

**SLOPE STABILITY AT 'PENTIR', LLANBEDROG**

**Ecology and Arboriculture Report**

for

**Mr K MacMaster,**

representing Trustees of the Estate of the late K J G MacMaster

April 2018

3043/11/Ecology report



# R I C H A R D S

M O O R E H E A D & L A I N G L T D

P L A N N I N G | L A N D S C A P E | E N V I R O N M E N T

## SLOPE STABILITY AT 'PENTIR', LLANBEDROG

### Ecology and Arboriculture Report

for

**MR K MacMaster,**

representing Trustees of the Estate of the late K J G MacMaster

April 2018

3043/11/Ecology report

©Copyright. This report and figures remain the copyright of Richards, Moorehead & Laing Ltd.

#### QUALITY ASSURANCE PROCEDURES: QP4

Prepared by:	Jamie Glossop	Date:	April 2018
Checked by:	Stephen Blunt	Date:	12.04.2018
Approved by:	Shân Wyn Jones	Date:	22.05.2018

Visit RML's web site at [www.rmlconsult.com](http://www.rmlconsult.com) for the latest information on our services and staff.

## CONTENTS

	Page no.	
1	INTRODUCTION	1
1.1	Scope of commission	1
1.2	Site description	1
1.3	Proposed works	2
1.4	Construction environmental practices	2
2	SURVEY METHOD	3
2.1	Desk Study	3
2.2	Extended Phase 1 Habitat Survey	4
2.3	Survey limitations	5
2.4	Tree survey	5
3	RESULTS	6
3.1	Designated sites	6
3.2	Habitats	7
3.3	Protected and notable species	8
3.4	Results of tree survey	9
4	EVALUATION AND RECOMMENDATIONS	10
4.1	Potential impacts and mitigation	10
4.2	Designated sites	10
4.3	Habitats	10
4.4	Trees	11
4.5	Invasive plant species	11
4.6	Reptiles	12
4.7	Birds	13
4.8	Bats	13
4.9	Dormice	13

## Appendices

## 1 INTRODUCTION

### 1.1 Scope of commission

- 1.1.1 Richards, Moorehead & Laing Ltd (RML) were commissioned by The Trustees of the Estate of the late K J G MacMaster, represented by Mr K MacMaster, to undertake a desk study and extended Phase 1 habitat survey of an area of cliff (the site) located to the south east of Llanbedrog on the Llŷn peninsula, north-west Wales in relation to proposed cliff stability works. This report presents the findings of the desk study and extended Phase 1 habitat survey and provides an assessment of the potential impacts on ecological features which may result from the proposed works.
- 1.1.2 The Report also presents an assessment of the trees remaining at the site at the time of the visit, noting that approved work to trees within the TPO was undertaken earlier in 2018.



Figure 1 Regional context

### 1.2 Site description

- 1.2.1 The site includes approximately 70 m of earth cliff approximately 9m high, aligned north to south. The cliff itself supports semi-mature to mature trees and scrub. At the bottom of the cliff and immediately east is an area of sandy beach and ultimately

the sea. This area of beach extends northwards away from the cliffs. Immediately south of the cliffs is a large rock outcrop which supports lowland heathland. West of the site is an area of managed grassland and several residential properties.

- 1.2.2 Beyond the site to the west and north is the village of Llanbedrog, with the wider landscape comprising a mosaic of small pasture fields, heathland and woodland divided by hedgerows.
- 1.2.3 The location of the site is shown on Drawing 3043-20\_rev01.

### **1.3 Proposed works**

- 1.3.1 Ground investigations have identified that the cliff comprises a layer of sand and gravel approximately 5- 9 m deep sitting on top of a layer of clay. Water is permeating between the two layers, causing the sand and gravel layer to become unstable, leading to the slumping of the cliff onto the beach. This loose material is then carried away by wave action during the highest tides.
- 1.3.2 There is an accepted risk that if the slumping of the cliff were to continue the land and properties at the top of the cliff will become unstable. It is therefore proposed that stability works to the cliff are undertaken. In summary these works involve removal of the vegetation on the cliff, construction of a rock revetment at the ‘toe’ of the cliff and regrading the soft material to a gradient that can be stabilised by strengthening with geogrid and soil nails or anchors. The finished slope would then be revegetated by planting shrubby species.
- 1.3.3 Access for the works would be principally via Lon Nant lagoon onto the beach. Rock and any other materials, as well as earthworks plant such as a tracked 360° excavator, would be delivered and placed onto the beach above the high tide line.

