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Appendix 6.1

Ecology

Contents

Glossary

Term	Definition
Baseline	The existing conditions that prevail against which the effects of the Proposed Development are compared.
Environmental Impact Assessment	Environmental Impact Assessment (EIA) is a means of carrying out, in a systematic way, an assessment of the likely significant environmental effects from a development.
Environmental Impact Assessment Report	A document reporting the findings of the EIA and produced in accordance with the EIA Regulations
Infrastructure	This is used to describe all parts of South Kyle II Wind Farm development that require construction activities, both temporary and permanent; including turbines, hard standings and tracks (where new or widened).
South Kyle II Wind Farm	The turbines and all associated Infrastructure required for South Kyle II Wind Farm (also referred to as the 'Proposed Development').
Proposed Development	The South Kyle II Wind Farm development
Proposed Development Area	The area within the "Site boundary" as illustrated on Figure 1.1 which the Proposed Development will be located
Survey Area	The area within which ecological baseline surveys were carried out. This refers to the proposed development plus a surrounding buffer, the size of which is determined by the specific survey being described.

List of Abbreviations

Abbreviation	Description
ASPT	An Average Score Per Taxa
AWIC	Acid Water Indicator Community
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
GFT	Galloway Fisheries Trust
GPS	Global Positioning System
HabRegs	The Conservation of Habitats and Species Regulations 2017
HLC	Habitat Loss Calculations
HSI	Habitat Suitability Index
JNCC	Joint Nature Conservation Committee
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MAGIC	Multi-Agency Geographic Information for the Countryside
MYOsp	Myotis bat species
NDSFB	Nith District Salmon Fishery Board
NNR	National Nature Reserves
NTAXA	Number of Taxa Recorded
NVC	National Vegetation Classification
NYCLEI	Leisler's bat
NYCNOC	Noctule bat
NYCsp	Nyctalus bat species
PIPNAT	Nathusius' pipistrelle bat
PIPPIP	Common pipistrelle bat
PIPPYG	Soprano pipistrelle bat
PIPsp	Pipistrellus bat species
PLEAUR	Brown long-eared bat
PRA	Preliminary Roost Assessment
PRF	Potential Roost Feature
PSI	Proportion of Sediment-sensitive Invertebrate Index
QGIS	Geographic Information System
RICT	River Invertebrate Classification Tool
RIVPACS	River Invertebrate Prediction and Classification System
SAC	Special Areas of Conservation
SBL	Scottish Biodiversity List
SFCC	Scottish Fisheries Coordination Centre
SINC	Sites of Importance for Nature Conservation
SM4	Song Meter 4 bat detectors
SNH	Scottish Natural Heritage (now NatureScot)
SSSI	Site of Special Scientific Interest
SWSEIC	South West Scotland Environmental Information Centre
SWT	Scottish Wildlife Trust
WCA	The Wildlife and Countryside Act 1981
WFD	The Water Framework Directive 2000
WHPT	Walley Hawkes Paisley Trigg

6.1.1 INTRODUCTION

6.1.1.1 This Technical Appendix presents the following information in support of Chapter 6: Ecology, of the Environmental Impact Assessment Report (EIAR) for South Kyle II Wind Farm (the Proposed Development):

- A list of scientific (Latin) and English names of all ecological features that are referred to in the main chapter;
- Existing non-confidential ecology records within a 5 km buffer (10 km for bats) of the proposed development, held by South West Scotland Environmental Information Centre (SWSEIC);
- Details of statutory designated sites of nature conservation with non-avian species and protected habitats as listed features as identified using the Multi-Agency Geographic Information for the Countryside (MAGIC) Map application tool[1] and Sitelink[2];
- Details of locally important (non-statutory) Sites of Importance for Nature Conservation (SINCs) within South Kyle II Proposed Development plus 2 km buffer;
- Details of habitat surveys (Phase 1 and National Vegetation Classification surveys) carried out by Natural Power Consultants Ltd. (Natural Power);
- Details of protected bat activity surveys and preliminary bat roost assessments carried out by Natural Power;
- Details of protected mammal surveys carried out by Natural Power; and
- Details of freshwater fish and macro-invertebrate surveys carried out by Galloway Fisheries Trust (GFT) and Nith District Salmon Fishery Board (NDSFB).

6.1.2 LATIN NAMES

6.1.2.6 Latin names of all animal species referred to in Chapter 6: Ecology, Volume 1 of the EIAR and within this Technical Appendix are given in Table A6.1. Latin names of all plant and lichen species referred to in Chapter 6 and this Technical Appendix are given in Table A6.2.

Table A6.1: Latin names of animal species referred to in Chapter 6: Ecology and this Technical Appendix

Taxon group	Scientific name	Common name
Amphibian	*Bufo bufo*	Common toad
Amphibian	*Rana temporaria*	Common frog
Amphibian	*Triturus cristatus*	Great crested newt
Reptile	*Anguis fragilis*	Slow-worm
Reptile	*Vipera berus*	Adder
Reptile	*Zootoca vivipara*	Common lizard
Fish	*Barbatula barbatula*	Stone loach
Fish	*Salmo salar*	Atlantic salmon
Fish	*Salmo trutta*	Brown/sea trout
Terrestrial mammal	*Arvicola amphibius*	Water vole
Terrestrial mammal	*Lutra lutra*	Otter
Terrestrial mammal	*Martes Martes*	Pine marten
Terrestrial mammal	*Meles meles*	Badger
Terrestrial mammal	*Sciurus vulgaris*	Red squirrel
Terrestrial mammal - bat	*Myotis sp.*	Mouse-eared bat species
Terrestrial mammal - bat	*Nyctalus leisleri*	Leisler's bat
Terrestrial mammal - bat	*Nyctalus noctula*	Noctule bat
Terrestrial mammal - bat	*Pipistrellus sp.*	Pipistrelle bat species
Terrestrial mammal - bat	*Pipistrellus nathusii*	Nathusius' pipistrelle
Terrestrial mammal - bat	*Pipistrellus pipistrellus*	Common pipistrelle
Terrestrial mammal - bat	*Pipistrellus pygmaeus*	Soprano pipistrelle
Terrestrial mammal - bat	*Plecotus auritus*	Brown long-eared bat
Insect - Ephemeropteran	*Ephemeroptera baetidae*	Mayfly
Insect - Ephemeropteran	*Ephemeroptera heptageniidae*	Mayfly
Insect - Ephemeropteran	*Ephemeroptera leptophlebiidae*	Mayfly
Insect - Plecopteran	*Plecoptera leuctridae*	Stonefly
Insect - Plecopteran	*Plecoptera perlodidae*	Stonefly
Insect - Plecopteran	*Plecoptera nemouridae*	Stonefly
Insect - Megalopteran	*Megaloptera sialidae*	Alderfly
Insect - Hemipteran	*Hemiptera veliidae*	Riffle bug
Insect - Trichopteran	*Trichoptera hydropsychidae*	Caddisfly
Insect - Trichopteran	*Trichoptera rhyacophilidae*	Caddisfly
Insect - Trichopteran	*Trichoptera polycentropodiidae*	Caddisfly
Insect - Trichopteran	*Trichoptera philopotomatidae*	Caddisfly
Insect - Trichopteran	*Trichoptera limnephilidae*	Caddisfly
Insect - Trichopteran	*Trichoptera sericostomatidae*	Caddisfly
Insect - Trichopteran	*Trichoptera goeridae*	Caddisfly
Insect - Dipteran	*Diptera chironomidae*	Non-biting midge
Insect - Dipteran	*Diptera simulidae*	Black fly
Insect - Dipteran	*Diptera tipulidae*	Crane fly
Insect - Dipteran	*Diptera pediciidae*	Hairy-eyed cranefly
Insect - Coleopteran	*Coleoptera elmidae*	Riffle beetle
Insect - Coleopteran	*Coleoptera dytiscidae*	Diving beetle
Insect - Coleopteran	*Coleoptera scirtidae*	Marsh beetle
Crustacean	*Amphipoda gammaridae*	Scud
Mollusc	*Planorbidae*	Ramshorn snail
Worms and leeches	*Oligochaeta*	Annelid worm

1 MAGIC (2023). Available at: https://magic.defra.gov.uk/MagicMap.aspx [Accessed 09/08/2023]

2 SiteLink (2023) Available at: https://sitelink.nature.scot/map [Accessed 09/08/2023]

Table A6.2: Latin and English names of plant and lichen species referred to in Chapter 6 and this Technical Appendix

Type	Scientific name	Common name
Herb	*Calluna vulgaris*	Heather
Herb	*Centaurea nigra*	Common knapweed
Herb	*Chamaenerion angustifolium (Epilobium angustifolium)*	Rosebay willowherb
Herb	*Circaea lutetiana*	Enchanter's nightshade
Herb	*Erica tetralix*	Cross-leaved heather
Herb	*Euphrasia sp.*	Eyebright
Herb	*Galium palustre*	Marsh bedstraw
Herb	*Galium saxatile*	Heath bedstraw
Herb	*Hypochaeris radicata*	Common cat's-ear
Herb	*Lotus corniculatus*	Bird's-foot trefoil
Herb	*Lysimachia nemorum*	Yellow pimpernel
Herb	*Narthecium ossifragum*	Bog asphodel
Herb	*Potentilla erecta*	Tormentil
Herb	*Ranunculus acris*	Meadow buttercup
Herb	*Rubus fruticosus*	Blackberry
Herb	*Rumex acetosella*	Sheep's sorrel
Herb	*Scorzoneroides autumnalis*	Autumn hawkbit
Herb	*Trifolium repens*	White clover
Herb	*Trifolium pratense*	Red clover
Herb	*Urtica dioica*	Common nettle
Herb	*Vaccinium myrtillus*	Bilberry
Tree/shrub	*Alnus glutinosa*	Common alder
Tree/shrub	*Betula pubescens*	Downy birch
Tree/shrub	*Crataegus monogyna*	Hawthorn
Tree/shrub	*Fagus sylvatica*	Common beech
Tree/shrub	*Fraxinus excelsior*	Common ash
Tree/shrub	*Quercus petraea*	Sessile oak
Tree/shrub	*Sorbus aucuparia*	Rowan
Tree/shrub	*Ulex europaeus*	European gorse
Grass	*Agrostis capillaris*	Common bent
Grass	*Agrostis vinealis*	Brown bent
Grass	*Anthoxanthum odoratum*	Sweet vernal grass
Grass	*Cynosurus cristatus*	Crested dogstail
Grass	*Deschampsia flexuosa*	Wavy hair-grass
Grass	*Festuca ovina*	Sheep's fescue
Grass	*Holcus lanatus*	Yorkshire fog
Grass	*Lolium perenne*	Perennial rye-grass
Grass	*Molinia caerulea*	Purple moor-grass
Grass	*Nardus stricta*	Mat-grass
Sedge	*Carex echinata*	Star sedge
Sedge	*Trichophorum cespitosum (Scirpus cespitosus)*	Deergrass
Rush	*Juncus acutiflorus*	Sharp-flowered rush
Rush	*Juncus effusus*	Soft rush
Rush	*Juncus squarrosus*	Heath rush
Fern	*Pteridium aquilinum*	Bracken
Moss	*Dicranum majus*	Greater fork moss
Moss	*Polytrichum commune*	Common haircapnmoss
Moss	*Sphagnum sp.*	Sphagnum species
Moss	*Sphagnum auriculatum*	Cow-horn bog-moss
Moss	*Sphagnum recurvum*	Flat-topped bog-moss

6.1.3 DESK STUDY RESULTS

6.1.3.1 A desk-based study was carried out in October 2023 to determine the presence of all ecological (non-avian) species of conservation interest recorded within the last ten years (2012 – 2022) within 5 km (10 km for bats) of the Proposed Development. The results from the data search obtained from SWSEIC are shown in Table A6.3.

6.1.3.2 Data was obtained from SWSEIC of locally important (non-statutory) Sites of Importance for Nature Conservation (SINCs), also known as Local Wildlife Sites (LWSs) within 2 km of the Proposed Development. Non-statutory designated sites within 5 km of the Proposed Development can be found in Table A6.4.

6.1.3.3 A search using MAGIC[1] and SiteLink[2] was undertaken to identify and provide information on statutory, national and locally designated sites of nature conservation, with non-avian species and protected habitats as listed features. The search focussed on identifying the following sites:

- Special Areas of Conservation (SACs) – within 10 km of the Proposed Development;
- Sites of Special Scientific Interest (SSSIs) – within 5 km of the Proposed Development;
- National Nature Reserves (NNRs) – within 5 km of the Proposed Development; and
- Local Nature Reserves (LNRs) within 2 km of the Proposed Development.

6.1.3.4 The identified statutory, national and locally designated sites of nature conservation with ecological interest within the relevant search buffers are listed in Table A6.4.

