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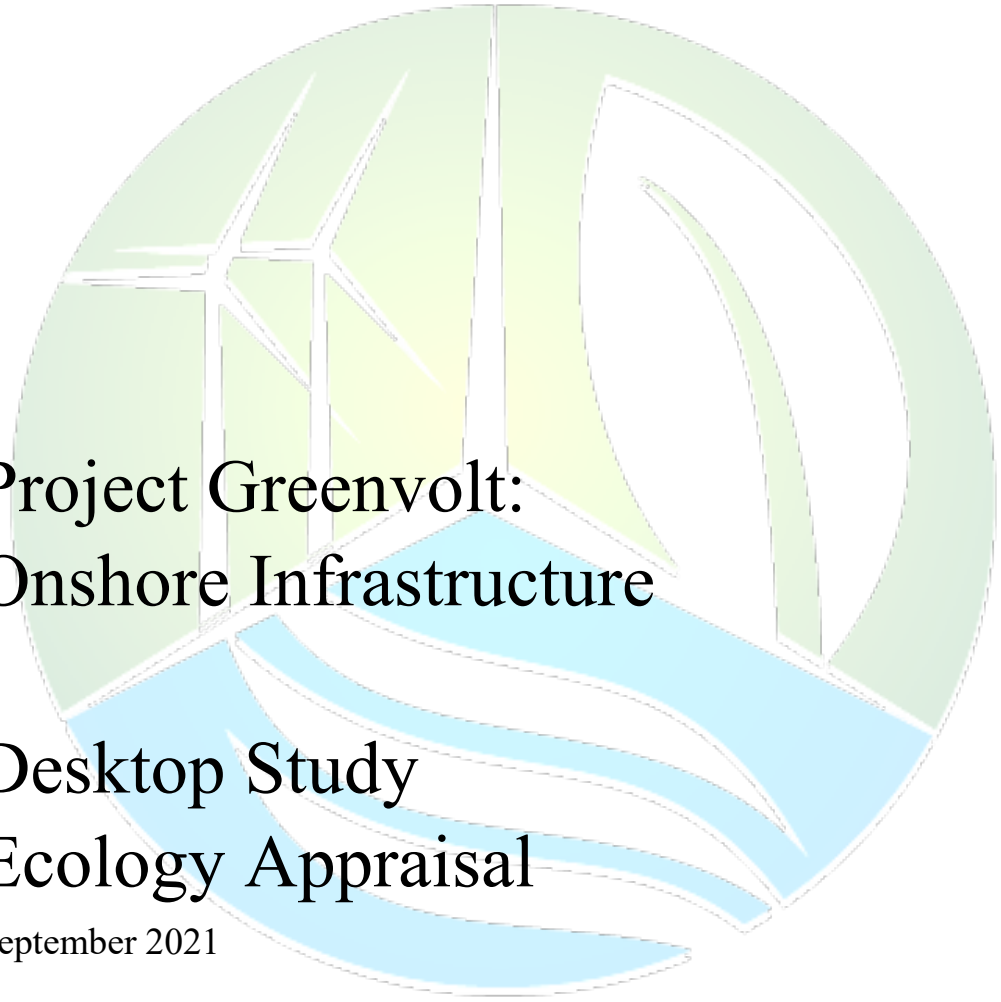

Project Greenvolt:
Onshore Infrastructure

Desktop Study
Ecology Appraisal

September 2021

IMT*eco* Ltd

IMTeco Ltd

Notes:

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CONTENTS

EXECUTIVE SUMMARY

1. This report presents the results of a Desktop Study for the Project Greenvolt: Onshore Infrastructure, routes, joint bays and substation options as directed by Green Cat Renewables Ltd.
2. The report includes ecological constraints and Key Drivers.
3. The report includes a Survey Calendar for the Greenvolt onshore infrastructure project.
4. For the Boddam and St Fergus onshore connection options the desktop study data indicated that the ecology constraints were Negligible.
5. For the New Deer substation options the desktop study data indicated that the ecology constraints were Negligible.
6. The Desktop study has identified Negligible and Low weighted constraints for the Route 1 option.
7. The Desktop study has identified Negligible, Low and Medium weighted constraints for the Route 2 option
8. The Desktop study has identified Negligible and Low weighted constraints for the Route 3 option.
9. The Desktop study has identified Negligible, Low and Medium weighted constraints for the Route 4 option
10. The main Key Driver are the water crossings with Low constraints and include the possible presence of salmonids as Medium constraints.
11. Other Key Drivers for the Route Options include the ponds and the woodland designated within the Ancient Woodland Inventory.
12. A second design iteration has re-routed the route options to avoid the AWI.
13. Based on the Desktop Study data it is possible to include suitable mitigation measures to be incorporated within the design for the known constraints, such as, water crossings woodlands and ponds.
14. It is advised that the route is redesigned around any ponds giving maximum clearance where possible.
15. It is recommended to contact the River Ythan Trust and Ugie River Salmon Fishery Board in relation to the water crossings of the River Ugie in Routes 2 & 4.
16. All sensitive habitat should be avoided. If it is not possible to avoid, then mitigation needs to be considered and discussed with relevant statutory bodies such as NatureScot and SEPA and include the River Ythan Trust and Ugie River Salmon Fishery Board.
17. The route traverses through multiple watercourses and horizontal directional drilling is advised to reduce impact.
18. Route design and installation technologies should be selected responsibly to ensure the least possible environmental impact occurs for any Route option and the options for the onshore joint bays and the substation options.

19. Ecology surveys are recommended once the final infrastructure option has been selected. Based on the baseline ecology survey data produced, a range of suitable mitigation measures can be incorporated within the final design which will reduce any impact further.
20. This ecological scope of the infrastructure options methodology has ensured that a number of potentially significant adverse impacts have been avoided or reduced.

1 INTRODUCTION

1.1 Purpose of this Report

This report presents the results of a Desktop Study Ecological Appraisal of four option routes for the onshore Greenvolt onshore infrastructure options (*Figure 1*). The purpose of the ecological appraisal is to identify, where possible, key ecological and ornithological risks for each route option, to inform cable route selection. Potential survey windows will also be included as part of the appraisal.

Each Route is labelled from Route 1 to 4 and colour coded within GIS software. Areas of impact for the cable routes have included those for protected species, internationally and nationally designated and non-designated areas, and are at a maximum of 250m for the survey extent. This survey extent is to include protected species, sensitive habitats and designated and non-designated sites.

1.2 Ecological Context

The four cable route options, joint bays and substation options are situated in areas of mixed farmland, woodland (both broadleaved and conifer), with occasional ponds and watercourses. Some Class 1 Peat soil has been identified in the general area and within the study area.

1.3 Legal Context

See Appendix B.

2 METHODS

2.1 General

The overall aim of the Desktop Study and Route Selection Study is to identify 'preferred' route options for the Greenvolt onshore infrastructure from onshore joint bays at St Fergus or Boddam to New Deer substation. The study has been conducted as a constraint driven option, screening and selection exercise, considering a wide range of ecological and regulatory constraints. The process adopted allows for informed and transparent decision making.

This study has assessed the different route options whilst considering:

- Cable route onshore joining options at Boddam and St Fergus;
    - Two Boddam to New Deer route options (Routes 1 & 3);
    - Two St Fergus to New Deer route options (Routes 2 & 4);
- Ecological, ornithology, environmental sensitivity and regulatory constraints;
- Mitigation measures to avoid, prevent, reduce or offset adverse impacts or effects; and
- Key drivers identified at the project start stage.

The Desktop Study was undertaken in September 2021 by Irene Tierney Principal Ecologist, and full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

The route options survey were undertaken using GIS mapping and other software tools.

The GIS database system used the coordinate reference system EPSG 27700:OSGB:1936/British National Grid.

Additionally, the following data sources were used;

- Google Earth aerial imagery
- Bing aerial imagery
- Bing ordnance survey maps
- Grid Reference Finder[1]

2.2 Objectives

The key requirements of the desk top study are summarised as follows:

- Identification of potential areas to avoid;
- Identification of potential water crossing issues or constraints;

[1] https://gridreferencefinder.com

- Production of ecological constraint mapping/tables for route selection;
- Identification of any specialist survey requirements;
- Cable route constraints assessment;
- Timing of the surveys to be undertaken.