### **1.4 Construction environmental practices**

- 1.4.1 During construction works, best-practice construction methods will be implemented to reduce the risk of pollution incidents including soil runoff, contamination of water

and fuel spills. Measures will include fuelling all construction vehicles at least 20 m from any watercourse and ensuring spill kits are provided within each vehicle.

1.4.2 All excavated soils will be stored within designated areas of site and subject to appropriate soil stockpile management.

1.4.3 Access to the beach will be limited to the area above the mean high water level.

1.4.4 All excavated soils are to be re-used to establish the cliff profile above the rock revetment, and after construction the regraded and strengthened slope is to be planted with a tree and scrub mix of native species of local provenance. Suitable species the following examples:

- Oak *Quercus petraea/robur*
- Gorse *Ulex europaeus*
- Blackthorn *Prunus spinosa*
- Hawthorn *Crataegus monogyna*; and
- willow *Salix sp.* (where possible willow cuttings will be taken from removed trees or adjacent retained trees and planted directly into the slope).

## 2 SURVEY METHOD

### 2.1 Desk Study

2.1.1 A review of online resources was undertaken in March 2018 to gather details of statutory nature conservation designations within 2 km of the site, e.g. Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar Sites, Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs). In addition, the North Wales Environmental Information Service (COFNOD) was contacted in March 2018 to obtain the following ecological data:

- Details of any non-statutory nature conservation designations within 2 km of the site; and

- Records of any legally protected species or other notable species within 2 km of the site.

2.1.2 Following guidance provided by English Nature<sup>1</sup> and applicable to Wales, land within 500 m of a great crested newt breeding pond should be treated as potential great crested newt terrestrial habitat and evaluated accordingly. Therefore, a review of Ordnance Survey maps and aerial images was undertaken to identify the presence of waterbodies within 500 m of the site.

## 2.2 Extended Phase 1 Habitat Survey

2.2.1 An extended Phase 1 habitat survey was undertaken by an experienced ecologist on 15th March 2018. The survey included land within the site and within 50 m of the site boundary, hereafter referred to as the survey area. It should be noted that not all areas within 50 m of the site boundary could be reached, owing to landowner restrictions.

2.2.2 A Phase 1 habitat survey is a standardised method of recording habitat types and characteristic vegetation, as set out in the Handbook for Phase 1 Habitat Survey – a technique for Environmental Audit<sup>2</sup>. The Phase 1 survey method is ‘extended’ through the additional recording of specific features indicating the presence, or likely presence, of protected species or other species of nature conservation significance (also referred to as ‘notable’ species).

2.2.3 Plant species were recorded using the ‘DAFOR’ scale which records plants as either Dominant, Abundant, Frequent, Occasional or Rare within the survey area

---

<sup>1</sup> English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature [now Natural England], Peterborough.

<sup>2</sup> JNCC (2010). Handbook for Phase 1 Habitat Survey – a technique for Environmental Audit. Revised re-print. Joint Nature Conservation Committee.

## 2.3 Survey limitations

- 2.3.1 The survey was undertaken at what is normally considered a sub-optimal time of year for undertaking extended Phase 1 habitat surveys as not all plant species are in full growth. However, it is considered that sufficient plant material was visible at the time for the survey which allowed for the accurate mapping of the habitats present within the survey area.
- 2.3.2 As the cliff face remains unstable it was not safe for the surveyor to enter this part of the survey area, and the cliff face was viewed from the bottom of the cliff only. In addition, the cliff face supports areas of dense scrub growth which obscured visibility. As a result some features, in particular badger setts, may have been missed. However, as the cliff face is collapsing it is unlikely that a badger sett would be present on the cliff face.