Table A6.3: Ecological data results from SWSEIC (2012 – 2022) within 5 km (10 km for bats) of the Proposed Development

Taxon group	Species	No. records	Last recorded	Legally protected species	Biodiversity lists
Amphibian	Common toad	5	2022	WCA-Sch5	SBL
Amphibian	Common frog	15	2022	WCA-Sch5	N/A
Reptile	Common lizard	7	2021	WCA-Sch5	SBL
Reptile	Adder	6	2022	WCA-Sch5	SBL
Fish	Atlantic salmon	1	2019	HabRegs4	SBL
Terrestrial mammal	Eurasian badger	11	2023	Protection of Badgers Act 1992	N/A
Terrestrial mammal	Eurasian otter	32	2019	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal	Eurasian red squirrel	37	2022	WCA-Sch5	SBL
Terrestrial mammal - bat	Brown long-eared bat	13	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	Daubenton's bat	105	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	Natterer's bat	6	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	Whiskered/Brandt's bat	2	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	*Myotis* species	57	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	Leisler's bat	16	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	Noctule bat	7	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	*Nyctalus* species	94	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	Common pipistrelle	371	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	Nathusius' pipistrelle	5	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	Soprano pipistrelle	254	2016	HabRegs-Sch2, WCA-Sch5	SBL
Terrestrial mammal - bat	*Pipistrellus* species	143	2016	HabRegs-Sch2, WCA-Sch5	SBL
Insect – butterfly	Large heath	25	2021	WCA-Sch5	SBL
Herb	Bluebell	3	2018	WCA-Sch8	N/A

Source: SWSEIC

WCA-Sch5/ WCA-Sch8: The Wildlife and Countryside Act 1981 Schedules 5 and 8

HabRegs-Sch2: The Conservation of Habitats and Species Regulations 2017 Schedule 2

SBL: Scottish Biodiversity List[3]

Table A6.4: Non-statutory designated sites within 2 km of the Proposed Development

Designated site	Designated feature	Distance from Proposed Development Area
Connel Burn/Benty Cowan LWS	Upland habitats including blanket bog, acid grassland and marshy grassland, species rich ledges and flushes. Bird interest. Small semi-natural woodland of ash, birch, alder.	Adjacent to Proposed Development
Cummnock Burn/Pennyvenie Burn LWS	Conical-shaped bing showing succession from bare slag to birch woodland. Open birch woodland on steep burn sides, old broadleaved plantation and a patchwork of wet and dry acid grassland.	Adjacent to Proposed Development
Benbeoch/Pennyvenie Glen LWS	Vegetated ledges, scree and boulders surrounded by acid grassland. Semi-natural gorge upland woodland of birch, alder and ash with good shrub and ground layers.	0.9 km west
Martyrs' Moss LWS	Blanket bog and extensive bog pool system.	1.4 km north

Source: SWSEIC

6.1.4 SURVEY METHODS

6.1.4.1 Baseline surveys were carried out in 2022 to assess the habitats present in the Proposed Development Area and to quantify use of the site and surrounding area by protected mammal species.

6.1.4.2 Baseline ecological surveys comprised:

- Phase 1 Habitat survey
- National Vegetation Classification (NVC) survey;
- Bat surveys (Preliminary bat roost assessment and Bat activity survey);
- Protected species survey; and
- Freshwater surveys (incl. Electrofishing and macroinvertebrate surveys).

6.1.4.3 The survey methods are described below.

Phase 1 Habitat survey

6.1.4.4 Phase 1 Habitat surveys were carried out within the survey area between May and September 2022.

6.1.4.5 The Phase 1 habitat survey methodology provides a standardised system for classifying and mapping semi-natural vegetation and wildlife habitats over large areas of countryside.

[3] *NatureScot (2013) Scottish Biodiversity List [Online] Available at: Scottish Biodiversity List | NatureScot*

6.1.4.6 Habitats across the survey area were identified and mapped using the standard Joint Nature Conservation Committee (JNCC) Phase 1 habitat classification[4].

6.1.4.7 The survey's scope was extended to search for and record signs of legally protected or other notable species, and to assess the potential for the habitats to support such species.

National Vegetation Classification

6.1.4.8 NVC surveys were carried out within the survey area between May and September 2022.

6.1.4.9 The NVC is a detailed phytosociological classification, which assesses the full suite of vascular plant, bryophyte and macro-lichen species within a certain vegetation type.

6.1.4.10 NVC community and sub-community types were identified in the field (based on extensive surveyor experience) and delineated and mapped using Global Positioning System (GPS) as per Chapter 10 of the NVC Users' Handbook[5]. Where areas were considered to comprise mosaics or complexes of different habitat communities, the proportion of each was estimated in percentage terms. Details of habitat types identified within the survey area are provided in Chapter 6: Ecology of the EIAR.

Bat surveys

6.1.4.11 Surveys were undertaken between April and September 2022 inclusive. Methods were based on best practice guidance from NatureScot[6] and included a walkover survey for potential bat roosts, and an automated static detector survey.

Preliminary roost assessment (PRA)

6.1.4.12 A daytime walkover of the Proposed Development Area was undertaken in December 2023 to identify and assess potential bat roosts. Notes were taken where any habitat suitable for roosting was encountered during the survey.

6.1.4.13 Survey of trees and any other structures with the potential to support bat roosts within 200 m of each of the proposed turbine locations was undertaken in accordance with NatureScot guidance[6]. Searches for potential roost features (PRFs) included a preliminary assessment of trees for any cracks, holes and crevices which would provide suitable roosting habitat. The inspection was undertaken from ground level with binoculars.

Bat activity surveys

6.1.4.14 A total of 11 Song Meter 4 (SM4) detectors were deployed following the methods outlined by NatureScot[6] at sample locations within the Proposed Development Area (see Table A6.5) for a minimum of 14 nights per each detector deployment. For each instance of deployment for a season (across spring, summer, and autumn) the detectors were deployed on the same day (see Table A6.6) at the sample location to allow direct comparisons of bat activity (as shown in Table A6.6). Only nights on which suitable weather conditions (temperature 5°C or above at dusk; ground wind speed 10 m/s or less; little to no rain) were recorded have been used as "Survey effort". A summary of the automated survey schedule is provided in Table A6.5.

6.1.4.15 Detectors were programmed to commence recording from 30 minutes before sunset and continue until 30 minutes after sunrise, to cover the active period for all species potentially encountered on site. Detectors recorded data to a memory card which was downloaded and later analysed to identify species present. Relative bat activity levels have also been assessed for each bat detector following NatureScot guidance[3] by producing bat activity indices (BAI) based on the number of 'bat passes' recorded per hour. Bat passes are defined as a fifteen-second recording file which contains at least one bat call.

6.1.4.16 During the static bat detector surveys, two of the detectors malfunctioned and did not collect audio data (as shown in Table A6.7).

Table A6.5: Static bat detector locations, survey effort and surrounding habitats

Detector Number	Grid Reference	Survey effort per season			Surrounding habitat	Habitat description
		Spring	Summer	Autumn		
1	NS 52893 07490	9	16	14	Open	Tall herb and fern; Woodland and shrub
2	NS 52285 06726	0	16	0	Open	Woodland and shrub; Grassland
3	NS 52984 06103	0	16	14	Cluttered	Woodland and shrub
4	NS 53281 08153	9	16	14	Open	Grassland
5	NS 54847 08395	9	16	14	Open	Heathland; Woodland and shrub
6	NS 52592 06743	9	16	14	Cluttered	Woodland and shrub; Grassland
7	NS 52728 06970	9	16	14	Open	Grassland; Heathland
8	NS 53975 07404	9	16	14	Open	Grassland
9	NS 53451 06743	9	16	14	Cluttered	Woodland and shrub
10	NS 54310 07572	9	16	14	Open	Woodland and shrub; Heathland
11	NS 51901 06744	9	16	14	Open	Heathland; Woodland and shrub

Source: Natural Power

Table A6.6: Static bat detector deployment dates

Season	Date Out	Date In	No. of nights deployed
Spring	05/04/2022	19/04/2022	14
Summer	13/07/2022	29/07/2022	16
Autumn	05/09/2022	20/09/2022	15

Source: Natural Power

Table A6.7: Instances of static bat detector failure

Detector Number	Detector ID	Date Start	Date End	No. of days detector failure
2	T4	05/09/2022	19/09/2022	14
3	T6	05/04/2022	18/04/2022	13

[4] JNCC, (2010). Handbook for Phase 1 habitat survey - a technique for environmental audit, ISBN 0 86139 636 7

[5] Rodwell, J.S, (2006). NVC Users' Handbook, ISBN 978 1 86107 574 1

[6] NatureScot, Natural England, Natural Resources Wales, RenewableUK, Scottish Power Renewables, Ecotricity Ltd., the University of Exeter, and Bat Conservation Trust (BCT) (20219). Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation.

Source: Natural Power

Protected species surveys

6.1.4.17 A protected species survey was undertaken in November 2022.

Otter & water vole survey

6.1.4.18 Otter and water vole surveys were undertaken along all watercourses within the Proposed Development Area plus a 200 m buffer (access permitting). Surveys were carried out by experienced surveyors in suitable weather conditions. The otter 'field signs' searched for were those as described in Sargent & Morris;[7] and the water vole 'field signs" that were searched for were those as described in Strachan et al.[8]

Badger, pine marten & red squirrel survey

6.1.4.19 Surveys for badger, pine marten and red squirrel were undertaken in areas of suitable habitat within the Proposed Development Area plus a 200 m buffer (access permitting). Surveys were carried out by experienced surveyors in suitable weather conditions. The 'field signs' that were searched for were those as described in Bang & Dahlstrøm[9] and in Sargent & Morris[7].

Freshwater surveys

Fish habitat survey

6.1.4.20 A fish habitat assessment (walkover survey) of water courses was undertaken in the Proposed Development Area by NDSFB in August 2022 and by GFT in September – October 2022. The survey method is used to assess the suitability of habitats on site to support fish species and is based upon the Scottish Fisheries Coordination Centre (SFCC) methodology.[10]

6.1.4.21 This methodology approximates in-stream habitat availability for fish as a percentage (%) within a known length of the water course (100 m lengths). A number of parameters were recorded for each section, including the percentage estimate of each substrate type (bedrock, boulder, cobble, pebble, gravel, clay, sand and silt), bankside fish cover (undercut, draped, bare, marginal plants, rocks, and roots), and also the flow characteristics (pool, riffle, glide, slack). These surveys do not identify the presence of fish, but highlight key habitat where certain species may be present based on known habitat preferences. The results inform the requirement for further survey, such as electrofishing, to identify which fish species are present.

Electrofishing surveys

6.1.4.22 Electrofishing surveys were carried out by the NDSFB in August 2022 and by GFT in September 2022 to determine the status of the juvenile salmonid population. The SFCC protocol for electrofishing was adhered to throughout the survey.[11,12] Natural features on the river were selected to provide boundaries for each electrofishing site, with features such as shallow riffles at the top and bottom of a section of river typically being utilised. All sites were located by use of GPS and photographs.

6.1.4.23 Fully quantitative electrofishing methods were used to accurately assess the population of juvenile salmonids. This involved fishing the identified site multiple times (depletion sampling), to provide an estimate of the density of juvenile salmonids within the survey site. If fish were present within the first run the site was fished again, a minimum of two times, and up to a maximum of four times. Surveys were carried out systematically, working from downstream to upstream, removing all fish caught. Working in an upstream direction prevents any sediment caused by wading in the river from obscuring the working area.

6.1.4.24 Stunned fish were drawn downstream by the anode operator, assisted by the current, towards the hand-held dip net which was lifted clear of the water after each sweep, to permit the removal of captured fish for transfer into water-filled holding containers. Once captured, the fish were anaesthetised and identified to species level, measured and recorded. Electrofishing continued at each site until a depletion rate could be identified – at least 30% of the fish should be caught during each run for an accurate estimate to be achieved.

6.1.4.25 This method of capture for salmonids also captured other species present in the sites. All fish were returned unharmed to their original capture sites upon completion of examination and data recording.

Electrofishing sample analysis

6.1.4.26 Estimates of density were calculated using the Zippin (1958)[13] method of estimation. This provides an estimate of density expressed as the number of fish present within 100m^2. If no fish were found during the second run it was not possible to use Zippin's (1958) method to estimate densities, and instead a minimum density was estimated and expressed per 100m^2.

6.1.4.27 The densities of both salmon and trout fry and parr were then classified using the SFCC national classification scheme (as shown in Table A6.8)[14]. This classification scheme categorises the data according to five categories derived using data from over 1600 Scottish sites. This allows the performance of each site surveyed to be demonstrated graphically.

Table A6.8: SFCC classification scheme salmon and trout fry and pass density breakpoints

Classification	Salmon parr (no/100 m^2)	Salmon fry (no/100 m^2)	Trout fry (no/100 m^2)	Trout parr (no/100 m^2)
Absent	0.0	0.0	0.0	0.0
Very poor	< 2.6	< 4.7	< 2.5	< 1.6
Poor	2.6 - < 5.1	4.7 - < 10.3	2.5 - < 5.3	1.6 - < 3.1
Moderate	5.1 - < 9.1	10.3 - < 20.3	5.3 - < 12.4	3.1 - < 5.6
Good	9.1 - <15.8	20.3 - < 42.1	12.4 - < 30.3	5.6 - < 10.4
Excellent	> 15.8	> 42.1	> 30.3	> 10.4

Source: SFCC[14]

6.1.4.28 Results from the surveys carried out by NDSFB used a classification ranking of "very poor" to "excellent", whereas results from the surveys carried out by GFT used a classification ranking of "very low" to "very high". Full survey

[7] Sargent, G. & Morris, P. (2003). How to Find & Identify Mammals. The Mammal Society, London.

