

Llywodraeth Cymru / Welsh Government

A487 New Dyfi Bridge

Environmental Statement - Volume 3: Appendix 9.9

Wintering Bird Survey Report

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1 Introduction

1.1 Background to the Project

Ove Arup and Partners Ltd was commissioned by Alun Griffiths (Contractors) Ltd to undertake ecological surveys to inform an Environmental Impact Assessment (EIA) of the proposed A487 New Dyfi Bridge scheme (the Scheme) on land to the north of Machynlleth, Mid-Wales, located at National Grid Reference SH747017.

The proposed A487 New Dyfi Bridge scheme (The Scheme) consists of a new viaduct structure across the floodplain and a river bridge to cross the Afon Dyfi approximately 480m upstream of the existing Pont-ar-Ddyfi. The length of the Scheme is approximately 1200m with approximately 750m being on structures.

1.2 Purpose of this Document

This report aims to provide information on the use of the Study Area (as defined in Section 2.1) by Greenland white-fronted geese (*Anser albifrons flavirostris*) to inform consideration of the potential impacts from The Scheme in relation to the Environmental Impact Assessment and the Assessment of Implications for European Sites (Habitats Regulations Assessment).

1.3 Legislative Context

A framework of international, European, national and local legislation and planning policy guidance exists to protect and conserve wildlife and habitats.

A network of nationally designated sites has been established through the designation of Sites of Species Scientific Interest (SSSI) under the Wildlife and Countryside Act 1981 (as amended). The protected afforded by the Act means it is an offence to carry out or permit to be carried out any operation listed within the notification without the consent of the Statutory Nature Conservation Organisation¹ (Natural Resources Wales).

The protection afforded to SSSIs is used to underpin the designation of areas at a European Level. European Sites comprise:

- Special Areas of Conservation (SAC) designated under the Conservation of Habitats and Species Regulations 2010 (as amended) (known as the Habitats Regulations);
- Special Protection Areas (SPA) designated under the Wildlife and Countryside Act.

Wetlands of International Importance (Ramsar Sites) declared under the Convention on Wetlands of International Importance especially as Waterfowl

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¹ Section 28 of the Wildlife and Countryside Act 1981 (as substituted by Schedule 9 of the Countryside and Rights of Way Act 2000).

Habitat 1971 are normally also notified as SSSIs but are only considered European Sites as a matter of UK and Local Government Policy.

The Habitats Regulations transpose the requirements of Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive) in to law within England and Wales, while the Wildlife and Countryside Act transposes Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive) in the law within England and Wales. Equivalent legislation exists to transpose these directives in the law within Scotland and Northern Ireland.

The Habitats Regulations require that consideration is given to the implications of plans and projects (developments) on European Sites are considered. Specifically Regulation 61(1) states:

"A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which –

- (a) is likely to have a significant effect on a European site or European marine site (either alone or in combination with other plans or projects), and
- (b) is not directly connected with or necessary to the management of that site,

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.".

The formal consideration of effects on European Sites is therefore undertaken by the determining authority such as the Local Planning Authority.

Individual bird species are also protected through the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Certain species receive additional protection from disturbance when breeding if they are listed on Schedule 1 of the Act.

1.3.1 Dyfi Estuary / Aber Dyfi Special Protection Area

The Dyfi Estuary / Aber Dyfi SPA is a wintering area for Greenland white-fronted geese, representing at least 1% of the wintering population in the UK (144 individuals). The Dyfi Estuary is the only site in England and Wales for this species, and the population using the estuary is the most southerly population in the UK. There is an increasing resident flock of the invasive species of Canada geese on the estuary of approximately 2,000 birds.

1.4 Conservation Status of Birds

1.4.1 Conservation Status of Birds in the UK

- The Conservation status of birds is set out in Birds of Conservation Concern (BOCC) 4 (Eaton, et al., 2015) in which birds are classified in three lists described as follows: Red List: species that are globally threatened, whose population or range has declined rapidly in recent years, and those whose populations have declined historically and not exhibited any signs of recovery. Species that have experienced a population decline of >50%;
- Amber List: species with an unfavourable conservation status in Europe, whose populations have declined moderately in recent years, including species that show a historical decline but whose populations have shown a substantial increase, species that are rare, with localised populations and those species of international importance with UK populations and species that have experienced a population decline or breeding range decline of 25% to 49%;
- Green list: All regularly occurring species that do not qualify under any of the red or amber criteria are green listed. The green list also includes those species listed as recovering from historical decline in the last review that have continued to recover and do not qualify under any of the other criteria.

1.5 Abbreviations

The following abbreviations have been used in this report

Abbreviation	Description
EIA	Environmental Impact Assessment
SSSI	Site of Special Scientific Interest
SAC	Special Area of Conservation
SPA	Special Protection Area
BOCC	Birds of Conservation Concern

2 Methodology

2.1 Study Area

The Study Area comprises all areas of suitable habitat for wintering geese within 500m of the centre line of the Scheme. The Study Area boundary is shown on Figure 1.

2.2 Desk Study

A comprehensive desk study has been undertaken and is reported in the Desk Study and Extended Phase 1 Survey Report (OAPL, 2016).

2.3 Field Survey

The survey method was adapted from the standardised Wetland Bird Survey (WeBS) Core Count methodology (Gilbert, Gibbons, & Evans, 1998) which is recognised as an appropriate survey technique for wintering wildfowl and waterbirds.

Each monthly survey visit comprised two counts, recording the number of birds within each land parcel (field or water body). The whole Study Area was recorded within a period of approximately two hours with two counts made within a six hour period (or split over two days where tidal constraints or daylight length prevented completion within one day) to cover low to mid and mid to high (or vice versa) tidal states. The surveys were undertaken from October 2015 to March 2016.

Whilst white-fronted geese were the target species for the surveys, other aggregations of notable species, primarily Red and Amber listed species, were also recorded.

All survey work was undertaken by experienced ecologists, assessed by Arup to be competent in the undertaking of ornithological surveys, in conditions suitable for bird survey work (avoiding bad visibility).

Survey notes were made using tablet devices in order to improve data collection efficiency, and include details of weather data, species present, numbers of individuals and their behaviour. Care was taken to minimise disturbance and to prevent recording difficulties arising from birds being flushed to other areas within the Study Area.

2.4 Tidal Height and Weather Data

The tidal state was determined prior to surveying form Tide Tables that predicted low and high tides. The information on low and high tidal times for Aberdovey was taken from TideTimes website (<u>www.tidetimes.org.uk</u>) and relevant published tide tables (UKHO, 2016).

Weather data was taken from the Met Office website (www.metoffice.gov.uk) and observations taken on the day of survey. Weather conditions on specific survey dates are summarised Table 1 in Appendix A.

2.5 Limitations and Assumptions

The winter bird survey was carried out at appropriate times of the year according to the relevant guidance, and weather conditions on all visits were considered suitable for surveying and assessing the Study Area's suitability for wintering wildfowl.

During the mid to high counts in December and January there was flooding of large areas of the flood plain. Therefore, not all of the eastern part of the Study Area adjacent to the Afon Dyfi could be walked.