## 2.4 Tree survey

- 2.4.1 Following an assessment undertaken by Mynydd Timber Services in August 2017 as part of the site owners' routine care and maintenance of the estate land, a programme of tree works was carried out in February 2018. This work was approved by Gwynedd Council (Application number C17/1108/38/CC). Seven young oak trees have been planted as future replacements for those removed.
- 2.4.2 To provide a schedule of existing trees and the tree removal likely to be needed to facilitate the proposed slope stabilisation works, for inclusion with the planning application, the trees were recorded in April 2018 using the standard reporting form presented in **Appendix 2**. It should be noted that as the trees are either fallen, leaning severely or consist of coppice regrowth, no canopy dimensions have been recorded.



### 3 RESULTS

#### 3.1 Designated sites

3.1.1 The locations of nature conservation designations present within 2 km of the site are shown on **Figure 1** and detailed in the following paragraphs.

##### *Statutory designated sites*

3.1.2 There are two statutory designated sites present adjacent to the site, Llŷn Peninsula and the Sarnau SAC and Mynydd Tir y Cwmwd a'r Glannau at Garreg yr Imbill SSSI.

3.1.3 Llŷn Peninsula and the Sarnau SAC is present adjacent to the site and includes the area of beach and sea to the east. The site is designated for the following marine habitats which are present;

- sandbanks which are slightly covered by sea water all the time;
- estuaries; coastal lagoons;
- large shallow inlets and bays;
- reefs;
- mudflats and sandflats not covered by seawater at low tide;
- *salicornia* and other annuals colonising mud and sand;
- atlantic salt meadows (*Glauco-Puccinellietalia maritimae*);
- submerged or partially submerged sea caves.

3.1.4 The site is also designated for the following species which are present. These species are not, however, a primary reason for the site's selection:

- bottlenose dolphin *Tursiops truncatus*;
- otter *Lutra lutra*; and
- grey seal *Halichoerus grypus*.

3.1.5 Mynydd Tir y Cwmwd a'r Glannau at Garreg yr Imbill SSSI is present to the east and south of the site and includes the rock outcrop of Mynydd Tir y Cwmwd to the south of the site and the beach to the east. The site is designated for the nationally-important intertidal communities and area of lowland heath which are present. In addition, the site is designated as it supports the following species: pale dog-violet *Viola lactea*; adder *Vipera berus*, chough *Pyrhocorax pyrrhocorax*, peregrine *Falco peregrinus*, carpet shells *Ruditapes decussatus* and piddocks *Barnea candida*.

### *Non-statutory designated sites*

- 3.1.6 There are areas of ancient woodland adjacent to the site as well as the candidate Wildlife Site Coed Bachellyn, which is an area of broad-leaved woodland covering approximately 7.5ha. No further information on these sites, including their reason for designation, was received during the desk study.

## **3.2 Habitats**

- 3.2.1 The habitats recorded within the site are described in the following paragraphs. The location and extent of habitats present are shown on **Figure 1**. Photographs of key habitat features are provided in **Appendix 1**.

### *Woodland A1*

- 3.2.2 The habitat at the immediate top of the cliff, extending down towards the beach is best described as an area of natural woodland, although erosion of the cliff face has resulted in the majority of the trees having fallen over. A shrub layer composed mostly of rhododendron *Rhododendron x ponticum* still persists (See Appendix 1, Photograph 1).
- 3.2.3 At the top of the cliff, the tree species are predominantly sycamore *Acer pseudoplatanus* and cherry *Prunus avium*. Individual trees of holly *Ilex aquifolium* and Horse Chestnut *Aesculus hippocastanum* are also present. Further details on the main trees recorded are provided in Appendix 2 and their locations are shown on Drawing 3043-23\_rev01.
- 3.2.4 The ground flora at the top of the cliff is dominated by common nettle *Urtica dioica* and the invasive plant species Himalayan Balsam *Impatiens glandulifera* (see Appendix 1, Photograph 2). It should be noted that owing to the time of year these plants were showing only limited signs of fresh growth (common nettle - new shoots and Himalayan balsam - newly germinating seeds) and the coverage of each plant was approximated based on the extensive amounts of dead stems that were present. A large area (approximately 3 x 4 m) is covered by a montbretia (see Appendix 1, Photograph 3). Through these plants are growing typical woodland species such as

bluebell *Hyacinthoides non-scripta*, greater woodrush *Lazula sylvatica*, lords-and-ladies *Arum maculatum*, ivy *Hedera helix* and red campion *Silene dioica*.