[8] Strachan, R., Moorhouse, T. & Gelling, M. (2011). The Water Vole Conservation Handbook. Third Edition, Wildlife Conservation Research Unit, University of Oxford, Abingdon.

[9] Bang, P. and Dahlstrøm, P. (2001). Animal Tracks and Signs. Oxford University Press, Oxford.

[10] Hendry and Cragg-Hine. *(*1997*).* Environment Agency manual Restoration *of* Riverine Salmon Habitats – A Guidance Manual. 2003 Version. Environment Agency*,* Bristol*.*

[11] Scottish Fisheries Co-ordination Centre (2021). Catch Fish Using Electrofishing Techniques. Scottish Fisheries Co-ordination Centre Fisheries Management: SVQ Level 2. Inverness College UHI.

[12] Scottish Fisheries Co-ordination Centre (2021). Manage Electrofishing Operations. Scottish Fisheries Co-ordination Centre Team Leader Electrofishing Manual. Inverness/Barony College.

[13] Zippin, C. (1958). The removal method of population estimation. Journal of Wildlife Management 22: 82-90.

[14] Godfrey, J.D. (2005). Site Condition Monitoring of Atlantic Salmon SACs. Scottish Fisheries Co-ordination Centre 2005.

methodology for each site is outlined in the respective survey reports provided by the NDSFB[15] and GFT[16] which can be provided on request.

Macroinvertebrate sampling

6.1.4.29 Macroinvertebrate sampling was undertaken in the Proposed Development Area by GFT in September 2022 and NDSFB in July – August 2022. At each site, sections of the river were selected that represented the main watercourse and 'kick sampling' was undertaken for three minutes using a 25 cm wide kick sample net with a 1 mm mesh. The kick net was held downstream of the sampler's feet, and the bed of the river was disturbed by kicking the substrate to dislodge any invertebrates present. During these three minutes all habitats within the selected site were sampled. The kick sampling was followed by a further minute of manual search where stones, submerged plants, logs and other instream objects were examined for attached invertebrates such as cased caddis and molluscs.

6.1.4.30 The invertebrate samples were placed into sample tubs containing 95% ethanol. This included any plant material or substrate collected during the kick sampling process. Samples were labelled and transported to laboratories and stored for future identification.

6.1.4.31 In the laboratory, the samples of aquatic invertebrates were placed into large plastic trays and sorted and analysed in accordance with the Environment Agency's protocol[17]. Invertebrates were identified to taxonomic level 2 (family level) using a Brunel SX10D Stereo Dissecting Digital Microscope at x 10 - 40 magnification and dichotomous keys[18]. Their abundance was also recorded.

Macroinvertebrate sample analysis

6.1.4.32 The Walley Hawkes Paisley Trigg (WHPT) river invertebrate index[19,20] was used to assess the macroinvertebrates present in the sample and provide accurate data that can be used to provide a classification under the Water Framework Directive (WFD) as to the health of the watercourse. Scores are assigned to different invertebrate families found in the sample. This score is weighted according to abundance and therefore reflects any changes in abundance caused by environmental or chemical changes. Scores are assigned to each family of aquatic invertebrates identified depending on its sensitivity to pollution. An Average Score Per Taxa (WHPT ASPT) is calculated using the number of taxa recorded (NTAXA) and the abundance of those taxa present. The WHPT ASPT responds to environmental pressures such as organic discharges, increases in organic loading, nutrients, ammonia and suspended solids, and the reduction of oxygen concentration. Habitat degradation such as reduced habitat and sedimentation will also affect the WHPT ASPT.

6.1.4.33 The analysis undertaken by GFT included two additional biotic indices used to analyse the macroinvertebrate results and give an indication of the condition of the macroinvertebrate communities at each sample site at the time of sampling and was analysed using the web-based application River Invertebrate Classification Tool (RICT) Model 44 software available on the Freshwater Biological Association website.[21]

6.1.4.34 The WFD status classification was calculated with the RICT, a web-based application that used RIVPACS (River Invertebrate Prediction and Classification System) predictive models[22]. The data was prepared in accordance with the RICT user guide[23]. A classification of High, Good, Moderate, Poor, or Bad was assigned to each site (see Table A6.9).

Table A6.9: WFD Classification System

Ecological Status	Definition
High	No or minimal change from natural condition
Good	Slight change from natural condition
Moderate	Moderate change from natural condition
Poor	Major change from natural condition
Bad	Severe change from natural condition

Source: WFD[22]

[15] Nith District Salmon Fishery Board, (2022). Aquatic Surveys to Assess Fish Populations, Habitat and Aquatic Invertebrate Communities in the Vicinity of the Proposed South Kyle II Wind Farm Within The River Nith Catchment, Volume 1. Document reference: 1317866

[16] Galloway Fisheries Trust, (2022). South Kyle 2 Wind Farm Fisheries and Invertebrate Pre-construction Survey Report, Document reference: 1313693

[17] Environment Agency. (2014). Freshwater macro-invertebrate analysis of riverine samples. Version 5. Operational instruction 024_08. Bristol: Environment Agency.

[18] Dobson, M., Pawley, S., Fletcher, M. & Powell, A. (2012). Guide to Freshwater Invertebrates. Freshwater Biological Association.

[19] Paisley, M.F., D.J. Trigg & W.J. Walley. (2014). Revision of the Biological Monitoring Working Party (BMWP) score system: derivation of present-only and abundance-related scores from field data. River Research and Applications 30: 887-904.

[20] Environment Agency. (2019). Walley Hawkes Paisley Trigg (WHPT) index of river invertebrate quality and its use in assessing ecological status. Version 10. Bristol: Environment Agency.

[21] https://www.fba.org.uk/rivpacs-and-rict/river-invertebrate-classification-tool

[22] Water Framework Directive – United Kingdom Technical Advisory Group (WFD-UKTAG). (2014). Invertebrates (General Degradation): Walley, Hawkes, Paisley & Trigg (WHPT) metric in River Invertebrate Classification Tool (RICT). Stirling, Water Framework Directive – United Kingdom Advisory Group.

[23] Freshwater Biological Association. (2023). River Invertebrate Classification Tool (RICT2) User Guide.

6.1.5 SURVEY RESULTS

Phase 1 Habitat survey and NVC survey

6.1.5.1 Target notes recorded during these surveys are shown in Table A6.10. The location of target notes can be found at Figure 6.3: Phase 1 Habitat Survey Results and Figure 6.4: NVC Survey Results, Volume 2a of the EIAR.

Table A6.10: Phase 1 Habitat survey and NVC survey target notes

ID	Grid Reference	Notes
1	NS 54954 08188	Raised bog or intermediate bog with hags and local erosion. Wetter areas have bog cranberry and round-leaved sundew.
2	NS 52626 04835	Good quality blanket bog with occasional vegetated drains.
3	NS 52644 05024	Historic peat cutting within area of blanket bog.
4	NS 51935 05877	Former large man-made pond and central island that has become overgrown with marshy grassland and swamp vegetation.
5	NS 52767 06394	Former large pond with central island now largely overgrown with species-rich swamp vegetation. One 10m x 10m area of open water remains.
6	NS 54360 05588	Good quality blanket bog. Wind farm infrastructure has caused the loss of some of this habitat.
7	NS 53486 05290	Good quality blanket bog, but with a low cover of *Sphagnum* species. There are occasional vegetated drains.
8	NS 55703 04090	A bounded man-made pond that was constructed to allow water abstraction (for dust suppression) measuring 15m x 10m.
9	NS 51021 06310	Man made series of settlement ponds measuring approximately 10 x 15m.
10	NS 50741 07535	Natural pond, partially overgrown measuring 10m x 5m.
11	NS 53607 05241	Pond measuring 15m x 7m within an area of blanket bog. *Sphagnum cuspidatum* at the margin. Two species of dragonfly observed.
12	NS 51759 08065	Pond measuring 20m x 6m with natural marginal vegetation.
13	NS 51808 05838	Bog cranberry found within degraded blanket bog at the edge of a conifer plantation.
14	NS 52440 07621	Waterfall with a 20m drop and base pool measuring 8m x 4m with herb rich marginal vegetation.

Source: Natural Power

Habitat Loss Calculations (HLC)

6.1.5.2 Habitat loss calculations were carried out using a bespoke tool developed within Geographic Information System (QGIS) version 3.16. This tool imports shapefiles representing the different infrastructure features constituting the Proposed Development, as well as a shapefile containing the Phase 1 Habitat classifications across the site based on the field surveys carried out for the Proposed Development. Each infrastructure polygon is clipped by the Proposed Development Area and then intersected with the habitat shapefile to allow calculation of the area of each habitat type that would be lost due to construction of that infrastructure feature . Any overlap in infrastructure features is dealt with in a hierarchical way to avoid inclusion of the same areas of habitat twice. Loss attributed to turbine foundations is calculated first, followed by additional loss associated with crane pads, met masts and buildings, and finally, tracks.

6.1.5.3 Habitat loss was calculated separately for:

- Substation and battery storage (1.8 ha) **– permanent loss**;
- Hardstandings (0.85 ha) **–** permanent **loss;**
- New track (4.3 ha) **– permanent loss**;
- Existing track to be upgraded (2.7 ha) **– permanent loss**;
- Existing access track (2 ha) **– permanent loss**;
- Borrow pit (7.6 ha) **– permanent loss**;
- Construction compound (1.5 ha) **– temporary loss;**
- Earthworks (10.3 ha) **– temporary loss**.

6.1.5.4 Total habitat loss was calculated by summing the loss associated with each individual feature. Additionally, for each habitat type, the proportion of the total area of that habitat type recorded during surveys within the Proposed Development Area lost was also calculated.

Bat surveys

Valuing Bats

6.1.5.5 For the purposes of this assessment and of assigning value to bats, the guidance set out by NatureScot[6] has been considered. Table 2 in this guidance identifies the population vulnerability of bat species based on the collision risk

posed to individual bat species by wind turbines, as determined by bat behavioural characteristics, and by bat population sensitivity based upon species rarity (adapted from Wray *et al*. (2010)[24]).

6.1.5.6 The guidance provided by Wray *et al*.[24] includes a framework for identifying the importance of bats in the landscapes through the evaluation of bat roosts and habitats. Applying this framework, bat roosts can be valued according to species rarity and roost status. Table A6.11 summarises the predicted collision risk and sensitivity of bat populations.

Table A6.11: Level of potential vulnerability of populations of Scottish species[25]

	Low collision risk	Medium collision risk	High collision risk
Common species	n/a	n/a	Common pipistrelle Soprano pipistrelle
Rare species	Brown long-eared bat Daubenton's bat Natterer's bat	n/a	n/a
Rarest species	Whiskered bat Brandt's bat	n/a	Nathusius' pipistrelle Noctule bat Leisler's bat

Source: Wray et al. (2010)[24]

Preliminary Roost Assessment

6.1.5.7 No potential bat roosting features (PRFs) were identified during the PRA undertaken within the survey area.

Automated static detector surveys

6.1.5.8 Acoustic data analysis was undertaken using Kaleidoscope automatic identification software. Signal parameters were 16-120 kHz, 2-500 ms, 500 ms maximum inter-syllable gap with a minimum of 2 pulses. The Kaleidoscope software provides automatic identification to species level which, due to professional experience, were assumed to be correct for common pipistrelles, soprano pipistrelles and noise and these records were not investigated further. Automatic identification of other bat species records is considered less reliable, and manual QA checks were therefore performed on all other acoustic records.

6.1.5.9 *Myotis* species were not identified further than genus due to the overlap between species frequency calls. Pipistrelle, long-eared and *nyctalus* bats were manually identified to species level when possible, and to genus level when it was not possible to distinguish call types to species level.

6.1.5.10 A bat pass was defined as a sequence of bat pulses captured on a 15 second sound file. One sound file was counted as one bat pass, and different species within the same 15 second sound file were counted as separate bat passes. Bat passes provide an index of bat activity rather than a measure of the actual number of individuals in a population. Bat activity indices are therefore indices of the amount of use bats make of an area.

6.1.5.11 Weather data summaries can be provided upon request.

6.1.5.12 All dates included are for the night of survey (i.e., the date does not change at midnight). Only those nights recorded as part of the survey results where the temperature at dusk was 5°C or above and wind speed 10 m/s or below has been included in the analysis.

6.1.5.13 Summaries of the total recorded bat passes are shown in Table A6.12, Table A6.13, Table A6.14 and Figure A6.1. Figure A6.2, Figure A6.3, and Figure A6.4 show the total bat passes per species for each season surveyed. Figure A6.5 shows the overall bat passes per species across the entire deployment period. Whilst Figure A6.6, Figure A6.7, and Figure A6.8 show the bat passes per species per detector for each season of deployment.