However, in these cases the majority of the Study Area was surveyed from high vantage points using binoculars. In both instances the mid to low tide count was able to be completed due to the water level falling with the receding tide.

It should be noted that a large part of the Study Area comprises the flood plain of the river. Therefore, it is considered that these two occasions when the river flooded are representative of the normal range of conditions within the Study Area.

Wet and stormy weather are a regular occurrence in the Machynlleth area and the occurrence of such flood events is not considered to have adversely affected the results obtained within this study.

It should be stressed though that the findings presented in this study represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys are limited by factors which affect the presence of species, such as migration patterns and behaviour.

Nevertheless, these surveys were conducted at the optimal survey periods and using accepted methodologies. Every effort has been made to ensure that the findings of the study present as accurate an interpretation as possible of the status of wintering birds within the Study Area.

3 Results

3.1 White-fronted Goose

No white-fronted geese were recorded within the Study Area during the course of the surveys.

3.2 Bird Species Recorded

A total of 23 species of birds were recorded within the Study Area over the course of the survey period. Results for each month in terms of Red and Amber list species recorded are described in turn below and summary tables are presented in Appendix B. The distribution of birds during each count are shown on Figures 2 to 13.

3.2.1 October 2015

A total of eleven species were recorded during the October visit, of which eight were red or amber listed.

Red list species recorded included common starling, fieldfare, grey wagtail (*Motacilla cinerea*) and mistle thrush (*Turdus viscivorus*).

During the Low to mid tide survey a flock of 31 starling were recorded in Land Parcel 6 on the south side of the river on the eastern side of the Study Area. Two mistle thrush were recorded in parcel 22. In addition mute swan (*Cygnus olor*), an Amber list species was also recorded in low numbers downstream of the existing Pont-ar-Dyfi. A single red kite (*Milvus milvus*) was also recorded south of the River. Red kite is listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

During the High to mid tide survey a flock of fieldfare were recorded in land parcel 7. Small number of mallard were recorded on the river in parcel 37 and in parcel 26. Dipper (*Cinclus cinclus*) and kingfisher (*Alcedo atthis*) (also listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)) were also recorded using the river corridor in parcel 37.

3.2.2 November 2015

A total of seven species were recorded during November with one Red listed species and two Amber list species.

Common starling were recorded in parcels 5 and 22 during the Low to mid tide surveys, with a maximum count of 25.

Starling was also recorded in parcel 22 during the High to mid tide survey. Snipe (*Gallinago gallinago*) were recorded in parcels 22 and 6 and mallard were recorded in parcel 38 and within the river corridor (parcel 37).

3.2.3 December 2015

A total of five species were recorded in December, of which none were red listed and two amber listed species.

During the Low to mid tide survey mute swan was recorded in land parcel 14, along with small numbers of snipe in field 26.

Mute swan was also present in parcel 14 during the High to mid tide survey, joined by a pair of whooper swan (*Cygnus cygnus*) in this land parcel. A single red kite was also recorded north of the river Dyfi.

3.2.4 **January 2016**

A total of ten species were recorded during January, of which one was red listed and two amber listed.

The red listed Eurasian curlew (*Numenius arquata*) was recorded in land parcel 26 during the Low to mid tide survey along with snipe and oystercatcher (*Haematopus ostralegus*). Snipe were also recorded in land parcel 22. A single red kite was also recorded south of the river Dyfi.

No Red or Amber listed species were recorded during the High to mid tide survey.

3.2.5 February 2016

A total of six species were recorded during the February survey, all of which are amber listed.

During the Low to mid tide survey dunlin (*Calidris alpina*) was recorded using the river corridor in parcel 37 with a max count of 14. Snipe were recorded in parcel 26 near the confluence of the Afon Dyfi and Afon Dulas with a maximum count of 25. A small flock of six meadow pipits were recorded in parcel 22.

During the High to mid tide surveys a single dipper was the only species recorded using the Afon Dyfi in at the eastern edge of the Study Area (parcel 38).

3.2.6 March 2016

A total of three species were recorded during the March surveys, two of the species are listed as amber.

Snipe were recorded in medium numbers in parcels 26 and 14 during the Low to mid tide survey. Both these parcels contain areas of marshy grassland which were being used by these birds.

Snipe were also present within these parcels during the High to mid tide survey and were also recorded in parcel 20. Four mallard were also recorded in parcel 12 during this part of the survey.

4 Conclusions

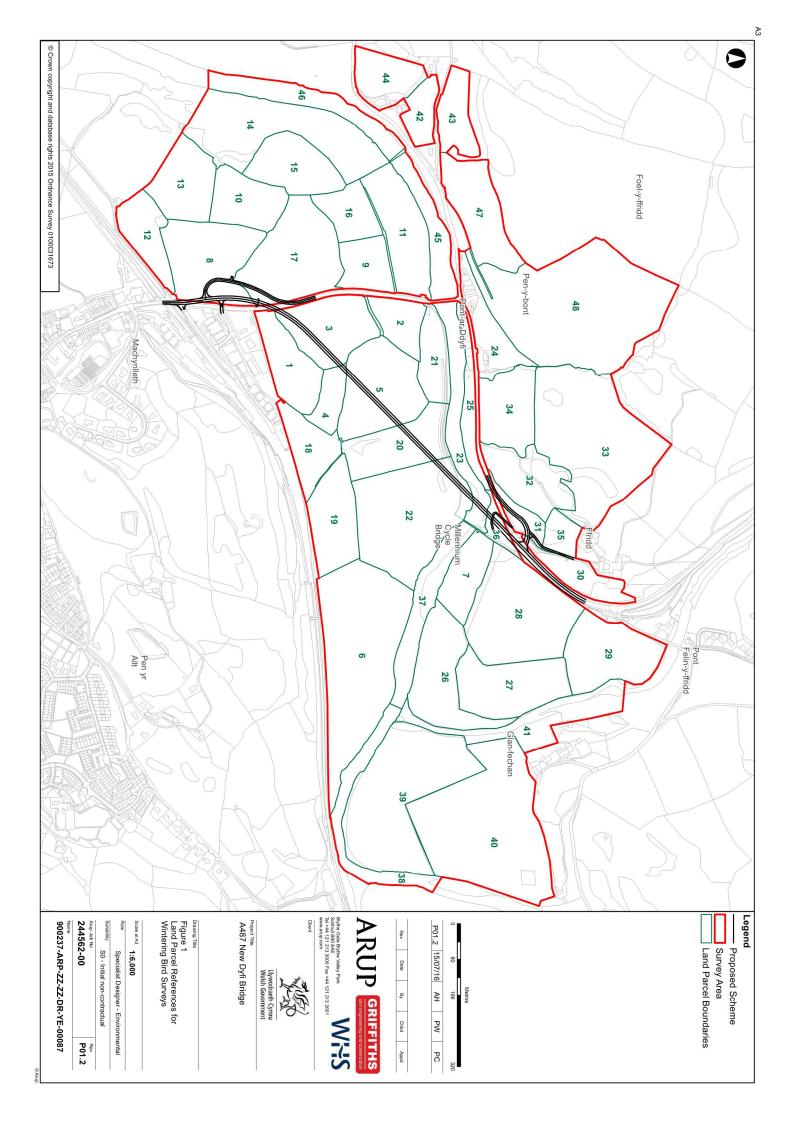
A total of 23 species were recorded during the survey period (October 2015 to March 2016) using areas within the Study Area. No white-fronted geese were recorded during the survey period. Five red listed species were recorded, and nine amber listed species were also recorded during the surveys.