- 3.2.5 The face of the cliff could not be reached due to obvious safety concerns. However, common nettle and Himalayan balsam appear to dominate the ground flora, growing amongst individual stands of rhododendron and a number of fallen trees.

*Amenity grassland (J1.2)*

- 3.2.6 The land between the property Pentir and the woodland to the south consists of mown species-poor grassland in amenity use. This grassland extends to the top of the eroding slope and has in places been lost to this erosion (Photograph 4 in Appendix 1).

*Beach sand*

- 3.2.7 The beach at the toe of the slope is sandy but devoid of vegetation other than fallen trees and slipped soils. Although above High Water, the sand is inundated by wave action in some conditions.

### 3.3 Protected and notable species

- 3.3.1 The following section presents the findings of the desk study and extended Phase 1 habitat survey in relation to protected and notable species. Photographs of key features discussed in this section are provided in Appendix 1.

*Invertebrates*

- 3.3.2 Carper shells and piddock are both qualifying features of Mynydd Tir y Cwmwd a'r Glannau at Garreg yr Imbill SSSI. Both these molluscs occur in the lower shore and sublittoral within areas of mud and sand. The area of beach adjacent to the site provides suitable habitat to support both species.
- 3.3.3 The butterflies grayling *Hipparchia semele*; pearl-bordered fritillary *Boloria uphrosyne*, small heath *Coenonympha pamphilus*, small pearl-bordered fritillary *Boloria selene* and wall *Lasiommata megera* have all been recorded within approximately 0.65 km of the site. None of the food plants associated with the larval stages of these species were present within the survey area.

### *Reptiles*

- 3.3.4 Adder is known to be present within Mynydd Tir y Cwmwd a'r Glannau at Garreg yr Imbill SSSI. Common lizard and slow-worm have both been recorded approximately 0.6 km from the site.
- 3.3.5 The habitat present within the site is suitable for reptiles, and offers basking and foraging areas.

### *Birds*

- 3.3.6 A number of bird species have been recorded within 1 km of the site. A full list of species recorded is provided as **Appendix 3**. Numerous small passerines were observed within the survey area during the survey, including song thrush, robin, nuthatch and house sparrow, the house sparrows demonstrating breeding behaviour (male displaying to female). The habitats within the survey area provide suitable nesting habitat for those species observed, as well as other small passerine species.

### *Mammals*

- 3.3.7 Brown-eared bat *Plecotus auratus*; Lesser horseshoe bat *Rhinolophus hipposideros*; Natterer's bat *Myotis nattereri* and soprano pipistrelle *Pipistrellus pygmaeus* have all been recorded roosting within Oriel Plas Glyn-y-weddw, a large property located approximately 230 m north of the site. Woodland to the south of this property, which extends southwards to the site itself, provides good foraging habitat for bats.
- 3.3.8 No records for dormice were received during the desk study, however, the area of woodland to the west provides suitable habitat and connectivity to support this species.

## **3.4 Results of tree survey**

- 3.4.1 The trees are described briefly as part of the ecological findings in paragraph 3.2.3. The schedule of trees remaining on site is presented in Appendix 2. The tree locations are shown in Drawing 3043-23\_rev01.

## **4 EVALUATION AND RECOMMENDATIONS**

### **4.1 Potential impacts and mitigation**

4.1.1 The following sections discuss the potential impacts of the works on those ecological features which have been identified, taking into consideration the working methods and precautions which are proposed. Where additional mitigation measures are required to protect a particular ecological feature, these are discussed in the following section.