6.1.5.14 A comparison of the number of bat passes per species per night across the three deployment seasons is shown in Figure A6.9. Similarly, the number of bat passes per night for spring, summer, and autumn are shown in Figure A6.10, Figure A6.11, and Figure A6.12, respectively.

6.1.5.15 The total number of nights with recorded bat activity has been summarised in Table A6.15 for each detector and species. A comparison of the overall BAI per species per season is shown in Figure A6.14. Figure A6.15 and Figure A6.16 show the overall BAI per detector and BAI per deployment season, respectively. Table A6.14 shows the relative BAI for each species, based on a total of 379 nights of activity.

6.1.5.16 Bat species emergence activity in relation to sunset in spring, summer, and autumn respectively is shown for common pipistrelle (Figure A6.17, Figure A6.18, Figure A6.19); soprano pipistrelle (Figure A6.20, Figure A6.21, Figure A6.22); *Myotis* species (Figure A6.23, Figure A6.24, Figure A6.25); noctule (Figure A6.26, Figure A6.27, Figure A6.28); brown long-eared bat (Figure A6.29, Figure A6.30, Figure A6.31); Leisler's bat (Figure A6.32, Figure A6.33, Figure A6.34); and Nathusius' pipistrelle (Figure A6.35, Figure A6.36, Figure A6.37).

6.1.5.17 Summaries of the total nights with bat activity per detector is shown in Table A6.15.

Bat Passes

Table A6.12: The total number of bat passes recorded by each detector during the survey periods

Detector number	Spring	Summer	Autumn
1	2	114	208
2	0	1396	0
3	0	724	387
4	2	87	73
5	4	1	102
6	5	256	69
7	0	139	337
8	0	109	509
9	20	62	36
10	3	994	1565
11	5	540	545
Total	**41**	**4422**	**3831**

Source: Natural Power

Table A6.13: The total number of bat passes recorded for each species per season

Species	Spring	Summer	Autumn	Total
Common pipistrelle	4	2288	1235	3527
Soprano pipistrelle	12	1641	2098	3751

[24] Wray, S., Wells, D., Long, E. & Mitchell-Jones, T. (2010) *Valuing Bats in Ecological Impact Assessment.* IEEM In-Practice pp. 23-25.

[25] Only those species which are known to occur in Scotland are included. BCT (2019). Find out more about Bats in Scotland. Available at: https://cdn.bats.org.uk/pdf/Scottish-bats-2019.pdf?mtime=20190412121246&focal=none

Species	Spring	Summer	Autumn	Total
Myotis sp.	18	155	302	475
Leisler's bat	2	252	33	287
Pipistrellus sp.	0	66	96	162
Brown long-eared bat	5	10	50	65
Noctule	0	3	15	18
Nyctalus sp.	0	6	0	6
Nathusius' pipistrelle	0	1	2	3
Total	**41**	**4422**	**3831**	**8294**

Source: Natural Power

Table A6.14: The total number of passes recorded for each species across all detectors

Species/species group	Total number of passes	Percentage of total (%)	BAI per species
Common pipistrelle	3527	42.5	8.88
Soprano pipistrelle	3751	45.2	9.45
Myotis sp.	475	5.7	1.20
Leisler's bat	287	3.5	0.72
Pipistrellus sp.	162	2.0	0.41
Brown long-eared bat	64	0.8	0.16
Noctule	18	0.2	0.05
Nyctalus sp.	6	0.1	0.02
Nathusius' pipistrelle	3	0.0	0.01
Total	**8293**	**100.0**	**20.89**