2.3 Background Data Search

A search was made in September 2021 for reference materials relating to the ecology of the site, and list of sources is given in *Table 1*.

Table 1: Data sources

Information Obtained	Available From
Designated site locations and citations/Protected areas	SiteLink Nature.scot (https://sitelink.nature.scot/map)
Designated site locations and citations	Scottish Natural Heritage/Nature.scot (https://www.nature.scot)
Ancient Woodland Inventory	Scottish Forestry (https://forestry.gov.scot)
Designations and legal protection of noteworthy species	Joint Nature Conservation Committee (JNCC: https://jncc.gov.uk)
Ancient Woodland Inventory, designated site locations	Scotland's Environment (https://www.environment.gov.scot)
Ancient Woodland Inventory, designated site locations	Magic Map (https://magic.defra.gov.uk/home.htm)
Biological data (flora and fauna etc)	NBN Atlas (https://scotland.nbnatlas.org)

A search was made for information on statutory designated sites (internationally and nationally important sites for ecology) and non-statutory designated sites (important in a local context) within 250m of the site boundary. A search was also made for records of noteworthy species within 250m of the site boundary. Species included in the search parameters were:

- European Protected Species (listed on Schedule 2 and 4 of the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended);
- Nationally Protected Species under Schedules 1, 5 and 8 of The Wildlife & Countryside Act 1981 as amended by The Wildlife and Natural Environment (Scotland) Act 2011 and The Protection of Badgers Act 1992;
- Species listed as critically endangered, endangered or vulnerable on the *IUCN Red List;*
- Nationally rare or nationally scarce species;
- Notable invertebrates; and

- Species that have action plans under the Scottish Biodiversity List (SBL) or are priority species under the Local Biodiversity Action Plan.

2.4 Route Options & Joint Bays Summary

The four route options have onshore joining point locations and substation point locations, which are briefly summarised in *Table 2*, and detailed in *Figure 1*.

Table 2: Onshore cable joining options, cable routes and substations options summary

ROUTE	Onshore cable joining options	Substation joining options
Route 1	Boddam (four connection options)	New Deer **ND** (four connection options)
Route 2	St Fergus **SF** (three connection options)	New Deer **ND** (four connection options)
Route 3	Boddam (four connection options)	New Deer **ND** (four connection options)
Route 4	St Fergus **SF** (three connection options)	New Deer **ND** (four connection options)

The four Boddam onshore connection options are south of Peterhead and north of Boddam village and are situated within arable and grazing fields adjacent to industrial style units. The new Peterhead substation is situated within this area.

The St Fergus onshore connection options are situated south of the St Fergus Gas Terminal, St Fergus Energy park and the Kirkton Solar farm is situated between the connecting options. The options are within arable and grazing fields, with mixed woodland in proximity.

2.5 Current Route Designs

The four route options at present have embedded design which avoids sensitive areas such as Class 1 Peat which are located within the general area and within the study area. The routes have undergone a second design iteration to avoid any woodland designated within the Ancient Woodland Inventory.

2.6 Constraints

Ecological and environmental factors will influence the route options and its final design.

The desktop study will aim to include all data available from the resources listed in Section 2.3. However, this does not replace data gathered from physical field surveys which will be used to determine the ecological baseline of the final cable route.

Desktop study data, such as protected species, may not be accurate due to sensitivities and protection of the species and their habitats. The data may also be under-reported as it may not have been surveyed or recorded within these areas.

2.7 Weighting of Constraints

The constraints along each route needs to be differentiated in terms of magnitude, sensitivity, and significance. The weighting proposed for this study includes the following:

- High – The cable route must avoid sensitive areas or ecological receptor, which impose a ***critical issue***.
- Medium – The cable route design must reduce the effects in sensitive areas or ecological receptor which impose a ***significant issue***.
- Low – The cable route design must minimise the effects in sensitive areas or ecological receptor which impose a small risk of ***potential impact***.
- Negligible or Not applicable (N/A) – The cable route design has negligible risk or has ***insignificant impact***.

The constraints are colour coded (see *Table 3*) and detailed within *Tables 5-11* in Appendix A (Appendices A2 to A8).