### **4.2 Designated sites**

4.2.1 Llŷn Peninsula and the Sarnau SAC and Mynydd Tir y Cwmwd a'r Glannau at Garreg yr Imbill SSSI are both adjacent to the site, and construction vehicles will need to access both sites to undertake the works. Natural Resource Wales (NRW) should be consulted before works commence, and required permissions should be applied for and in place before works commence. Measures which NRW require to protect the qualifying features of the SAC or SSSI, in particular the onshore invertebrate fauna, will need to be implemented.

4.2.2 During construction works there is a risk of pollution-related impacts on both these sites. Any such impacts will be avoided and mitigated for through the implementation of good working practices as discussed previously.

4.2.3 It is not anticipated that any long-term impacts would result from the works, as the proposed stabilisation of the cliff and landscape planting will arrest the current soil erosion and provide a stable vegetation cover which offers an ecological buffer to the SAC and SSSI.

### **4.3 Habitats**

4.3.1 The woodland within the site has some characteristics of ancient woodland, including the presence of ancient woodland indicator species such as bluebell and greater woodrush. The area also provides habitat suitable for bats, breeding birds and reptiles. However, the area of woodland within the proposed works site is very small,

approximately 0.02 ha, and is dominated by the invasive plant species Himalayan balsam and montbretia which reduce its ecological value. The cliff is to be replanted with a mixture of native tree and shrub species and therefore, in the long-term it is not considered that the proposed works will have any impact on the animal species which the area presently supports.

- 4.3.2 In the short-term the works will cause the temporary loss of foraging and breeding habitat suitable for bats, breeding birds and reptiles. All vegetation removal will be undertaken in September - October, outside the breeding bird season and when reptiles are still active. Given the small area to be lost this temporary loss of habitat would not be significant beyond the site level.

#### **4.4 Trees**

- 4.4.1 The trees on the slope of the cliff have fallen, or are in the process of falling over as the soil erodes, with the majority of their roots exposed. It is likely that if no works were undertaken to the cliff these trees would be lost.

- 4.4.2 The trees at the top of the cliff are mostly semi-mature sycamore and in reasonable health, with no obvious signs of decay. These trees provide some landscape value and it is considered that they can easily be replaced in the mid to long-term through the re-planting of tree species as discussed

- 4.4.3 Tree T2, a mature beech is the most prominent tree within the site. If the cliff were to continue to erode it is likely that the root plate of this tree would be compromised, ultimately weakening the tree. The works proposed currently allow for the retention of this tree and sensitive bank stabilisation adjacent to it.

#### **4.5 Invasive plant species**

- 4.5.1 Himalayan balsam, montbretia and rhododendron are all present within the site. All three species are included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to plant or cause these plants to spread into the wild.

- 4.5.2 Rhododendron and Himalayan balsam are spread by seed and both species are present in the wider area. Effective control of these species requires a landscape-scale approach, as any site-based control measures are unlikely to be effective. It is therefore not proposed to attempt eradication of these species within the site as part of the proposed works. However, measures will be implemented during construction works to prevent the spread of these plants. This will include storing soils in designated areas, replacing them within the works and ensuring all vehicles are jet-washed before leaving the site.
- 4.5.3 Montbretia spreads through the production of corms (underground stems) and tends to reach sites through deliberate planting or dumping of plant material rather than through natural dispersal. To prevent the spread of this plant within the site after construction, soil from the area covered by montbretia will be dug and stored in a separate spoil pile and used as infill material behind the geotextile material used under the rock revetment. Corms buried in this way will not emerge as new growth.

#### 4.6 Reptiles

- 4.6.1 Reptiles are partially protected under the Wildlife and Countryside Act 1981 (as amended) and it is therefore an offence to deliberately kill or injure a reptile.
- 4.6.2 As discussed in paragraphs 3.3.4 - 5, reptiles may be present within the site. It is planned that vegetation clearance works will be undertaken when reptiles are active, and so they will be displaced through the disturbance created by the works. No suitable hibernation habitat is present within the site, and so any reptiles would naturally move from the site during the autumn under normal circumstances.
- 4.6.3 It is not considered that the works will contravene the legal protection afforded to reptiles or have a significant impact on any on-site reptile population in the short or long-term.