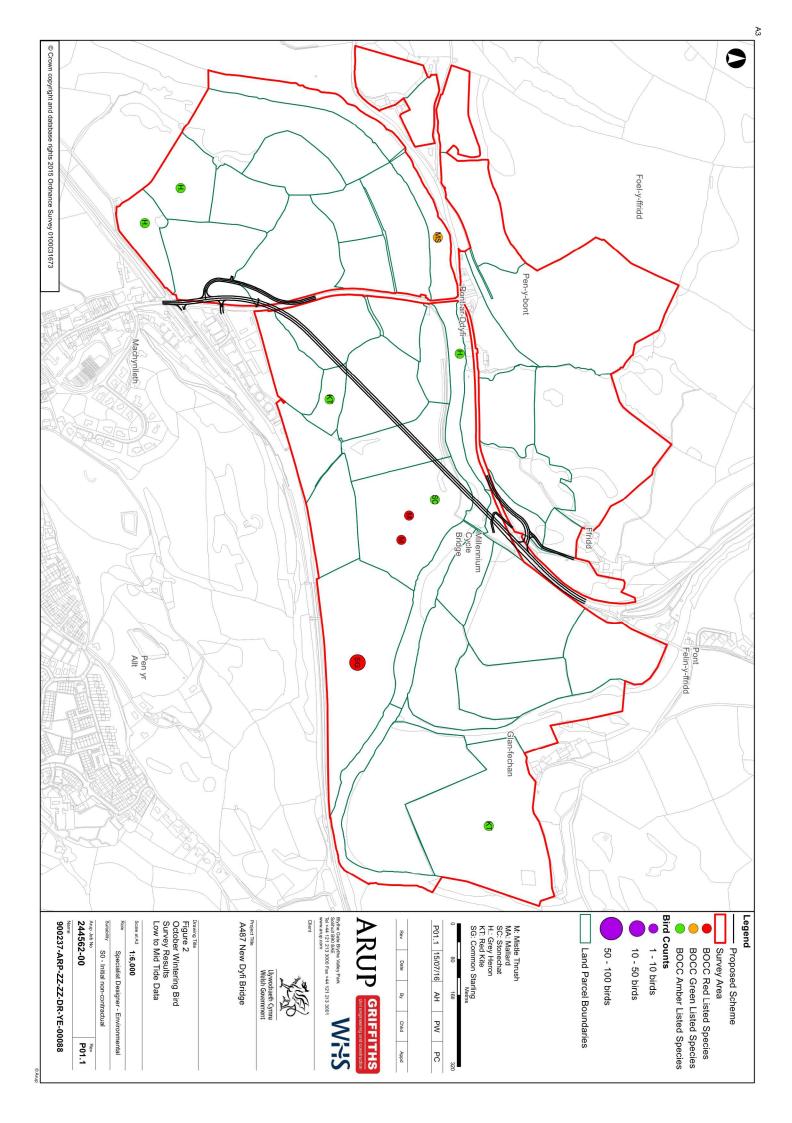
The majority of the species on conservation concern using the Study Area were either recorded using the river corridor or using areas of marshy grassland with ephemeral pools, in particular land parcels 6, 14, 20, 22 and 26. Of these only parcels 20 and 22 are located within the physical footprint of the scheme.