Table 3: Constraints weighting and associated colour key.

Issue Level	Colour Key	Description
Negligible or N/A		Unlikely to occur/insignificant impact
Low		Potential impact
Medium		Significant issue requiring mitigation
High		Critical issue requiring mitigation

The Legend contained within Section 7: Appendix A: *Table 4* is to be used when assessing the GIS images of the connection, substation and route options.

3 RESULTS

3.1 Boddam Onshore Cable Joining Options

The desktop study concentrated on 250m around the four Boddam joining options and the constraints are included in *Figure 2* (Appendix A.2) and *Table 5* (Appendix A.2).

3.1.1 Designated Sites

Statutory Sites

There are no statutory designated sites within the 250m survey extent of Boddam 1 to 4 joining options.

Non-statutory Sites

There are no non-statutory designated sites within the 250m survey extent of Boddam 1 to 4 joining options.

Other Notable Sites

Buchan Ness to Collieston Coast SPA[2] is just offshore with qualifying features for Seabird Assemblage.

3.1.2 Woodland & Forest Designations

There are areas of woodland out with the 250m survey extent that are designated as part of the National Woodland Survey of Scotland and are considered under the Route Options.

3.1.3 Protected Species & Sensitive Habitats

Badger are recorded within the area.

The Sand Dunes Vegetation Surveys of Scotland (SDVSS) includes the east coast of Scotland and one area is highlighted at Sandford Bay. The vegetation recorded consists of HabMos habitat classification of anthropogenic herb stands, agriculturally improved, re-seeded and heavily fertilised grassland, including sports fields, grass lawns, tall-herb communities of humid meadows, including fixed dunes.

The SDVSS habitat can be located at the furthest extent of the 250m survey boundary of Boddam 2.

3.1.4 Water courses and ponds

Watercourses and ponds are located within the Boddam survey extents.

[2] https://sitelink.nature.scot/site/8473

3.2 St Fergus Onshore Cable Joining Options

The desktop study concentrated on 250m around the three St Fergus (SF) joining options and the constraints are included in *Figure 3* (Appendix A.3) and *Table 6* (Appendix A.3).

3.2.1 Designated Sites

Statutory Sites

There are no statutory designated sites within the 250m survey extent of SF 1 to 3 joining options.

Non-statutory Sites

There are no non-statutory designated sites within the 250m survey extent of SF 1 to 3 joining options.

Other Notable Sites

The Southern Trench[3] National Conservation Marine Protected Areas MPA (NC) is offshore from St Fergus.

3.2.2 Woodland & Forest Designations

There are areas of woodland within the 250m survey extent of SF3 that are designated as part of the National Woodland Survey of Scotland.

3.2.3 Protected Species & Sensitive Habitats

Badger and otter are recorded within the area.

The Sand Dunes Vegetation Surveys of Scotland (SDVSS) includes the east coast of Scotland and a large area is highlighted. The vegetation recorded consists of HabMos habitat classification of anthropogenic herb stands, agriculturally improved, re-seeded and heavily fertilised grassland, including sports fields, grass lawns, tall-herb communities of humid meadows, including fixed dunes.

The SDVSS habitat can be located at the furthest extent of the 250m survey boundary for SF1 - 3.

3.2.4 Water courses and ponds

Watercourses, ditch systems and ponds are located within the Saint Fergus survey extents.

[3] https://sitelink.nature.scot/site/10477

3.3 New Deer Substation Options

The desktop study concentrated on 250m around the four New Deer (ND) substation options and the constraints are included in *Figure 4* (Appendix A4) and *Table 7* (Appendix A4).

3.3.1 Designated Sites

Statutory Sites

There are no statutory designated sites within the 250m survey extent of ND 1 to 4 substation options.

Non-statutory Sites

There are no non-statutory designated sites within the 250m survey extent of ND 1 to 4 substation options.

Other Notable Sites

No notable sites within significant distance.

3.3.2 Woodland & Forest Designations

There are areas of woodland out with the 250m survey extent that are designated as part of the National Woodland Survey of Scotland and are considered under the Route Options.