## 4.7 Birds

4.7.1 Under the Wildlife and Countryside Act 1981 (as amended) it is illegal to deliberately destroy an active birds' nest. It is planned that all vegetation clearance works will be undertaken outside of the breeding bird season, and that habitat will be reinstated on completion of the works. It is therefore not considered that works will contravene the legal protection afforded to breeding birds or have an impact on the breeding bird assemblage beyond the site level in the short-or long-term.

## 4.8 Bats

4.8.1 No trees with bat roost potential will be affected by the works and the habitat within the site provides limited foraging habitat for bats. Therefore, no impacts on bats as a result of the proposed works are considered likely.

## 4.9 Dormice

4.9.1 Although suitable habitat exists to the west of the site, no records of dormice were obtained. Given that this area is designated as an SSSI it is reasonable to suggest that the species present in this area will have been well documented. It is therefore not considered that dormice are likely to be present. If dormice were present then the loss of habitat which will result from the works would not be considered significant, given the small size of the woodland affected and that the woodland that would be lost provides no connectivity to the larger areas of woodland to the east.



## APPENDIX 1 - PHOTOGRAPHS



**Photograph 1- Eroded bank with fallen trees**



**Photograph 2- Dead stems of Himalayan balsam cover the majority of the collapsed slope**






**Photograph 3- Area covered by montbretia**






**Photograph 4 – Amenity grassland being lost to slope instability (February 2016)**




## APPENDIX 2 TREE SURVEY


Tree number	Photograph	Details
T1		Mature cherry tree <i>Prunus avium</i> . Short trunk branching off at 1.5 m from ground level with rot in main branches
T2	(Not illustrated)	Mature beech <i>Fagus sylvatica</i>

Tree number	Photograph	Details
T3		Semi-mature multi-stemmed sycamore with trunks cut at 3 m (shown to far left of photograph)
T4		Semi-mature oak <i>Quercus</i> sp. Completely fallen over but still alive

Tree number	Photograph	Details
T5		Mature sycamore. Completely fallen over but still alive. Roots exposed to sea



Tree number	Photograph	Details
T6		Mature sycamore. Leaning over cliff with root plate exposed and undermined. Likely to fall in the next year
T7		Semi-mature sycamore. Roots exposed and undermined
T8		Mature willow Salix sp. Roots exposed and undermined
T9		Semi-mature sycamore. Roots exposed and undermined

Tree number	Photograph	Details
Group 1		Numerous semi-mature multi-stemmed sycamore trees. Semi-mature cherry and holly Ilex aquifolium at top of cliff. No obvious signs of rot or disease.

### APPENDIX 3 LIST OF BIRD SPECIES RECORDED IN VICINITY

SPECIES		DISTANCE m	YEAR	STATUS	NOTES
Barn owl	<i>Tyto alba</i>	86	2002	Sch. 1 WCA 1981	2 pairs nesting near Llanbedrog
Brambling	<i>Fringilla montifringilla</i>	392	2010	Sch. 1 WCA 1981	
Bullfinch	<i>Pyrrhula pyrrhula</i>	1078	2015	BoCC Amber Sect. 7 EWA 2016	Also seen closer to the site (392m) in 2013.
Chough	<i>Pyrrhocorax pyrrhocorax</i>	697	2017	Sch. 1 WCA 1981 Sect. 7 EWA 2016	
Cuckoo	<i>Cuculus canorus</i>	1435	2013	BoCC Red list Sect. 7 EWA 2016	1 km grid cell reference.
Dartford Warbler	<i>Sylvia undata</i>	86	2011	Sch. 1 WCA 1981 BoCC Amber	
Dunnock	<i>Prunella modularis</i>	606	2016	BoCC Amber Sect. 7 EWA 2016	
Fieldfare	<i>Turdus pilaris</i>	435	2013	Sch. 1 WCA 1981 BoCC Red list	
Firecrest	<i>Regulus ignicapillus</i>	481	2004	Sch. 1 WCA 1981	
Grasshopper warbler	<i>Locustella naevia</i>	435	2013	BoCC Red list Sect. 7 EWA 2016	
Green woodpecker	<i>Picus viridis</i>	606	2016		1 km grid cell reference - Heard only in woods by Plas Glyn y Weddw.
Herring gull	<i>Larus argentatus</i>	606	2016	BoCC Red list Sect. 7 EWA 2016	
House martin	<i>Delichon urbicum</i>	606	2016	BoCC Amber	
House sparrow	<i>Passer domesticus</i>	1435	2016	BoCC Red list Sect. 7 EWA 2016	1 km grid cell reference.
Kestrel	<i>Falco tinnunculus</i>	606	2016	BoCC Amber Sect. 7 EWA 2016	
Kittiwake	<i>Rissa tridactyla</i>	606	2013	BoCC Red list	
Lapwing	<i>Vanellus vanellus</i>	1053	2016	BoCC Red list Sect. 7 EWA 2016	Also seen closer to the site in 2014.