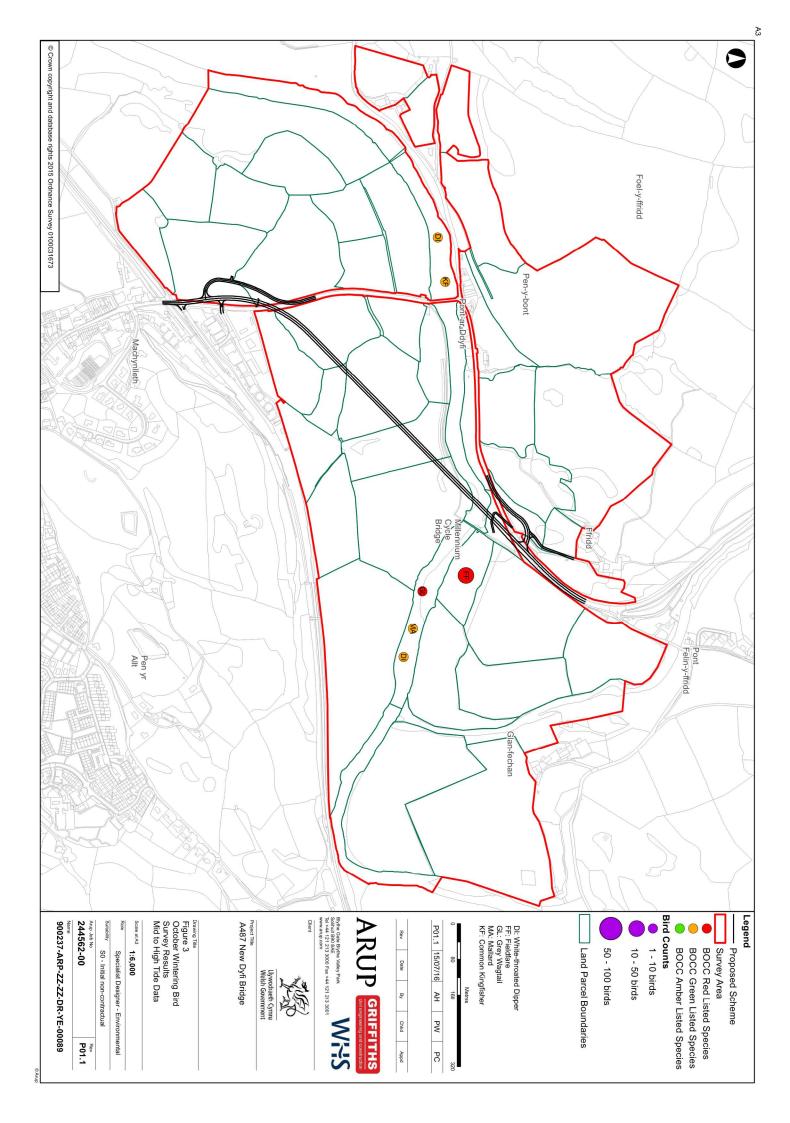
References

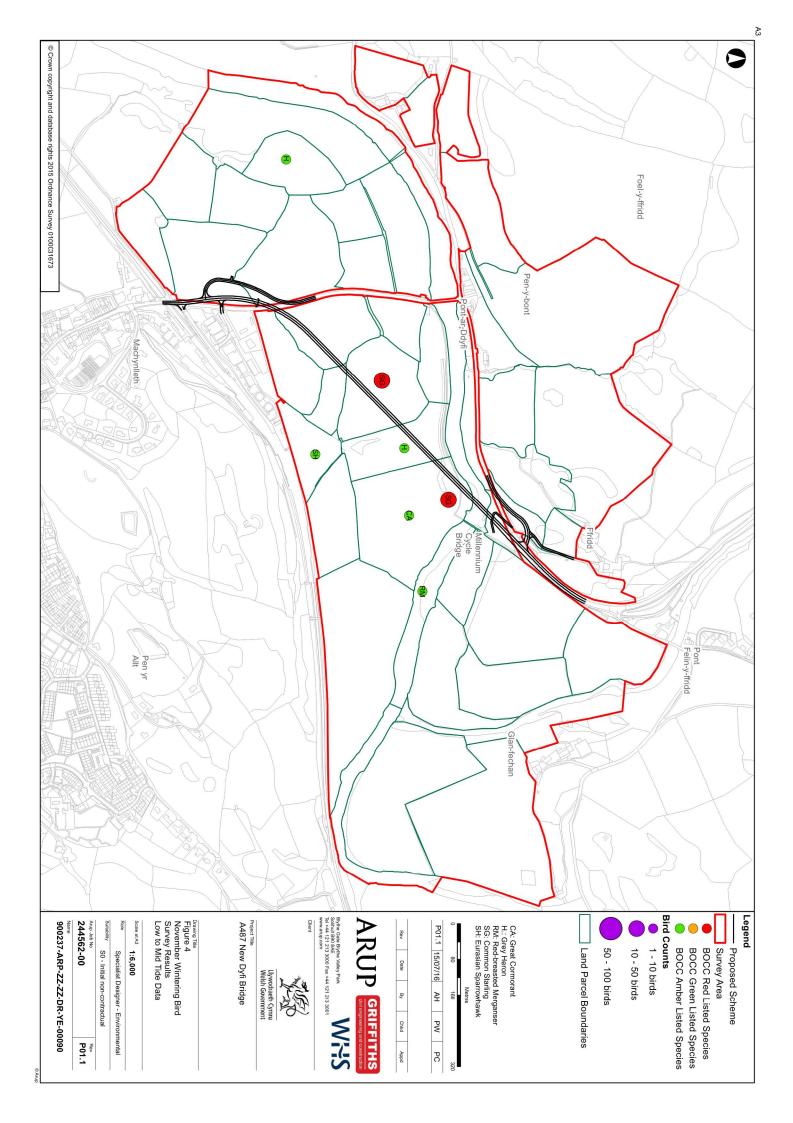
- [1] United Kingdom Hydrographic Office (2016) Aberdovey Pocket Tide Tables 2016
 [2] Gilbert, Gibbons, & Evans (1998) Wetland Bird Survey (WeBS) Core Count methodology
 [3] Eaton et al. (2015) The Conservation status of birds is set out in Birds of Conservation Concern 4
- [4] OAPL (2016) A487 New Dyfi Bridge Desk Study and Extended Phase 1 Survey Report