3.3.3 Protected Species & Sensitive Habitats

Water vole and otter are recorded within the ND 1 and ND 3 substation survey extents. However, although the data points are not within the survey extent for ND 2 and ND 4, this does not rule them out being within the 250m survey extent of ND 2 and ND 4, as the data points can denote the 'general area' of where the species was sighted.

Small areas of Class 1 peat habitat are located in the wider general area, but not within the 250m survey extent.

3.3.4 Water courses and ponds

Two watercourses are located within the New Deer survey extents. No ponds are located within the survey extents.

3.4 Route 1

The desktop study concentrated on 250m around the Route 1 option and the constraints are included in *Figure 5 & 6* (Appendix A5) and *Table 8* (Appendix A5). Ponds are labelled as Pond 1 to Pond 19 within Route 1.

3.4.1 Designated Sites

Statutory Sites

There is one statutory designated site within the 250m survey extent of Route 1 situated at NK 08226 42471. The site is the Hill of Longhaven SSSI[4] for Quaternary geology & geomorphology and is a Geological Conservation Review site (GCR).

Route 1 avoids the SSSI but does pass close to it.

Non-statutory Sites

There are no non-statutory designated sites within the 250m survey extent of Route 1 option.

Other Notable Sites

No notable sites within significant distance.

3.4.2 Woodland & Forest Designations

There are multiple areas of woodland within the 250m survey extent for Route 1 that are designated as part of the National Woodland Survey of Scotland and Ancient Woodland Inventory. There are also areas of non-designated semi-natural and plantation woodland throughout the route. All areas of woodland will require to be surveyed as part of the Phase 1/NVC surveys.

A second design iteration has been created to avoid the route passing through AWI woodland. However, the route does not avoid other woodland types. It may not be possible to avoid and surveys will be required to inform any design decisions.

3.4.3 Protected Species & Sensitive Habitats

Multiple protected species have been recorded along the 250m survey extent of Route 1 and include badger, water vole, otter, bats, pine marten and reptiles.

Small areas of Class 1 peat habitat are located some sections of the survey area, however the route has been designed to avoid these.

3.4.4 Water courses and ponds

Multiple ponds and watercourses and ditch systems are located throughout the length of the Route 1 survey corridor. It is advised that the route is redesigned around the ponds giving maximum clearance where possible. The route traverse through multiple water courses and horizontal directional drilling is advised if the route cannot be re-routed.

[4] https://sitelink.nature.scot/site/785

3.5 Route 2

The desktop study concentrated on 250m around the Route 2 option and the constraints are included in *Figure 7 & 8* (Appendix A6) and *Table 9* (Appendix A6).

Route 2 (Figures 7 & 8) joins onto Route 3 (Figures 7 & 8) at NJ 92776 44284 and at this point the routes are the same. Route 2 joins the New Deer substation options.

Table 9 contains all the recorded data for Route 2, even though data is shared with Route 3, in order that this can be viewed as a standalone option and considered for its full constraints weighting.

Ponds are labelled as Ponds R2-1 etc, but are labelled Ponds R3-12 etc, when Route 2 joins with Route 3.

3.5.1 Designated Sites

Statutory Sites

There are no statutory designated site within the 250m survey extent of Route 2.

Non-statutory Sites

There are no non-statutory designated sites within the 250m survey extent of Route 2 option.

Other Notable Sites

Notable sites within significant distance, but out with the 250m survey extent include the Rora Moss SSSI designated for its raised bog 1.3 km north of Route 2, and the Aden Country Park 680m north of Route 2.

3.5.2 Woodland & Forest Designations

There are multiple areas of woodland within the 250m survey extent for Route 2 that are designated as part of the National Woodland Survey of Scotland and Ancient Woodland Inventory. There are also areas of non-designated semi-natural and plantation woodland throughout the route. All areas of woodland will require to be surveyed as part of the Phase 1/NVC surveys.

A second design iteration has been created to avoid the route passing through AWI woodland. However, the route does not avoid other woodland types. It may not be possible to avoid and surveys will be required to inform any design decisions.

3.5.3 Protected Species & Sensitive Habitats

Multiple protected species have been recorded along the 250m survey extent of Route 2 and include badger, water vole, otter, bats, pine marten, reptiles and plant invasive species.