Source: Natural Power

Source: Natural Power

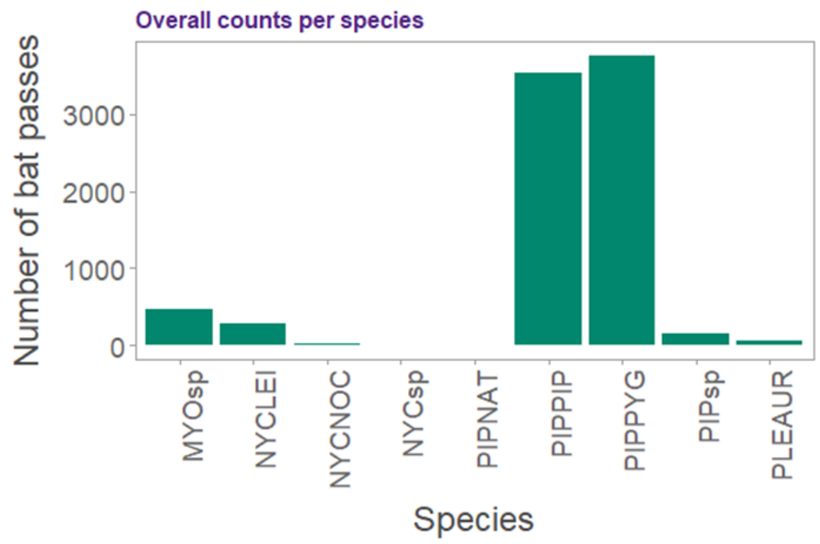

Figure A6.1: Overall bat passes per species

Source: Natural Power

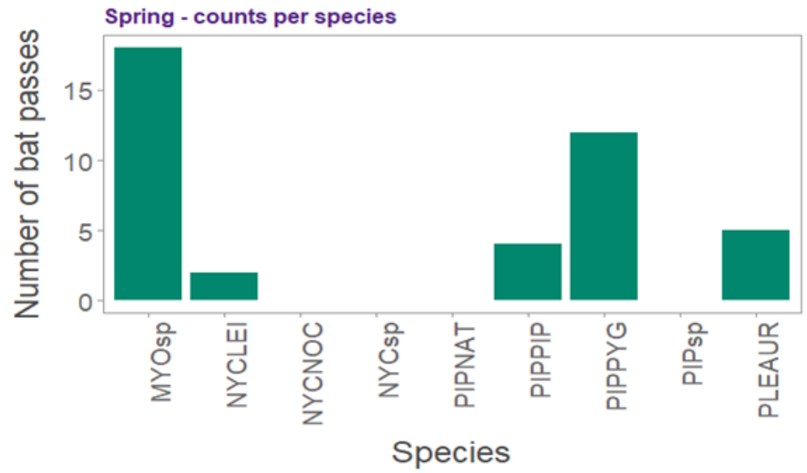

Figure A6.2: Bat passes per species for spring deployment

Source: Natural Power

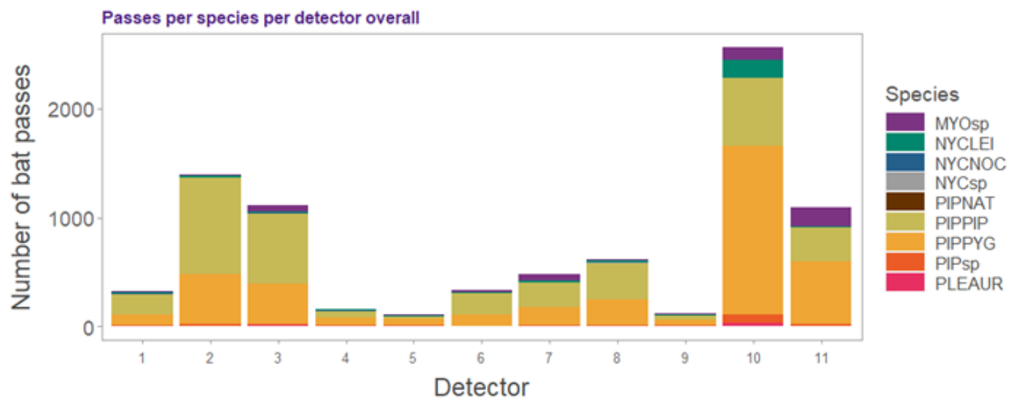

Figure A6.3: Bat passes per species per deployment overall

Source: Natural Power

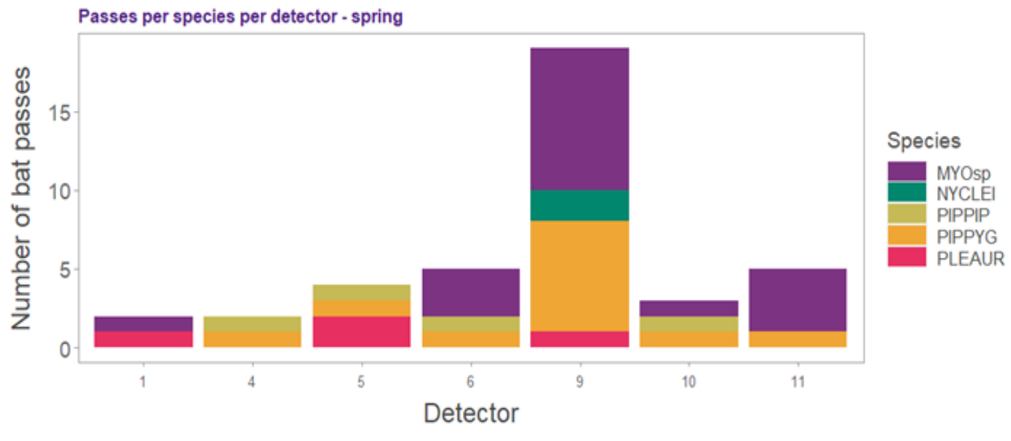

Figure A6.4: Bat passes per species per detector for spring deployment

Source: Natural Power

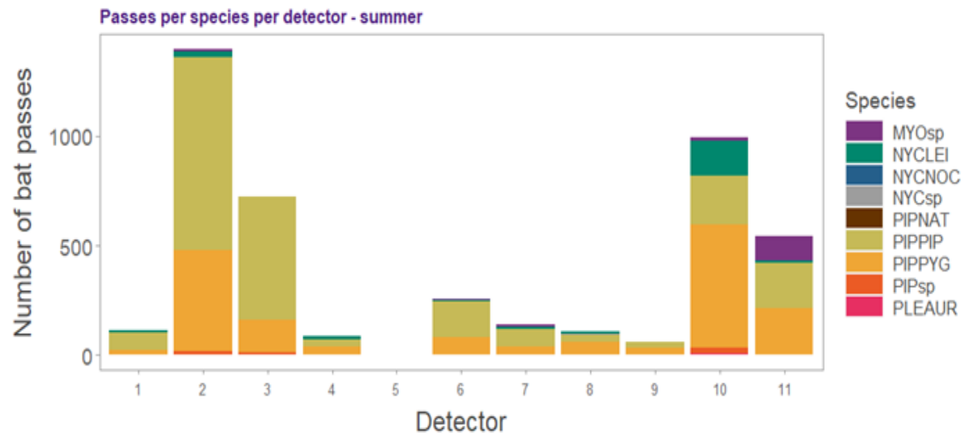

Figure A6.5: Bat passes per species per detector for the summer deployment

Source: Natural Power

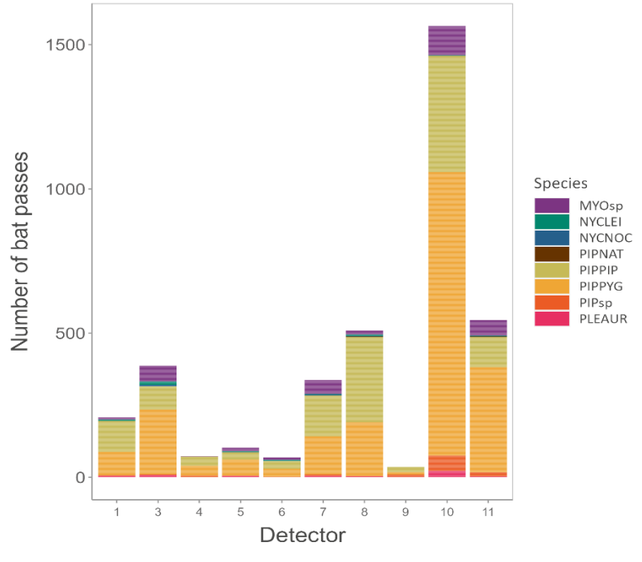

Figure A6.6: Bat passes per species per detector for the autumn deployment

Source: Natural Power

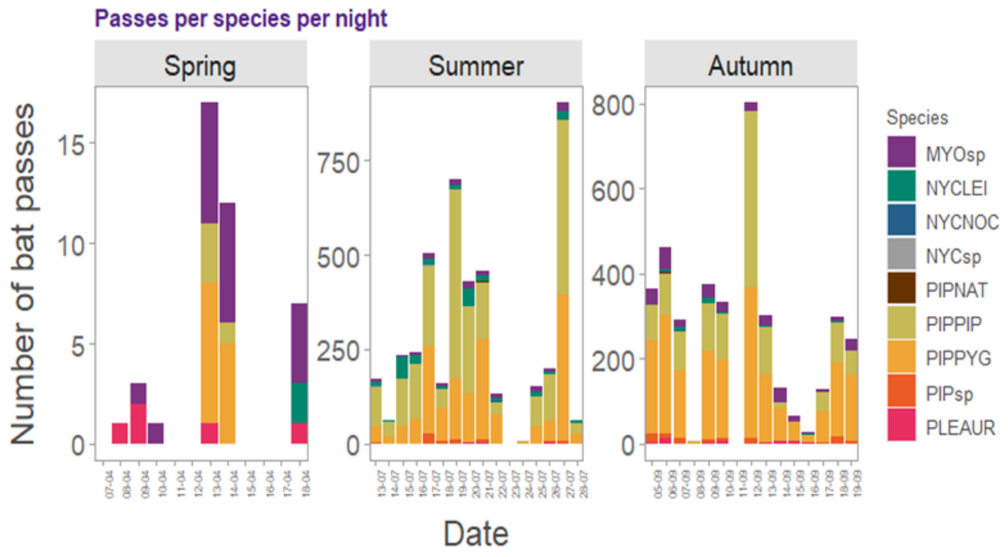

Figure A6.7: Bat passes per species per night overall

Source: Natural Power

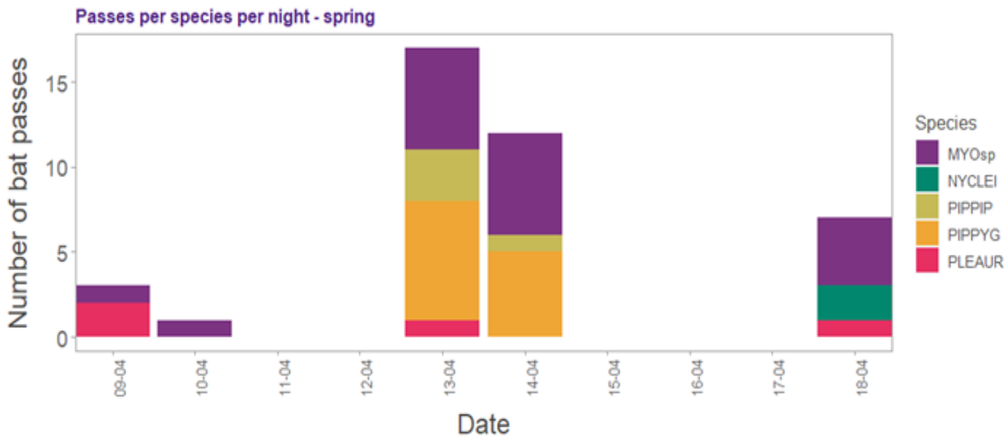

Figure A6.8: Bat passes per species per night for the spring deployment

Source: Natural Power

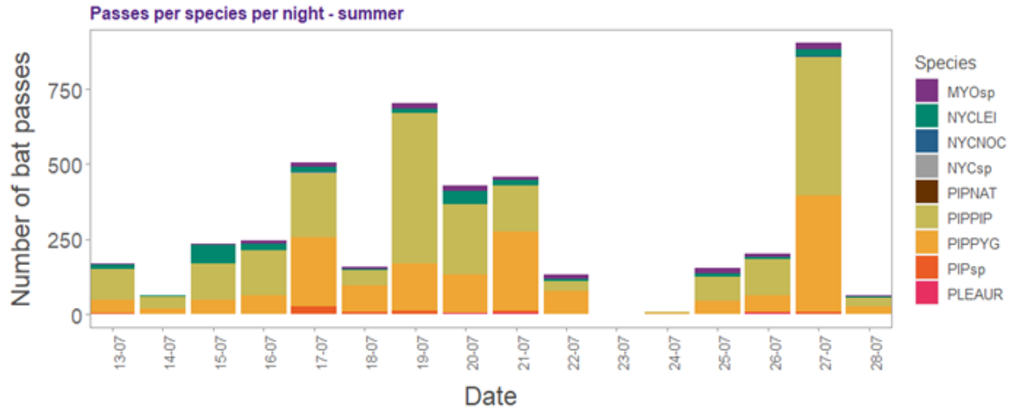

Figure A6.9: Bat passes per species per night for the summer deployment

Source: Natural Power

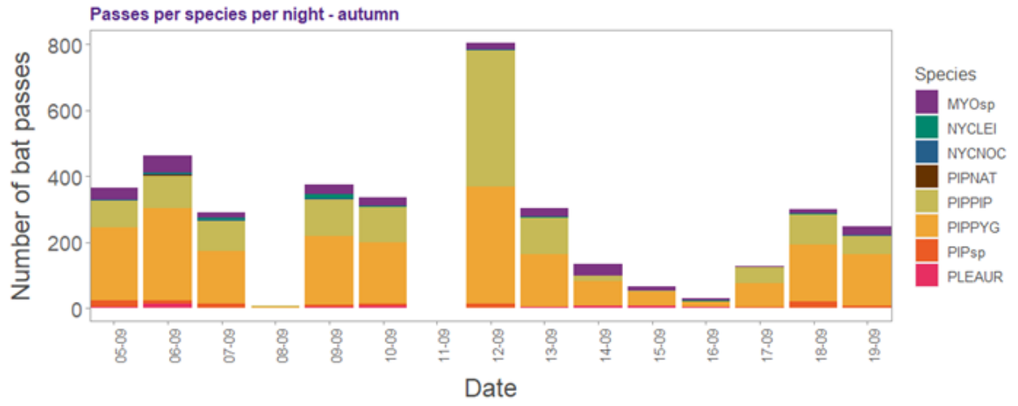

Figure A6.10: Bat passes per species per night for the autumn deployment

Bat activity

Table A6.15: Total number of nights with bat activity per detector per species

Detector name	Myotis sp.	Leisler's bat	Noctule	Nyctalus sp.	Nathusius' pipistrelle	Common pipistrelle	Soprano pipistrelle	Pipistrellus sp.	Brown long-eared
1	9	11	2	0	0	20	17	2	3
2	5	9	0	0	0	13	13	5	0
3	11	6	4	0	0	21	25	7	4
4	4	5	1	1	0	18	15	4	1
5	8	1	1	0	0	8	14	2	4
6	12	6	0	0	1	16	20	1	1
7	17	8	3	1	0	27	22	7	4
8	7	10	2	1	1	22	23	3	4
9	4	3	0	1	0	10	15	6	3
10	20	15	0	2	0	28	30	15	14
11	27	8	1	0	1	27	27	10	3
Total	**124**	**82**	**14**	**6**	**3**	**210**	**221**	**62**	**41**

Source: Natural Power

Source: Natural Power

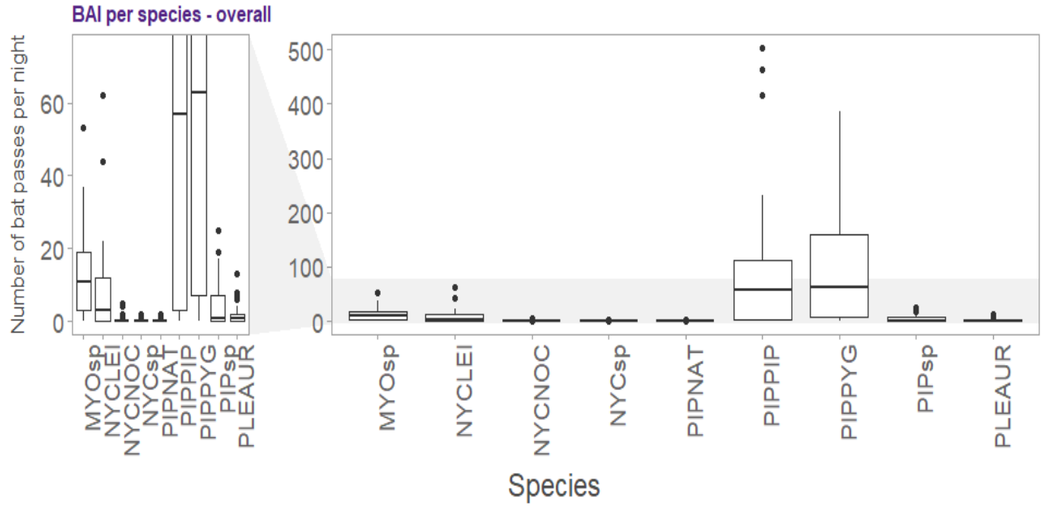

Figure A6.11: Overall BAI per species ***The plot on the left is scaled to enable better visualization of less common species.***

Source: Natural Power

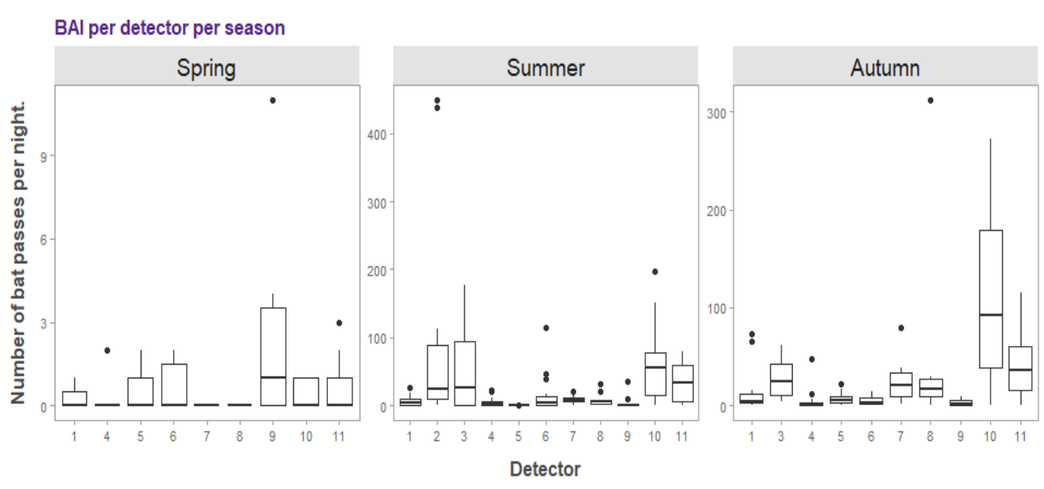

Figure A6.12: Overall BAI per species per season

Source: Natural Power

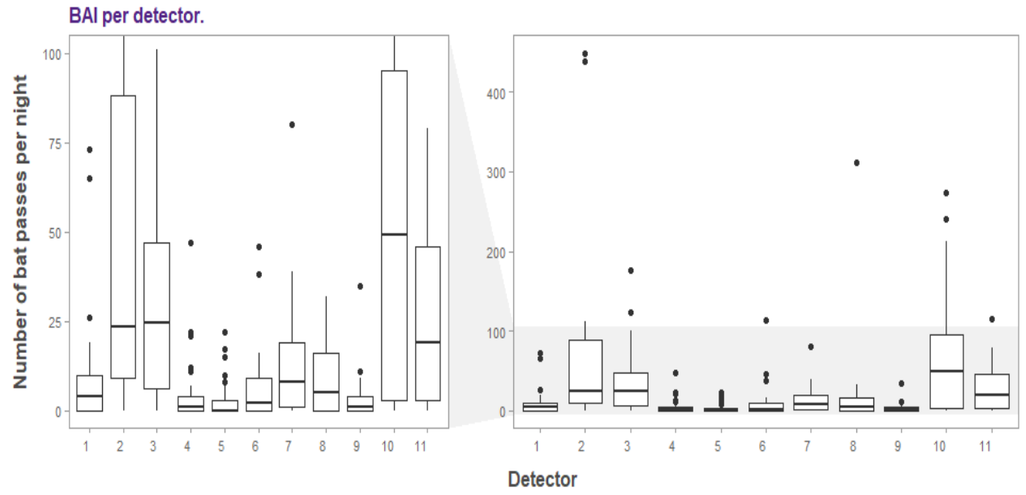

Figure A6.13: Overall BAI per detector. ***The plot on the left is scaled to enable better visualization of less busy detectors.***

Source: Natural Power

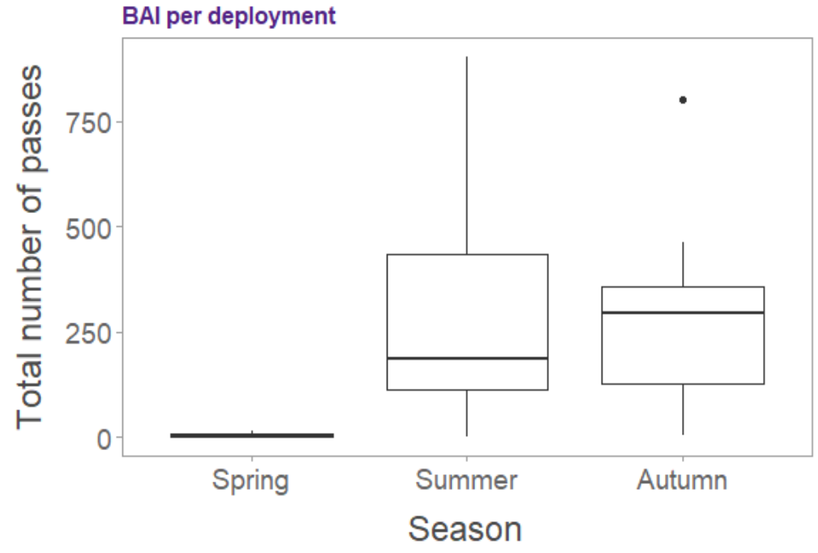

Figure A6.14: Overall BAI per species per deployment

Bat activity in relation to sunset (emergence)