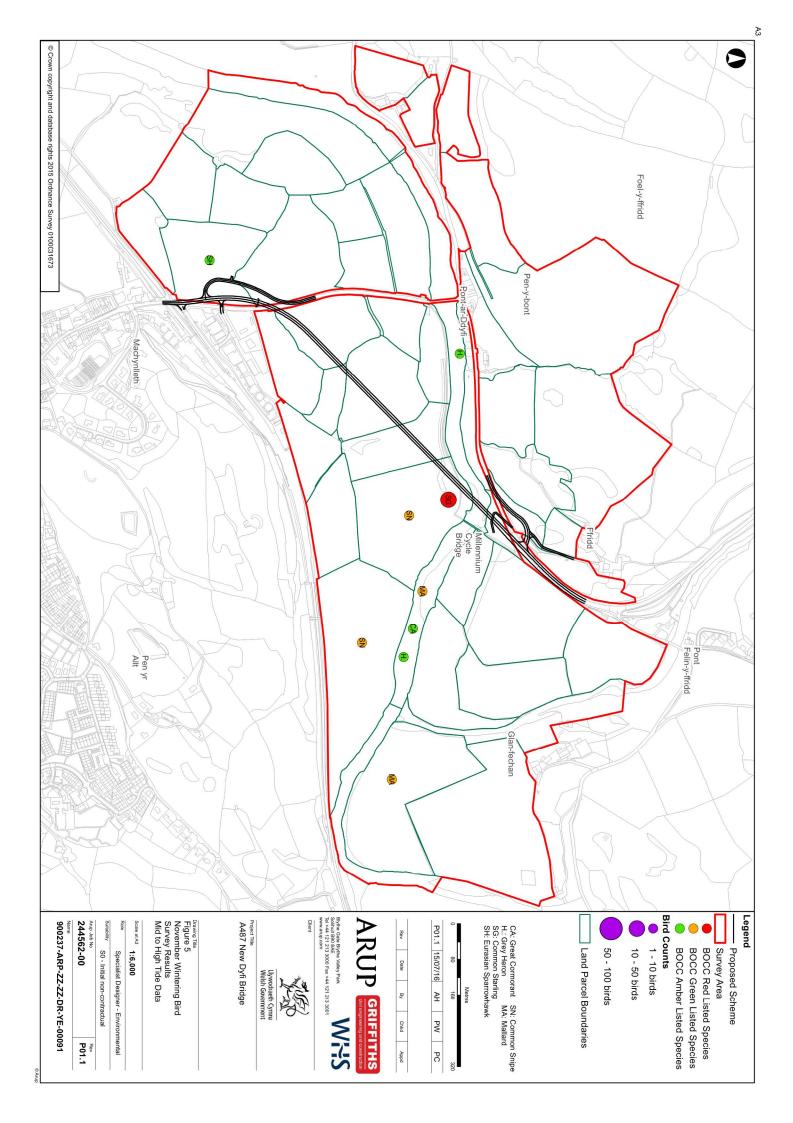
Figures

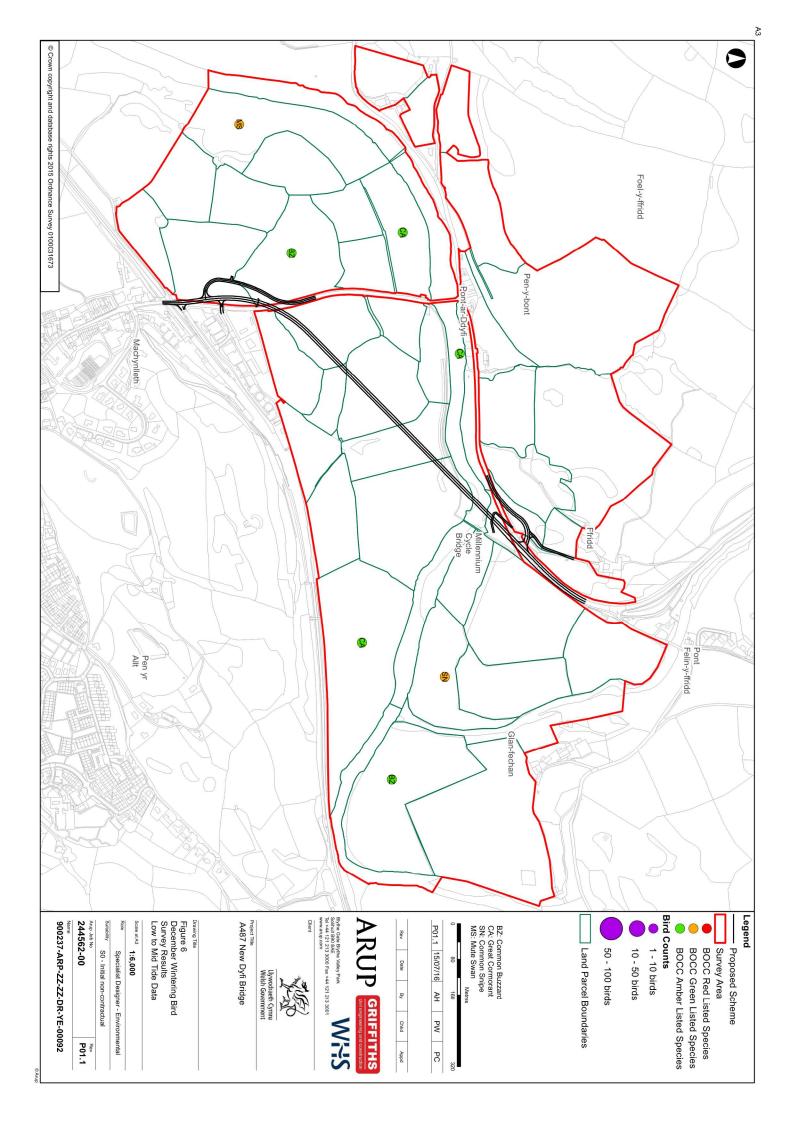


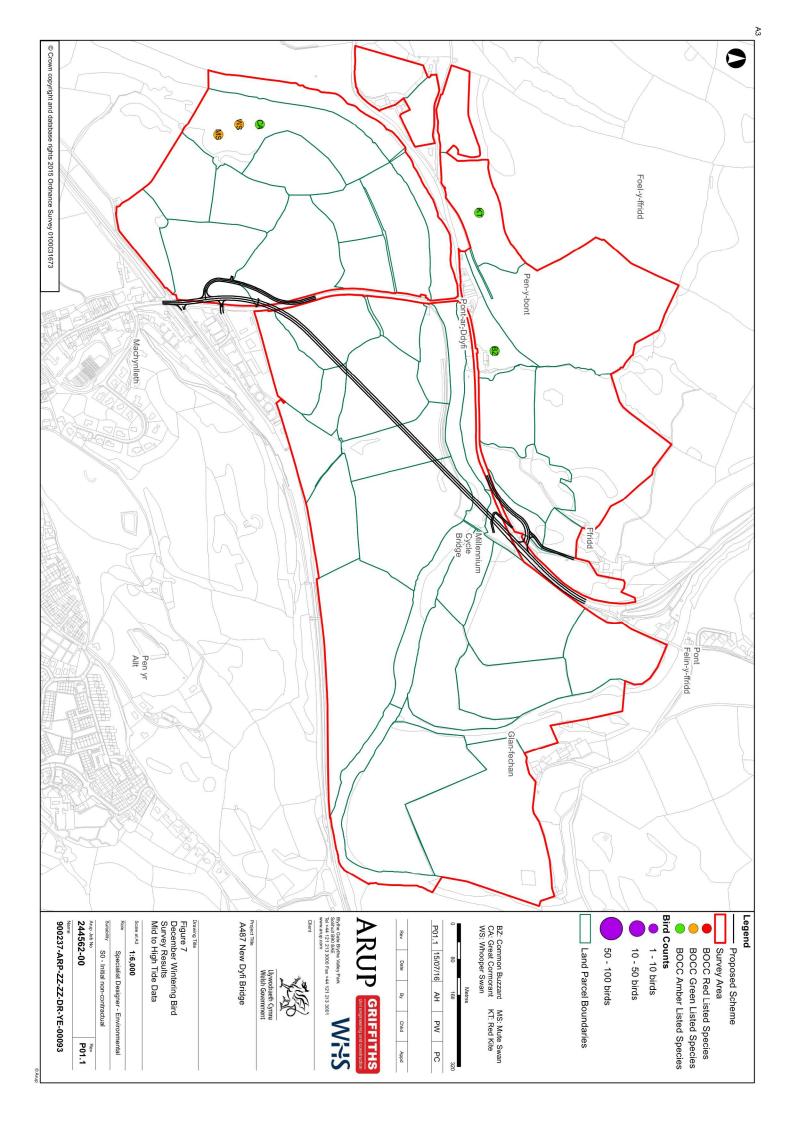


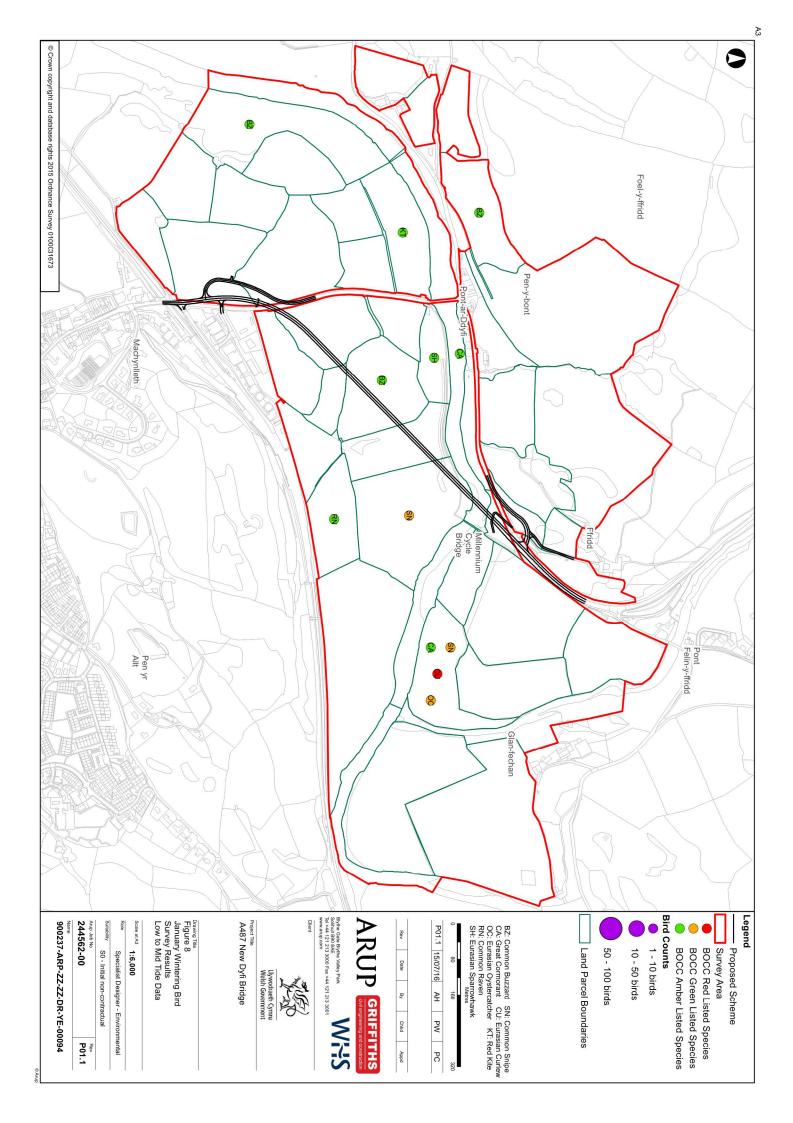


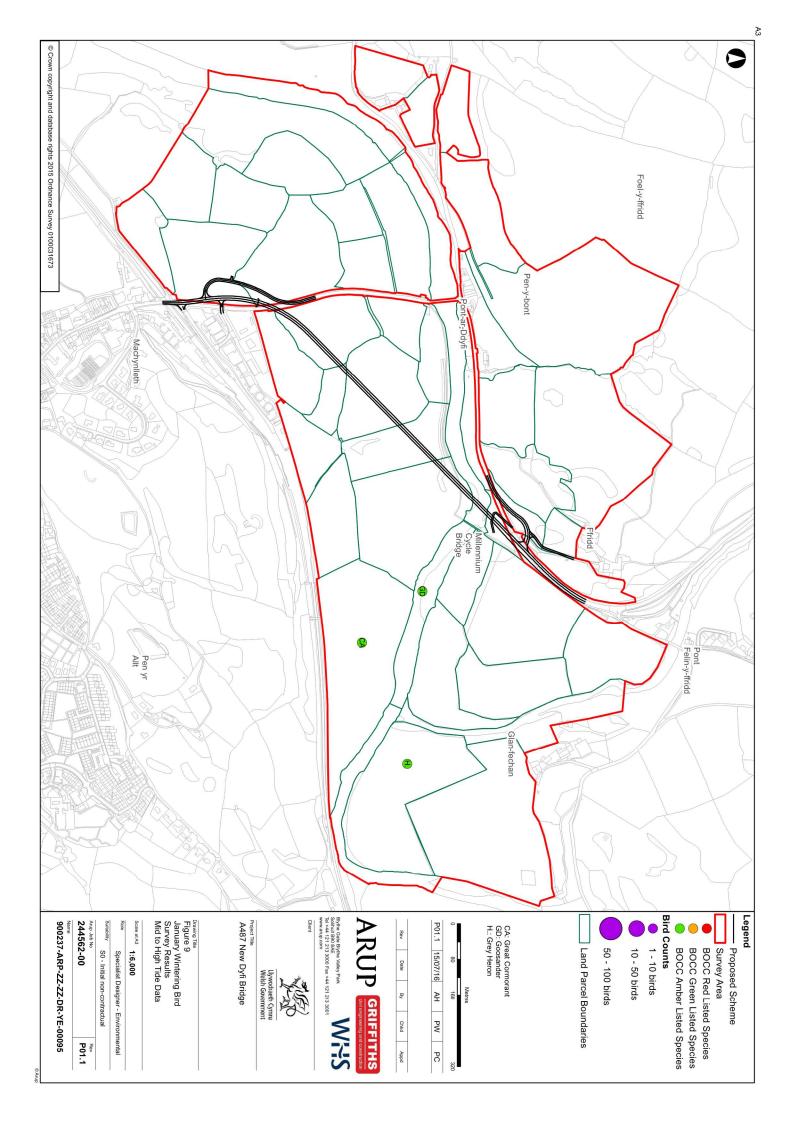


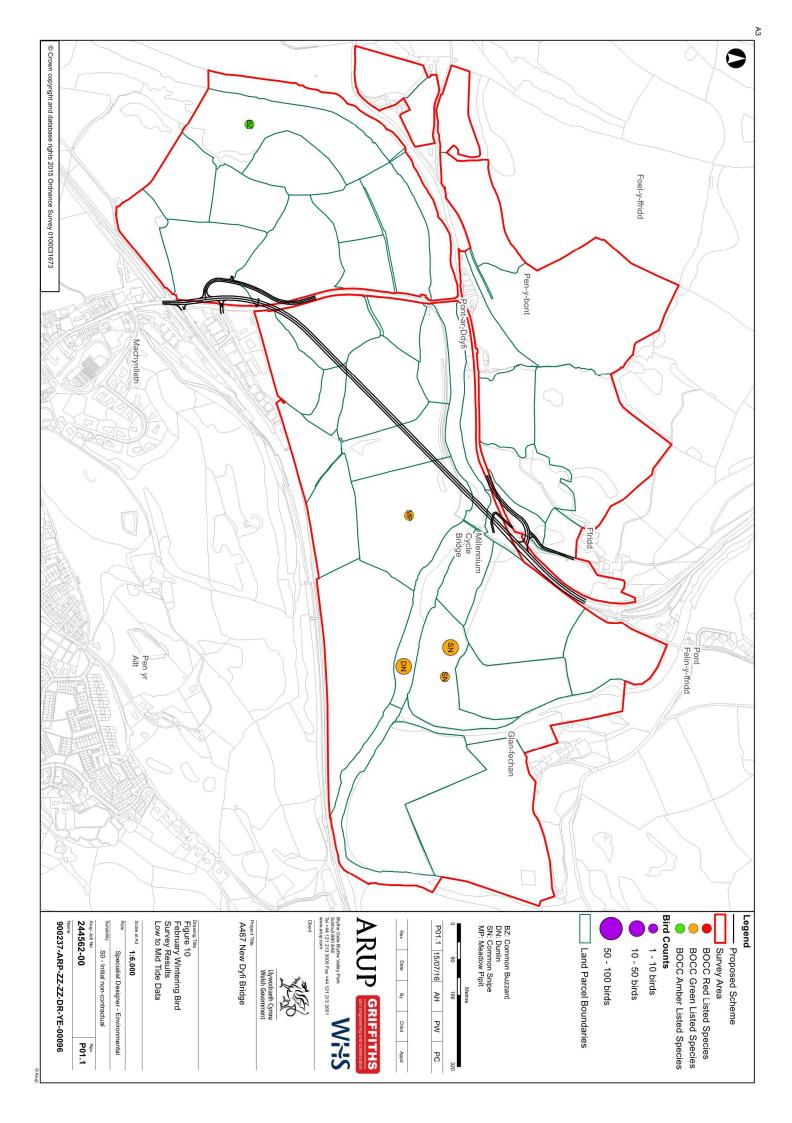


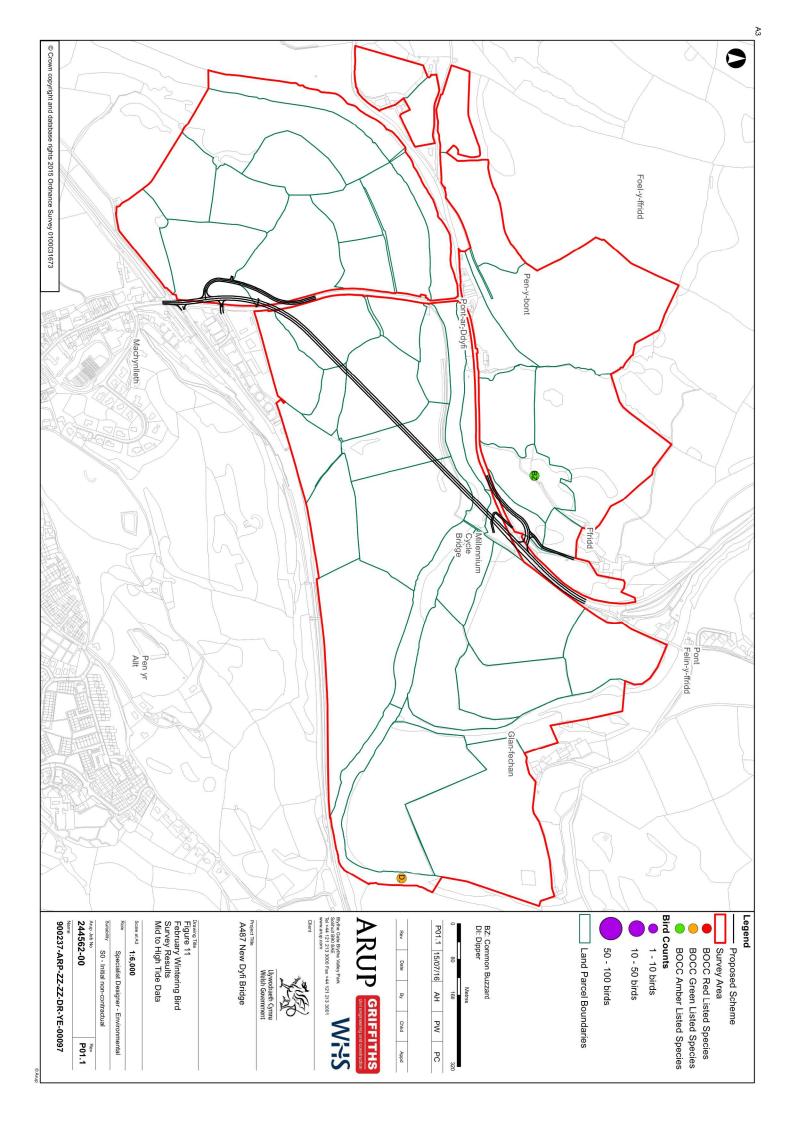


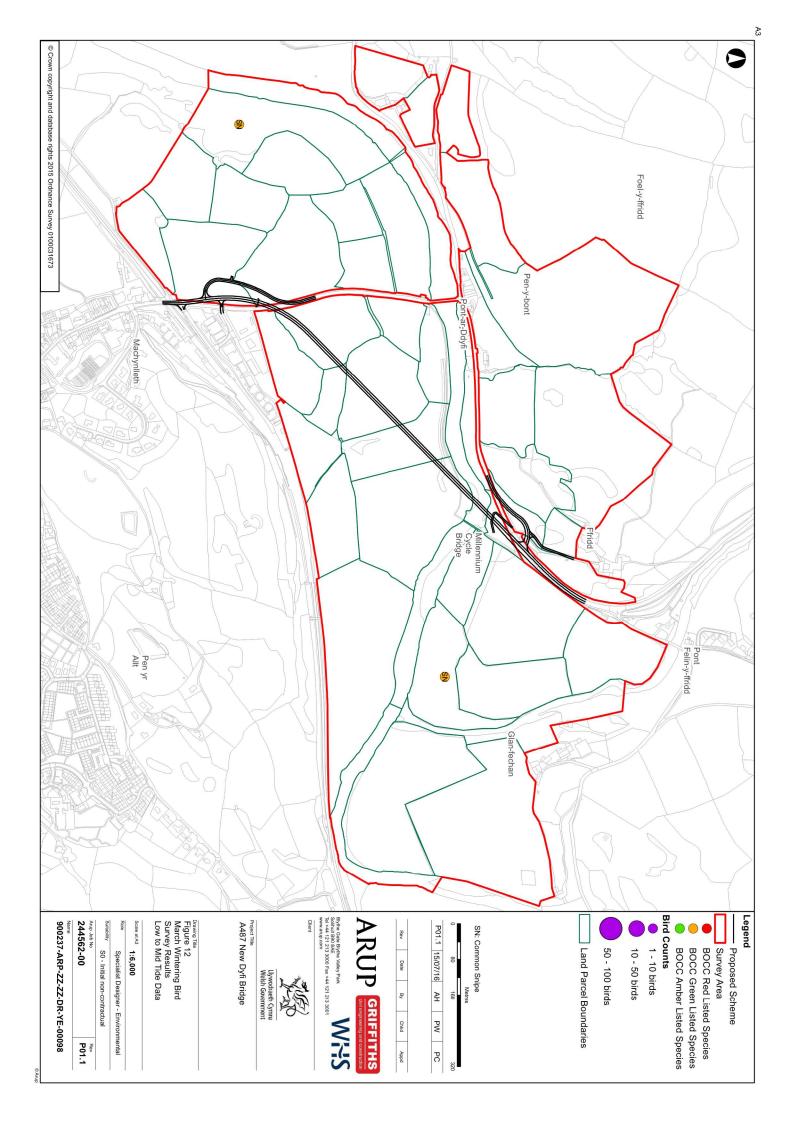


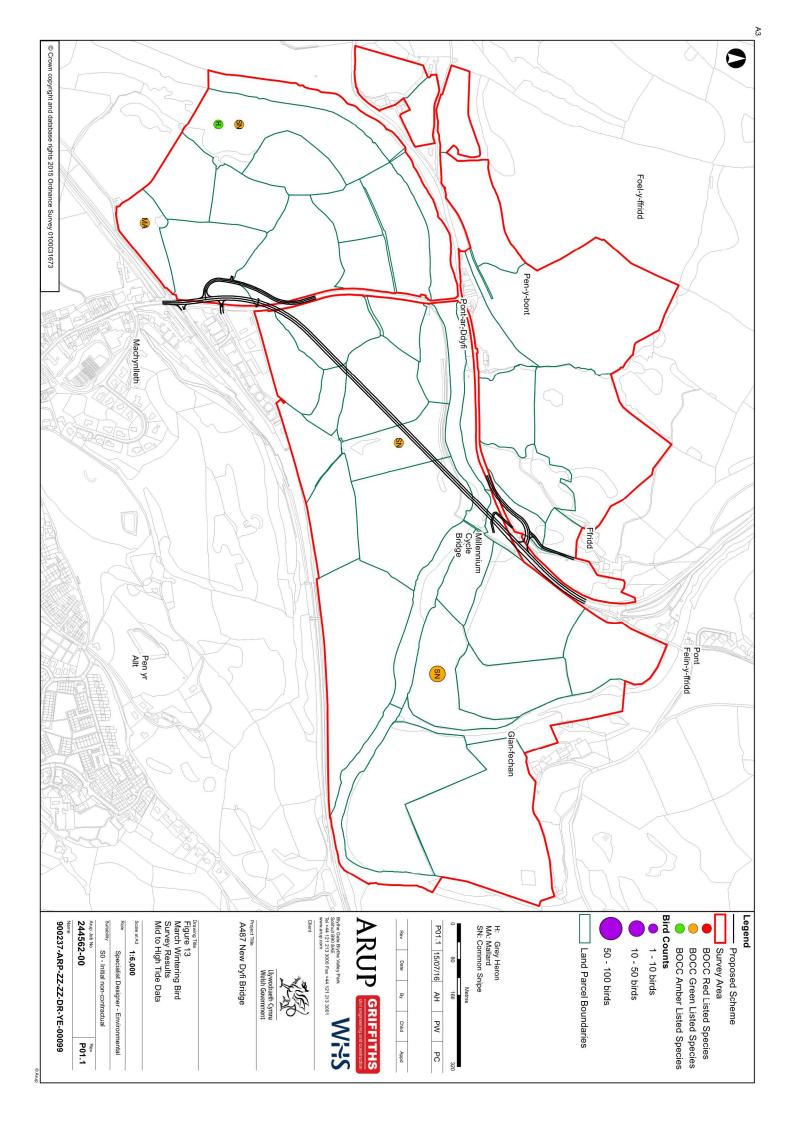












Appendix A

Weather Conditions

A1 Weather Conditions

Table 1 Weather Conditions

Visit Number	Date	Weather Conditions	onditions			Comments
		Temp (oC)	Wind speed and direction	Cloud cover (%)	Precipitation (none, light, moderate, heavy)	
2	20/10/2015	6	Force 1, N	70	None	
Mid to high tide (8.30-10.45)						
2	20/10/2015	7	Force 1, N	100	None	Foggy in the morning
Low to mid tide count (12:30-14:15).						
3	10/11/2015	14	Force 5, SW	100	Light	
High tide count start (7:20 – 9:15)						
3	10/11/2015	14	Force 5, SW	100	Light	
Second survey (11:20 to 14:00)						
4	22/12/2015	12	Force 3, SW	100	Moderate	Parts of study Area