Small areas of Class 1 peat habitat are located some sections of the survey area, however the route has been designed to avoid these.

3.5.4 Water courses and ponds

Multiple ponds and watercourses and ditch systems are located throughout the length of the Route 2 survey corridor. The route traverses through tributaries of the River Ugie and the North & South Ugie Water, which are known to have salmon and sea trout present.

It is advised that the route is redesigned around the ponds giving maximum clearance where possible. The route traverses through multiple water courses and horizontal directional drilling is advised, if the route cannot be re-routed.

3.6 Route 3

The desktop study concentrated on 250m around the Route 3 option and the constraints are included in *Figures 9 & 10* (Appendix A7) and *Table 10* (Appendix A7).

Ponds are labelled as Ponds R3-1 to R3-13 within Route 3.

3.6.1 Designated Sites

Statutory Sites

There are no statutory designated site within the 250m survey extent of Route 3 option.

Non-statutory Sites

There are no non-statutory designated sites within the 250m survey extent of Route 3 option.

Other Notable Sites

No notable sites within significant distance.

3.6.2 Woodland & Forest Designations

There are multiple areas of woodland within the 250m survey extent for Route 3 that are designated as part of the National Woodland Survey of Scotland and Ancient Woodland Inventory. There are also areas of non-designated semi-natural and plantation woodland throughout the route. All areas of woodland will require to be surveyed as part of the Phase 1/NVC surveys.

A second design iteration has been created to avoid the route passing through AWI woodland. However, the route does not avoid other woodland types. It may not be possible to avoid and surveys will be required to inform any design decisions.

3.6.3 Protected Species & Sensitive Habitats

Multiple protected species have been recorded along the 250m survey extent of Route 3 and include badger, water vole, otter, bats, pine marten and reptiles.

Small areas of Class 1 peat habitat are located some sections of the survey area, and the route has been designed to mostly avoid these. However, there is a small area which spans into the 100m working corridor for Route 3.

3.6.4 Water courses and ponds

Multiple ponds and watercourses and ditch systems are located throughout the length of the Route 3 survey corridor. It is advised that the route is redesigned around the ponds giving maximum clearance where possible. The route traverse through multiple watercourses and horizontal directional drilling is advised, if the route cannot be re-routed.

3.7 Route 4

The desktop study concentrated on 250m around the Route 4 option and the constraints are included in *Figures 11 & 12* (Appendix A8) and *Table 11* (Appendix A8).

Route 4 (Figures 11 & 12) joins onto Route 1 (Figures 11 & 12) at NK 01536 43192 and at this point the routes are the same. Route 4 joins the New Deer substation options.

Table 11 contains all the recorded data for Route 4, even though data is shared with Route 1, in order that this can be viewed as a standalone option and considered for its full constraints weighting.

Ponds are labelled as Ponds R4-1 etc, but follows the labelling for Route 1 Ponds, when Route 4 joins with Route 1.

3.7.1 Designated Sites

Statutory Sites

There are no statutory designated site within the 250m survey extent of Route 4.

Non-statutory Sites

There are no non-statutory designated sites within the 250m survey extent of Route 4 option.

Other Notable Sites

There are no notable sites within significant distance of Route 4.

3.7.2 Woodland & Forest Designations

There are multiple areas of woodland within the 250m survey extent for Route 4 that are designated as part of the National Woodland Survey of Scotland and Ancient Woodland Inventory. There are also areas of semi-natural and plantation woodland throughout the route. All areas of woodland will require to be surveyed as part of the Phase 1/NVC surveys.

A second design iteration has been created to avoid the route passing through AWI woodland. However, the route does not avoid other woodland types. It may not be possible to avoid and surveys will be required to inform any design decisions.

3.7.3 Protected Species & Sensitive Habitats

Multiple protected species have been recorded along the 250m survey extent of Route 4 and include badger, water vole, otter, bats, pine marten, reptiles and plant invasive species.

3.7.4 Water courses and ponds

Multiple ponds and watercourses and ditch systems are located throughout the length of the Route 4 survey corridor. The route traverses through the River Ugie and the South Ugie Water (and their tributaries) which are known to have salmon and sea trout present.