Source: Natural Power

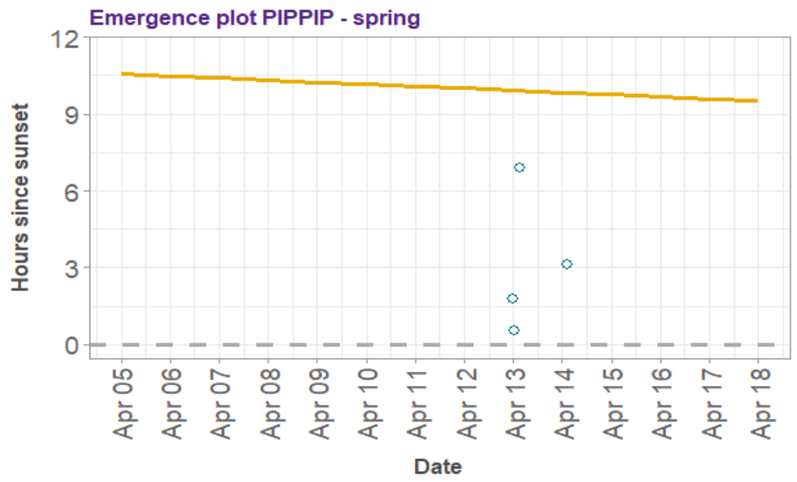

Figure A6.15: Common pipistrelle activity in relation to sunset in spring

Source: Natural Power

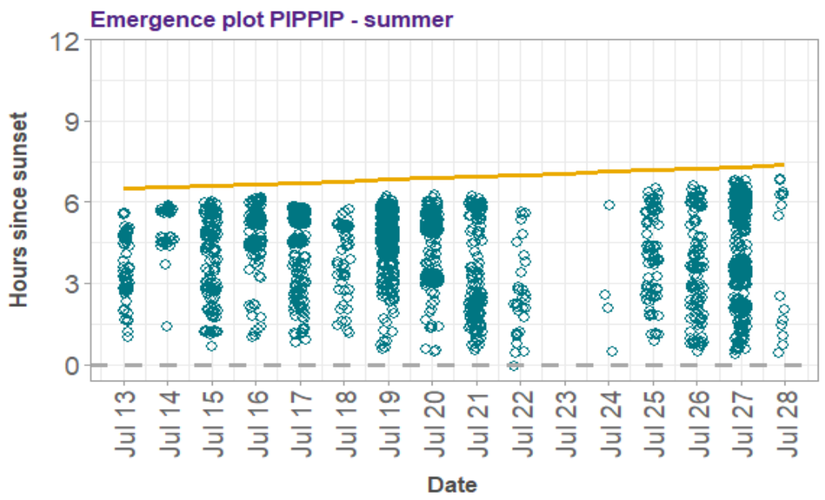

Figure A6.16: Common pipistrelle activity in relation to sunset in summer

Source: Natural Power

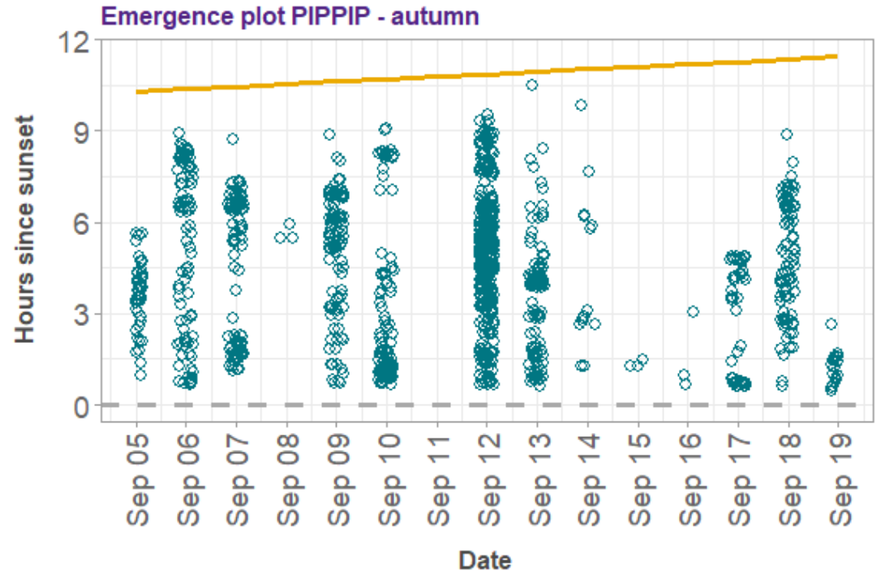

Figure A6.17: Common pipistrelle activity in relation to sunset in autumn

Source: Natural Power

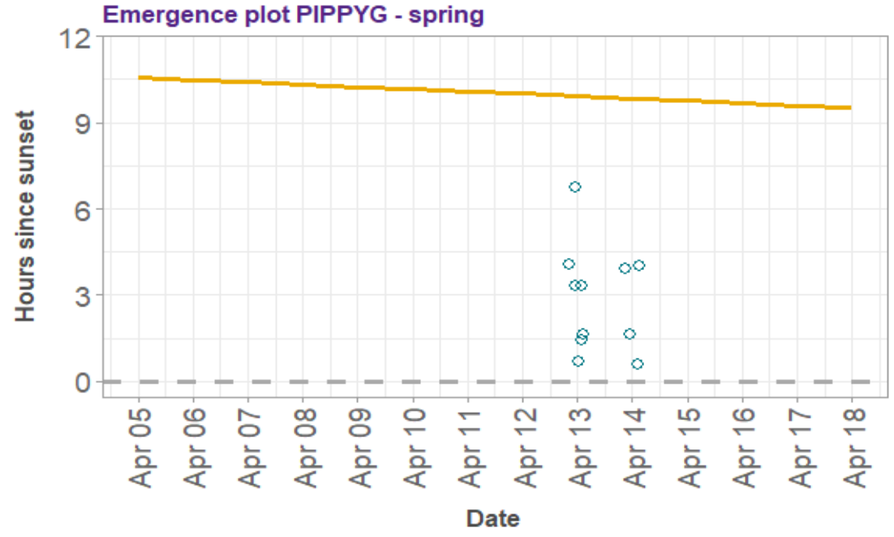

Figure A6.18: Soprano pipistrelle activity in relation to sunset in spring

Source: Natural Power

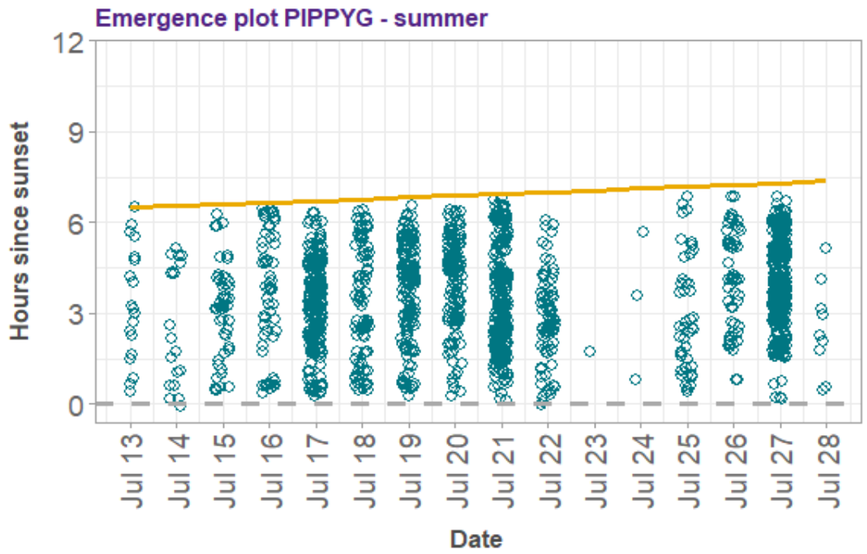

Figure A6.19: Soprano pipistrelle activity in relation to sunset in summer

Source: Natural Power

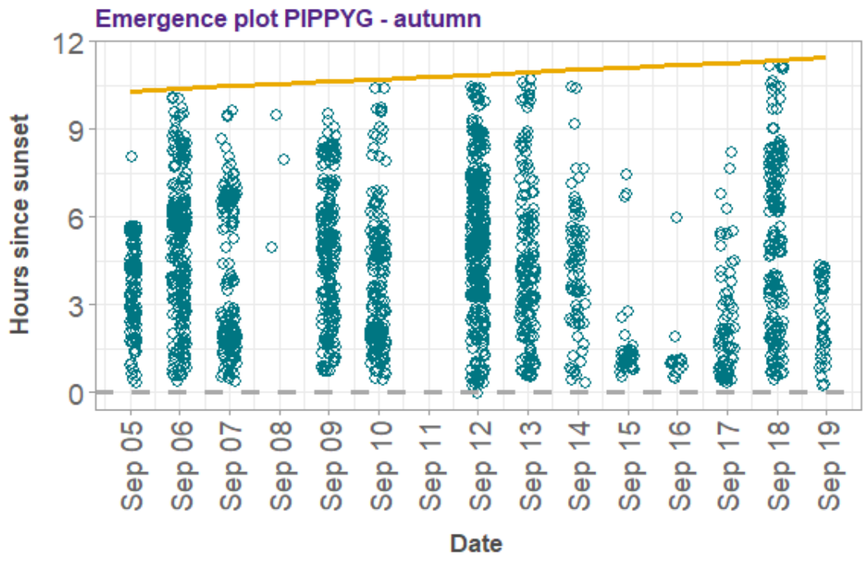

Figure A6.20: Soprano pipistrelle activity in relation to sunset in autumn

Source: Natural Power

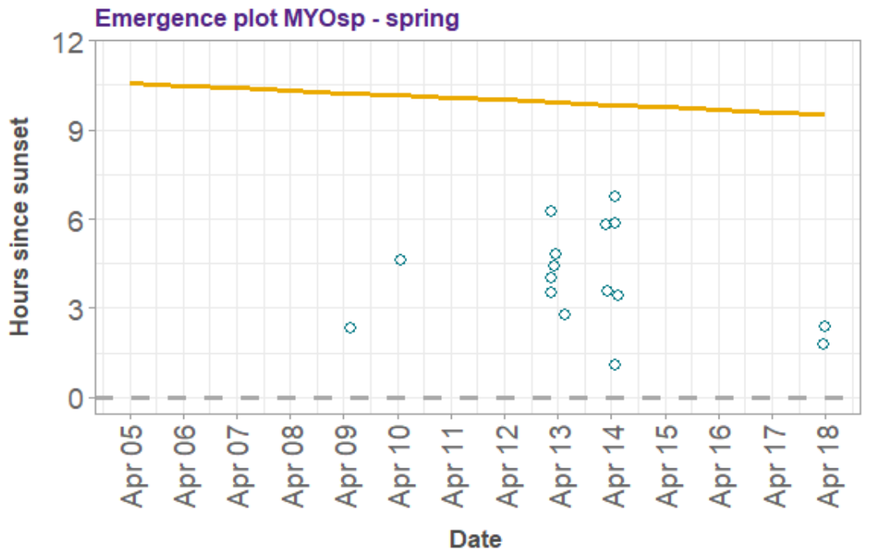

Figure A6.21: Myotis species activity in relation to sunset in spring

Source: Natural Power

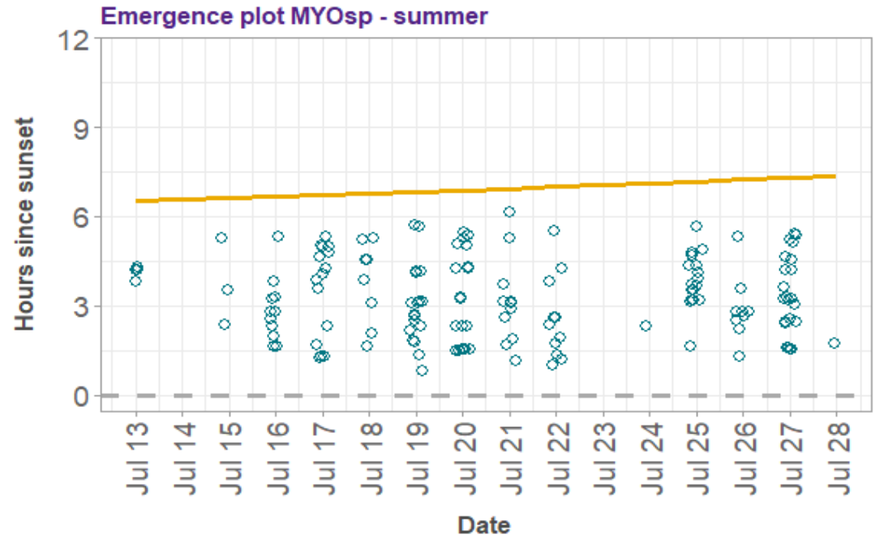

Figure A6.22: Myotis species activity in relation to sunset in summer

Source: Natural Power

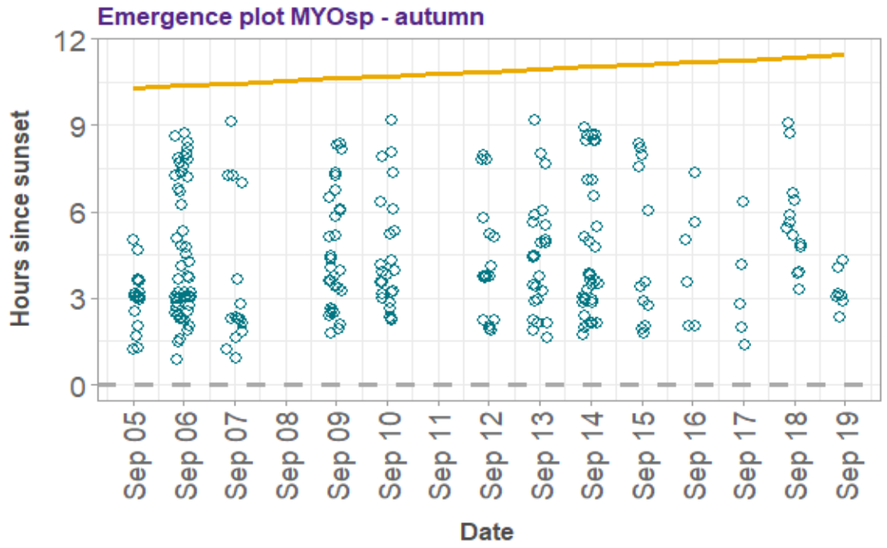

Figure A6.23: Myotis species activity in relation to sunset in autumn

Source: Natural Power

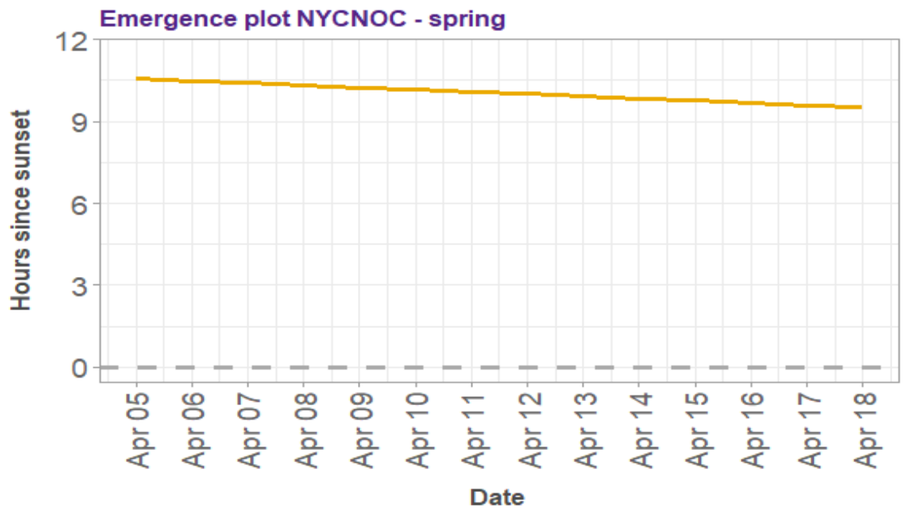

Figure A6.24: Noctule activity in relation to sunset in spring

Source: Natural Power

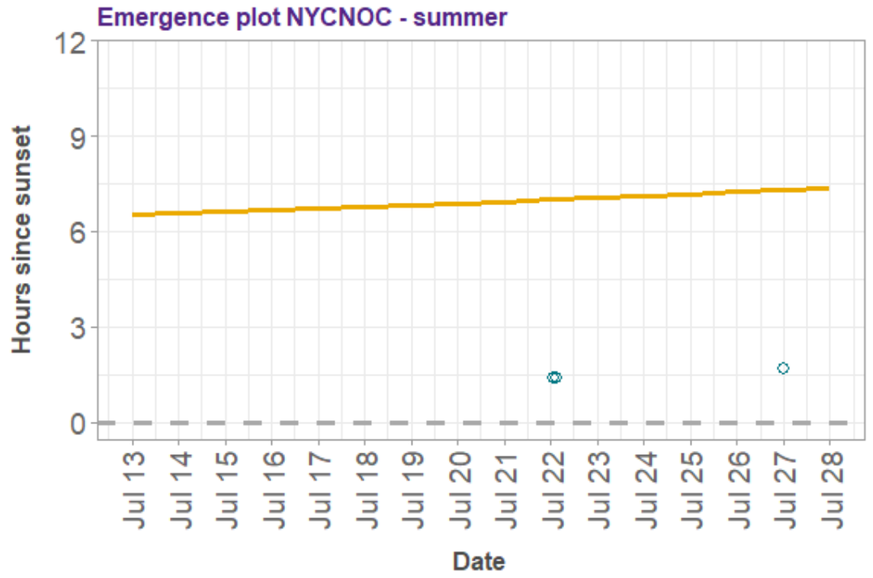

Figure A6.25: Noctule activity in relation to sunset in summer

Source: Natural Power

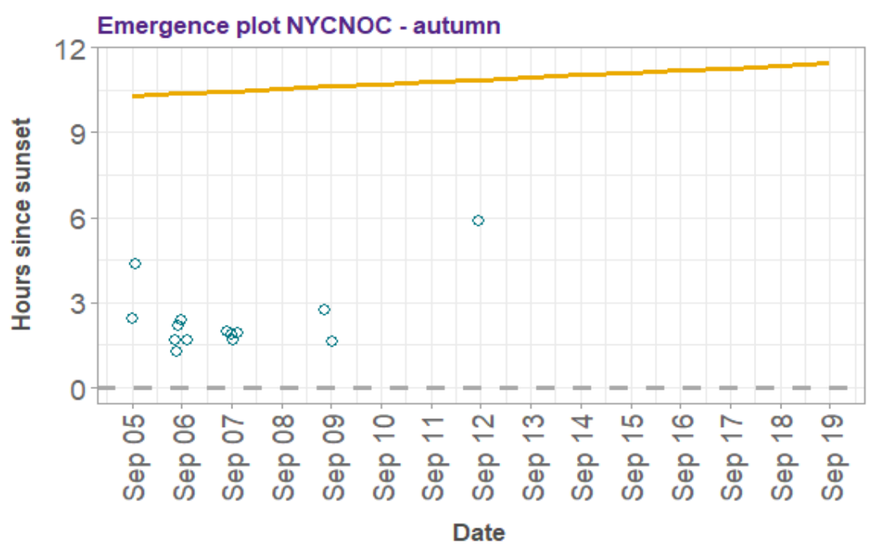

Figure A6.26: Noctule activity in relation to sunset in autumn

Source: Natural Power

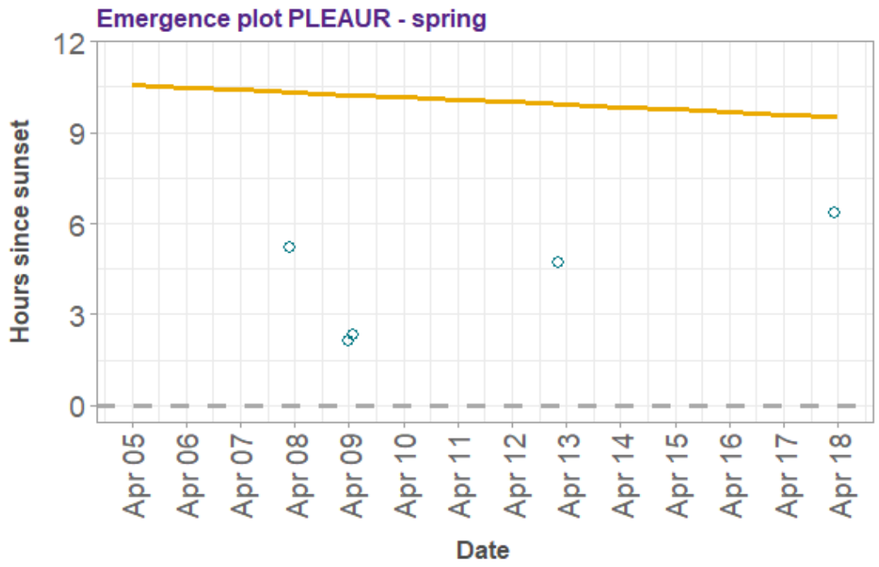