Mid to high tide count (14:00 – 16:00)						flooded
4	23/12/2015	10	Force 3, SW	100	Moderate	
Low to mid tide count (13:20 – 15:20)						
S	13/01/2016	6	Force 4, W	100	Heavy	Parts of Study Area flooded

Visit Number	Date	Weather Conditions	onditions			Comments
		Temp (oC)	Wind speed and direction	Cloud cover (%)	Precipitation (none, light, moderate, heavy)	
High to mid tide count (11:00 – 13:00)						
5	14/01/2016	11	Force 2, N	60	Light	
Mid to Low tide count (14:45 – 16:45)						
6 Low to mid tide count (10:00 - 12:00)	16/02/2016 7	7	Force 2, W	100	Steady rain	
6 Mid to high tide count (14:00 – 16:00)	17/02/2016	7	Force 2, W	100	Steady rain	
7 High to mid tide count (08.30 – 10.30)	09/03/2016	6	Force 3, NW	90	Light drizzle	
7 Mid to low tide count (13:00 – 15:00)	09/03/2016 6	6	Force 3, NW	90	Light drizzle	

Appendix B

Wintering Bird Counts

B1 Wintering Bird Counts

Table 2 Wintering bird counts for October 2015 to March 2016

Species	Scientific	восс	October		November	ľ	December	7	January		February	Ţ.	March		Total count during