SPECIES		DISTANCE m	YEAR	STATUS	NOTES
Leach's petrel	<i>Oceanodroma leucorhoa</i>	1363	2006	Sch. 1 WCA 1981 BoCC Amber	1 km grid cell reference.
Lesser redpoll	<i>Carduelis cabaret</i>	435	2013	BoCC Red list Sect. 7 EWA 2016	
Linnet	<i>Carduelis cannabina</i>	606	2016	BoCC Red list Sect. 7 EWA 2016	
Mediterranean gull	<i>Larus melanocephalus</i>	2	2013	Sch. 1 WCA 1981 BoCC Amber	
Merlin	<i>Falco columbarius</i>	435	2013	Sch. 1 WCA 1981 BoCC Red list	
Peregrine	<i>Falco peregrinus</i>	606	2015	Sch. 1 WCA 1981	
Pied flycatcher	<i>Ficedula hypoleuca</i>	86	2006	BoCC Red list Sect. 7 EWA 2016	
Red kite	<i>Milvus milvus</i>	606	2015	Sch. 1 WCA 1981	
Redwing	<i>Turdus iliacus</i>	1078	2016	Sch. 1 WCA 1981 BoCC Red list	1 km grid cell reference.
Reed bunting	<i>Emberiza schoeniclus</i>	435	2013	BoCC Amber Sect. 7 EWA 2016	
Sand martin	<i>Riparia riparia</i>	86	2006		Nesting holes half way along Llanbedrog Beach in direction of Pwllheli.
Shore lark	<i>Eremophila alpestris</i>	1363	1999	Sch. 1 WCA 1981 BoCC Amber	1 km grid cell reference.
Skylark	<i>Alauda arvensis</i>	86	2015	BoCC Red list Sect. 7 EWA 2016	
Snipe	<i>Gallinago gallinago</i>	606	2013	Sch. 1 WCA 1981 BoCC Amber	
Song thrush	<i>Turdus philomelos</i>	606	2016	BoCC Red list Sect. 7 EWA 2016	
Spotted flycatcher	<i>Muscicapa striata</i>	435	2013	BoCC Red list Sect. 7 EWA 2016	

SPECIES		DISTANCE m	YEAR	STATUS	NOTES
Starling	<i>Sturnus vulgaris</i>	86	2015	BoCC Red list Sect. 7 EWA 2016	
Tree pipit	<i>Anthus trivialis</i>	435	2013	BoCC Red list Sect. 7 EWA 2016	
Whimbrel	<i>Numenius phaeopus</i>	86	2014	Sch. 1 WCA 1981 BoCC Red list	
Wood warbler	<i>Phylloscopus sibilatrix</i>	435	2013	BoCC Red list Sect. 7 EWA 2016	
Yellowhammer	<i>Emberiza citrinella</i>	822	1987	BoCC Red list Sect. 7 EWA 2016	
<i>Information taken from COFNOD records supplied to RML 06.03.2018</i>					