 June.
- 3.118 There were seventy birds that had been ringed in previous years recaptured during 2018. Only one of these birds had been ringed during Gower RG's first year at Oxwich in 2013.

Treecreeper

- 3.119 Seven treecreepers were captured in 2018 (three in 2017 and seven in both 2016 and 2015). These included recently fledged juveniles on 30 June and 14 July, indicating successful local breeding.

Starling

- 3.120 Ten starlings were captured on 20 August 2018. The birds were trapped during a wagtail roosting session. A large post-breeding flock was present in the marsh at the time.

Magpie

- 3.121 A magpie initially ringed on the marsh on 12 October 2013 was recaptured on 12 May 2018.
- 3.122 The bird was a female with an engorged brood patch.

Chaffinch

- 3.123 Chaffinches were commonly trapped throughout the year, and were regular visitors to the feeding station. A total of one hundred and eighty-seven unique birds were processed (one hundred and fifty-seven in 2017, two hundred and eight in 2016). These included eighteen birds ringed in previous years (2015-2017).
- 3.124 The first juveniles were recorded on 26 May (20 May - 4 June in 2014-2016), and the largest day total was twenty-three on 7 July.

Brambling

- 3.125 A total of twenty-two bramblings were captured between 6 January and 14 April 2018; eleven males and eleven females. One individual ringed in late 2017 was recaptured in January 2018.
- 3.126 The total of twenty-nine birds over the winter of 2017/18 represented an excellent total (by our own relatively modest standards).
- 3.127 The remains of one brambling were found beneath a barn owl roost close to the site.

Greenfinch

- 3.128 Eighty-eight greenfinches were processed at Oxwich in 2018. Although, as previously noted, direct comparison of between-year data can only be undertaken in a qualified manner, this represents a decrease of 36 % on 2017 and 81 % on the total for 2015 (four hundred and sixty-eight birds). This suggests that trichomonosis, which is rife in the Gower population, is resulting in rapid local decline.
- 3.129 The species breeds locally, and the first juveniles of the year were trapped on 31 May (18 May in 2017, 14 May in 2016). Seven birds ringed in previous years were re-trapped in 2018. Only one of these was ringed in 2015, with the remainder from 2016 and 2017.
- 3.130 The largest day catch was of fourteen birds on 9 September (the same date as the largest day catch in 2017).

Goldfinch

- 3.131 A below par year for goldfinches, with the highest catches being in April (spring passage) and July (when a high proportion of the catch were juveniles). For the second year in a row, there was no substantial autumn or early-mid winter influx.
- 3.132 The total of two hundred and sixty-one goldfinches represents a 19 % decrease in comparison with 2017, and a 45 % decrease in the 2016 total of four hundred and seventy-nine birds. There is, however, no indication of disease in the population.
- 3.133 The species breeds locally, and the first juveniles of the year were trapped on 31 May (18 May - 4 June in 2015-2017). A further cohort of recently fledged juveniles was noted in early September.
- 3.134 There were thirty-two birds from previous years recaptured, the oldest of which was a bird initially ringed in March 2014.
- 3.135 Local controls involved birds moving to and from nearby Carmarthenshire.

Siskin

- 3.136 2018 was the best year to date for siskin, with two hundred and fifty-one birds processed.
- 3.137 There were fifty-four birds from previous years recaptured, the oldest of which was a female ringed in Spring 2014. The bird showed a brood patch, and was likely to have bred on the marsh. It was also recaptured (twice) in 2016, when it was also likely to have bred locally.
- 3.138 Siskins were captured between January and September inclusive. The species breeds locally. In 2017 there was clear evidence of treble-brooding, with cohorts of young birds recorded in late April / early May, in mid-June and mid-August. In 2018 the data only provide a clear indication of two broods, one in early May and the second from July onward.

Lesser redpoll

- 3.139 A second calendar year female bird was captured on 21 April.

Bullfinch

- 3.140 A similar year to 2017, with eleven (twelve in 2017) birds captured.
- 3.141 There was no evidence of breeding close to the ringing site.
- 3.142 Birds were captured between April and July 2018 inclusive. Juveniles were noted from 7 July onward, but there was no evidence of breeding in the immediate vicinity of the ringing site.

Reed bunting

- 3.143 A welcome increase in reed buntings, with one hundred and forty-five captured (ninety-six in 2017) of which one hundred and fifteen were new birds.
- 3.144 The species occurs on the marsh year-round, and the first juveniles were trapped on 9 June (3-20 June in 2014-2017 inclusive).
- 3.145 There were thirty between year recaptures of reed buntings, with four of these being from 2014.

4 Conclusions

- 4.1 The sixth year of Gower RG activity at Oxwich was a good one in terms of numbers and diversity of birds captured.
- 4.2 There were relatively few notable controls or recoveries in 2018, and recaptures of birds of significant age were also limited in number.
- 4.3 The highlight was our first between winter capture of common snipe. The population on the marsh is very large, and there are various places for them to roost as the winter goes on, so this has taken some time to achieve. An eight year old reed warbler was also an excellent capture, as was the young willow tit in July; will this be the last of the species to be captured at the site?
- 4.4 It is still surprising how much the bird numbers on the marsh vary year-on-year, and how relatively short periods of poor weather can affect catch totals in some species.
- 4.5 It has also been gratifying to see the group grow again and to see some of our trainees achieving their C permits. We would expect more to follow in 2019, which should be another great year for the group.

5 Acknowledgements

- 5.1 We are extremely grateful to the Gower Society for providing a fourth year of grant funding in 2018. Without this grant it would not have been possible to continue ringing on the marsh with the same intensity as in previous years, and the data gathered would consequently be far less useful. The grant substantially contributed towards covering our costs.
- 5.2 Nick Edwards (of Natural Resources Wales), who manages the marsh, has been consistently supportive of our efforts since we began ringing in 2013, and we are also very grateful for his continued backing.
- 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, Cedwyn Davies, Keith Vaughton, Wayne Morris, Emma Cole, Val Wilson, Paul Aubrey, Stephen Vickers, Sophie de Grissac, Sarah Davies, Martin Thomas, Kirsty Franklin, Joanne Conway, Edward O'Connor, Bethan Dalton, Alex McCubbin, Amy Schwartz, Kathryn Dunnett, Dionne Jenkins, Lara Bates-Prior and Martin Georgiev.
- 5.4 Finally thanks to Kelvin Jones for organising the 2018 Welsh Ringing Course, to Martin Hughes, Gwynedd Roberts, Tony Cross and Justin Walker for their support as visiting trainers, and to Gower Ringing Group members for their assistance in making everything tick.

Appendix 1: Photographs

Photo 1.

Mistle thrush (Richard Dann)



Photo 2.

Green woodpecker (Richard Dann)



Photo 3.

Grey wagtail (Alex McCubbin)



Photo 4.

Whinchat (Alex McCubbin)



Photo 5.
Willow tit (Richard Dann)



Photo 6.
Visitors.



Photo 7.

Jack snipe (Lara Bates-Prior)



Photo 8.

Yellow wagtail (Amy Schwartz)



Photo 9.

Yellow-browed warbler (Amy Schwartz)



Photo 10

Our first between year capture of common snipe (Lara Bates-Prior)