	Name	Status	No. of fields	Max Count	period										
Common buzzard (BZ)	Buteo buteo	Green	0	0	0	0	3	1	6	1	2	2	0	0	4
Common kingfisher (KF)	Alcedo atthis	Amber	1	1	0	0	0	0	0	0	0	0	0	0	1
Common raven (RN)	Corvus corax	Green	0	0	0	0	0	0	1	1	0	0	0	0	1
Dunlin (DN)	Calidris alpina	Amber	0	0	0	0	0	0	0	0	1	14	0	0	14
Common snipe (SN)	Gallinago gallinago	Amber	0	0	2	2	0	0	3	6	1	25	3	45	78
Common starling (SG)	Sturnus vulgaris	Red	1	31	2	25	0	0	0	0	0	0	0	0	56
Eurasian curlew (CU)	Numenius arquata	Red	0	0	0	0	0	0	3	2	0	0	0	0	2
Eurasian oystercatcher (OC)	Haematopus ostralegus	Amber	0	0	0	0	0	0	4	4	0	0	0	0	4
Eurasian sparrowhawk (SH)	Accipiter nisus	Green	0	0	2	1	0	0	1	1	0	0	0	0	2
Fieldfare (FF)	Turdus pilaris	Red	1	19	0	0	0	0	0	0	0	0	0	0	19
Goosander (GD)	Mergus merganser	Green	0	0	0	0	0	0	4	1	0	0	0	0	1

Species	Scientific	восс	October		November	-	December	7	January		February	ŷ	March		Total count during
	Name	Status	No. of fields	Max Count	period										
Great cormorant (CA)	Phalacrocorax carbo	Green	0	0	2	ω	4	1	3	1	1	1	0	0	6