Figure A6.27: Brown long-eared bat activity in relation to sunset in spring

Source Natural Power

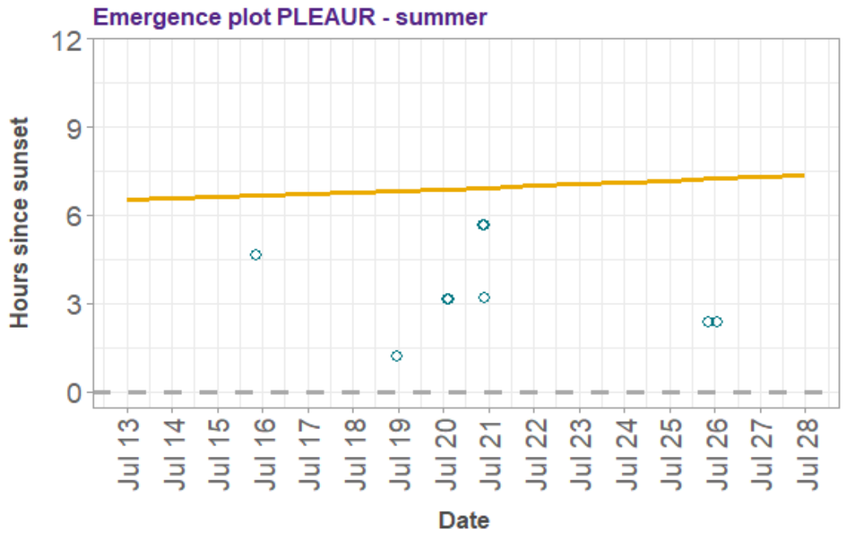

Figure A6.28: Brown long-eared bat activity in relation to sunset in summer

Source: Natural Power

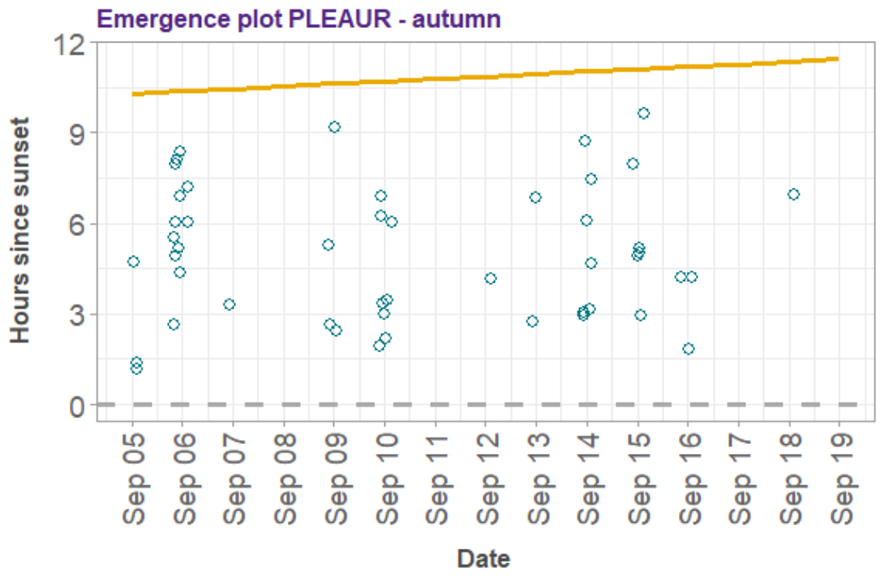

Figure A6.29: Brown long-eared bat activity in relation to sunset in autumn

Source: Natural Power

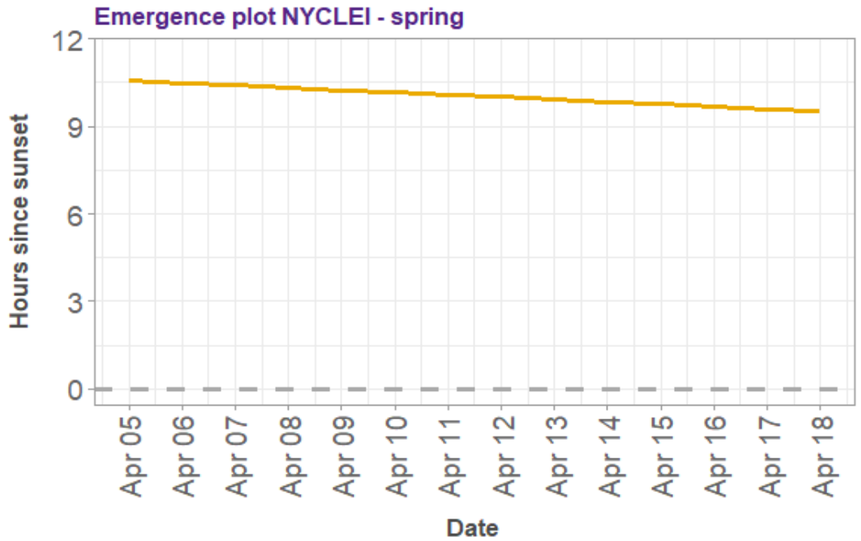

Figure A6.30: Leisler's bat activity in relation to sunset in spring

Source: Natural Power

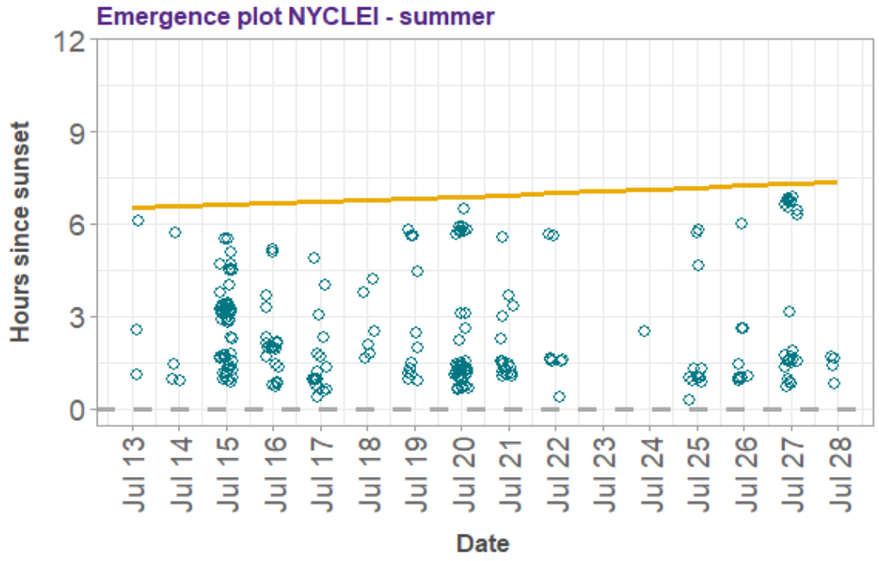

Figure A6.31: Leisler's bat activity in relation to sunset in summer

Source: Natural Power

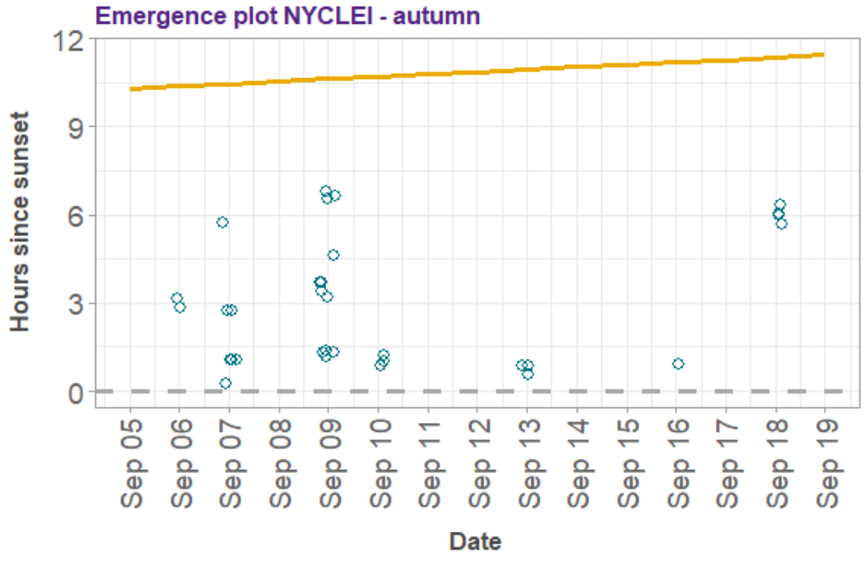

Figure A6.32: Leisler's bat activity in relation to sunset in autumn

Source: Natural Power

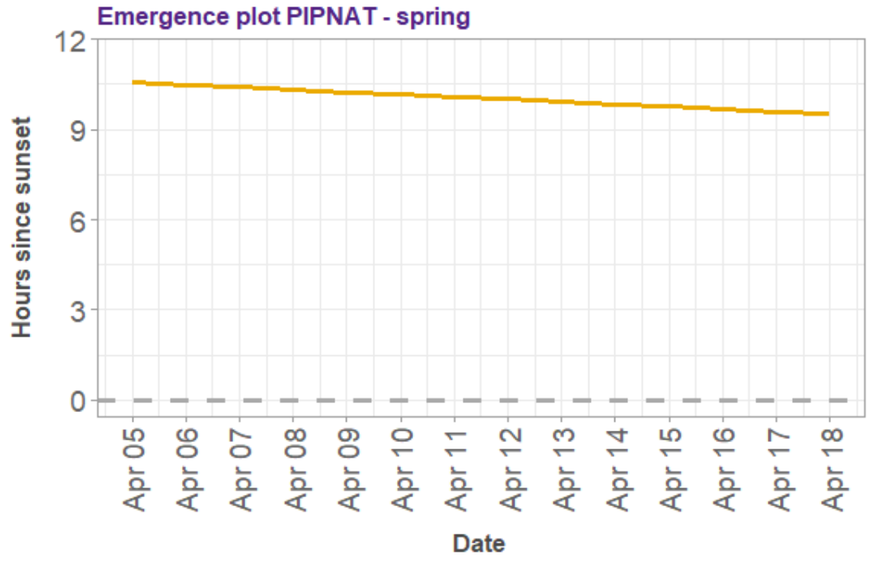

Figure A6.33: Nathusius' bat activity in relation to sunset in spring

Source: Natural Power

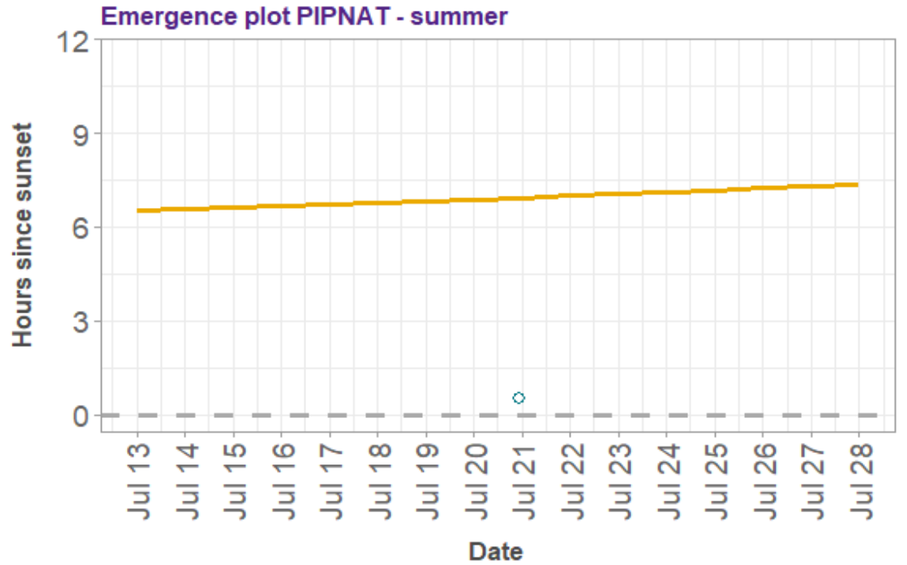

Figure A6.34: Nathusius' bat activity in relation to sunset in summer

Source: Natural Power

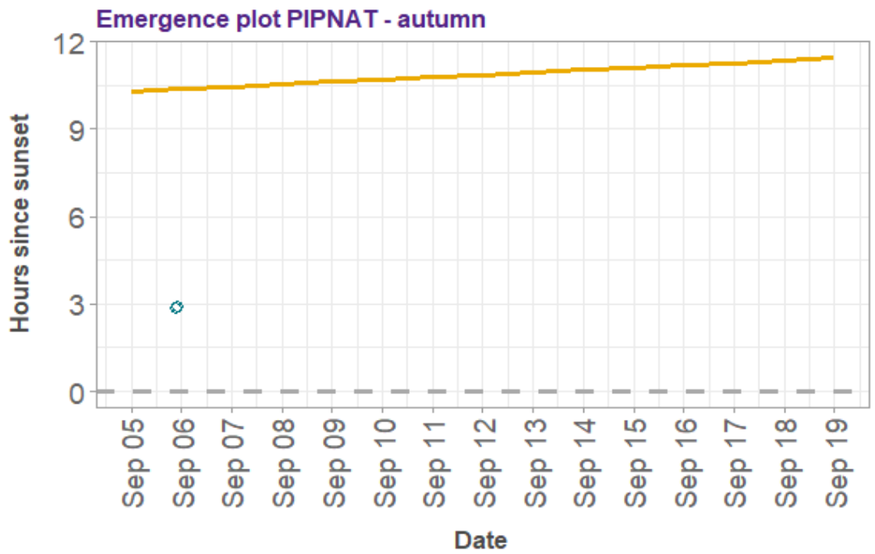

Figure A6.35: Nathusius' bat activity in relation to sunset in autumn

Source: Natural Power

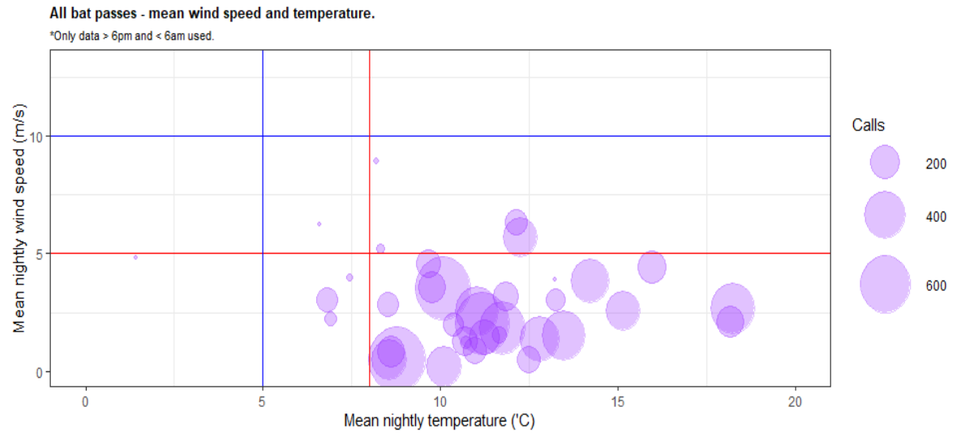

Figure A6.36: Bubble plot showing bat passes in relation to mean wind speed and temperature

6.1.5.18 Figure A6.38 displays a bubble plot showing all bat passes in relation to the mean wind speed and temperature, where the red lines represent the recommended max wind speed (5ms) and min temperature (8 ºC) at dusk, and the blue lines show the thresholds levels used in the analysis.

Protected species survey