It is advised that the route is redesigned around the ponds giving maximum clearance where possible. The route traverses through multiple water courses and horizontal directional drilling is advised, if the route cannot be re-routed.

4 EVALUATION

4.1 Onshore Connection Options

4.1.1 Boddam Options

The Desktop study has not identified any constraints to the four onshore connection options at Boddam.

It is advised that whichever option is selected baseline ecology and ornithology surveys will have to be undertaken.

All sensitive habitat should be avoided. If it is not possible to avoid, then mitigation needs to be considered and discussed with relevant statutory bodies such as NatureScot and SEPA.

The constraints from the data gathered for the desktop study were weighted as Negligible overall.

4.1.2 St Fergus Options

The Desktop study has not identified any constraints to the three onshore connection options at St Fergus.

It is advised that whichever option is selected baseline ecology and ornithology surveys will have to be undertaken.

All sensitive habitat should be avoided. If it is not possible to avoid, then mitigation needs to be considered and discussed with relevant statutory bodies such as NatureScot and SEPA.

The constraints from the data gathered for the desktop study were weighted as Negligible overall.

4.2 New Deer Substation Connection Options

The Desktop study has not identified any constraints to the four New Deer substation option locations.

It is advised that whichever option is selected baseline ecology and ornithology surveys will have to be undertaken.

All sensitive habitat should be avoided. If it is not possible to avoid, then mitigation needs to be considered and discussed with relevant statutory bodies such as NatureScot and SEPA.

The constraints from the data gathered for the desktop study were weighted as Negligible overall.

4.3 Route 1

The Desktop study has identified **Negligible** and **Low** weighted constraints for the Route 1 option.

The **Low** weighted constraints include 13 water crossings and 4 designated woodlands (NWSS & AWI) where Route 1 traverses through.

It is advised that if Route 1 option is selected, baseline ecology and ornithology surveys will have to be undertaken.

All sensitive habitat should be avoided. If it is not possible to avoid, then mitigation needs to be considered and discussed with relevant statutory bodies such as NatureScot and SEPA. It is advised that the route is redesigned around any ponds giving maximum clearance where possible. The route traverses through multiple watercourses and horizontal directional drilling is advised to reduce impact, if the route cannot be re-routed.

The Hill of Longhaven SSSI, designated for its geology, is adjacent to the Route 1. It is advised that there is distance between the route and the SSSI boundary to ensure there is no impact.

4.4 Route 2

The Desktop study has identified **Negligible, Low** and **Medium** weighted constraints for the Route 2 option.

The **Low** weighted constraints include 5 water crossings and 4 designated woodlands (NWSS & AWI) where Route 2 traverses through.

The **Medium** weighted constraints include 5 water crossings where Route 2 traverses through. These are weighted as **Medium** as they involve sensitive or potentially sensitive habitats for salmonids. These watercourses are tributaries to, and include, South Ugie Water, North Ugie Water and River Ugie. It is advised to liaise with the River Ythan Trust and Ugie River Salmon Fishery Board to determine whether spawning redds are present in these areas.

It is advised that if Route 2 option is selected, baseline ecology and ornithology surveys will have to be undertaken.

All sensitive habitat should be avoided. If it is not possible to avoid, then mitigation needs to be considered and discussed with relevant statutory bodies such as NatureScot and SEPA and include the River Ythan Trust and Ugie River Salmon Fishery Board. It is advised that the route is redesigned around any ponds giving maximum clearance where possible. The route traverses through multiple watercourses and horizontal directional drilling is advised to reduce impact, if the route cannot be re-routed.

It is expected that Route 2 will have no impact on the Aden Country Park or the Rora Moss SSSI.

4.5 Route 3

The Desktop study has identified **Negligible** and **Low** weighted constraints for the Route 3 option.

The **Low** weighted constraints include 10 water crossings, 4 designated woodlands (NWSS & AWI) and 4 ponds where Route 3 traverses through.

It is advised that if Route 3 option is selected, baseline ecology and ornithology surveys will have to be undertaken.

All sensitive habitat should be avoided. If it is not possible to avoid, then mitigation needs to be considered and discussed with relevant statutory bodies such as NatureScot and SEPA. It is advised that the route is redesigned around any ponds and gives maximum clearance where possible. The route traverses through multiple watercourses and horizontal horizontal directional drilling is advised to reduce impact, if the route cannot be re-routed.