Grey heron (H.)	Ardea cinerea	Green	3	1	4	1	0	0	2	1	0	0	1	1	4
Grey wagtail (GL)	Motacilla cinerea	Red	1	2	0	0	0	0	0	0	0	0	0	0	2
Mallard (MA)	Anas platyrhynchos	Amber	1	2	3	10	0	0	0	0	0	0	1	4	16
Meadow Pipit (MA)	Anthus pratensis	Amber	0	0	0	0	0	0	0	0	1	6	0	0	6
Mistle thrush (M.)	Turdus viscivorus	Red	2	2	0	0	0	0	0	0	0	0	0	0	2
Mute swan (MS)	Cygnus olor	Amber	1	2	0	0	0	1	0	0	0	0	0	0	1
Red kite (KT)	Milvus milvus	Green	2	5	0	0	1	1	3	1	0	0	0	0	7
Red-breasted merganser (RM)	Mergus serrator	Green	0	0	1	1	0	0	0	0	0	0	0	0	3
Stonechat (SC)	Saxicola torquata	Green	1	2	0	0	0	0	0	0	0	0	0	0	2
White-throated dipper (DI)	Cinclus cinclus	Amber	2	3	0	0	0	0	0	0	1	1	0	0	ω

Species	Scientific	восс	October		November		December	r	January		February	У	March		Total count during survey
	Name	Status	No. of Max fields Count		9	Max Count	No. of fields	Max Count	No. of Max fields Coun	+	No. of Max No. of fields Count fields	Max Count	,	Max Count	period
Whooper swan Cygnus cygnus Amber 0 (WS)	Cygnus cygnus	Amber	0	0	0	0	2	0	0	0	0	0	0	0	2