6.1.5.19 One potential otter resting place and one potential badger burrow were recorded within the Proposed Development Area during the protected mammal surveys, further details of these are provided in Appendix A6: Ecology Confidential Appendix. A summary of all other protected mammal signs recorded within the Proposed Development Area in July 2022 are shown in Table A6.16.

Table A6.16: Protected species survey results

Grid reference	Species	Nature of record	Number of signs
NS 52137 08676	Red squirrel	Feeding sign	1
NS 52071 08588	Red squirrel	Feeding sign	1
NS 54596 08306	Badger	Snuffle hole	1
NS 53819 08513	Otter	Spraint	1
NS 53761 08612	Otter	Spraint	1
NS 50746 07164	Otter	Spraint	1
NS 50944 07266	Otter	Spraint	1
NS 52334 07789	Otter	Spraint	1
NS 52352 07762	Otter	Spraint	1

NS 52363 07735	Otter	Spraint	1
NS 53740 07696	Otter	Spraint	1
NS 53734 07929	Otter	Spraint	1
NS 53938 08074	Red squirrel	Feeding sign	1
NS 54023 08132	Red squirrel	Feeding sign	1
NS 53996 08075	Red squirrel	Feeding sign	1
NS 53862 07874	Red squirrel	Feeding sign	1
NS 54059 07607	Otter	Spraint	1
NS 53706 07684	Otter	Spraint	1
NS 53601 08904	Otter	Spraint	1
NS 53604 08892	Otter	Spraint	1
NS 53718 08775	Otter	Spraint	1
NS 54347 04175	Otter	Spraint	1
NS 53634 04412	Otter	Spraint	1
NS 55249 04739	Otter	Spraint	1
NS 55269 04665	Otter	Spraint	1
NS 52636 07304	Otter	Spraint	1
NS 52408 07638	Otter	Spraint	1
NS 53477 07009	Otter	Spraint	1
NS 52314 05513	Red squirrel	Feeding sign	1
NS 52337 05444	Red squirrel	Feeding sign	1

Source: Natural Power

Freshwater surveys

6.1.5.20 The fish habitat surveys, electrofishing surveys and macroinvertebrate surveys undertaken within the Proposed Development Area were carried out by NDSFB[15] and GFT[16], the results of which can be provided on request.