4.6 Route 4

The Desktop study has identified **Negligible, Low** and **Medium** weighted constraints for the Route 4 option.

The **Low** weighted constraints include 9 water crossings and 4 designated woodlands (NWSS & AWI) where Route 4 traverses through.

The **Medium** weighted constraints include 4 water crossings where Route 4 traverses through. These are weighted as **Medium** as they involve sensitive or potentially sensitive habitats for salmonids. These watercourses are tributaries to, and include, the River Ugie. It is advised to liaise with the River Ythan Trust and Ugie River Salmon Fishery Board s to determine whether spawning redds are present in these areas.

It is advised that if Route 4 option is selected, baseline ecology and ornithology surveys will have to be undertaken.

All sensitive habitat should be avoided. If it is not possible to avoid, then mitigation needs to be considered and discussed with relevant statutory bodies such as NatureScot and SEPA and include the River Ythan Trust and Ugie River Salmon Fishery Board . It is advised that the route is redesigned around any ponds giving maximum clearance where possible. The route traverses through multiple watercourses and horizontal horizontal directional drilling is advised to reduce impact, if the route cannot be re-routed.

4.7 Key Drivers for Ecology

Based on the Desktop study data the water crossings associated with any tributaries or the actual waters of the North Ugie Water, South Ugie Water and River Ugie are weighted with the potential to have significant issues that requires mitigation (**Medium** weighting), such as, re-routing or directional drilling, as an example.

Constraints that have a potential impact (**Low** weighting) also include water crossings which will also require mitigation, such as, re-routing or directional drilling, as an example. This is also the case for all designated woodlands. Some non-designated woodlands may also require re-routing, however, until ecology surveys are carried out this is unknown.

There are areas of Class 1 peat soil and peatland vegetation[5], which the routes have been designed to avoid, apart from one area on Route 3 which overlaps into the 100m working corridor. Due to this embedded design, these are not considered as a main key driver for ecology, however there is the potential for some habitats along the routes that may have some wetland or peat soil with no obvious peatland vegetation that may require mitigation. This cannot be determined until the ecology surveys are undertaken.

If any trees are to be lopped or removed, then breeding bird and bat roost surveys will be required at the correct survey time.

4.7.1 Designated Sites

The Hill of Longhaven SSSI, designated for its geology, is within the 250m survey extent and adjacent to Route 1. However, with the correct mitigation of distance between the route and the SSSI boundary to ensure there is no impact, this is not regarded as a key driver.

All Routes contain woodland designated within the National Woodland Survey of Scotland and the Ancient Woodland Inventory, with some being classed as Long Established. Where the routes traverse through these woodlands will impact the re-design of the route and will therefore be considered a Key Driver.

Constraints that have a potential impact (**Low** weighting) also include water crossings which will also require mitigation, such as, re-routing or directional drilling, as an example. This is also the case for all designated woodlands. Some non-designated woodlands may also require re-routing, however, until ecology surveys are carried out this is unknown.

4.7.2 Habitats and Plants

The agricultural fields, and plants at the proposed onshore joint bays, substation and Route options are relatively common throughout the region and none are locally notable or of significant botanical value and are not regarded as a Key Driver. However, until ecology surveys are carried out the baseline is unknown.

The woodland habitat which is designated within the AWI is considered as a Key Driver. However, a second iteration of embedded design has re-routed the route options to avoid the AWI.

4.7.3 Protected Species

Given the small corridor size of the Route options and small area footprint for the onshore joint bays and substation, it is expected that all impacts on protected species (birds, bats, badger, otter, water vole, red squirrel etc) would be negligible if the appropriate mitigation

[5] https://map.environment.gov.scot/Soil_maps/?layer=10

is carried out. The data searches have found no species of critical concern. Until surveys are carried out then it is unknown what protected species are present.

Bats

If the route has to go through woodland then any trees to be felled will require a Potential Roost Assessment for bats. This identifies trees that have bat roost potential that would require further survey work. If any trees are to be felled have bat roosts present, then this could require considerable mitigation and survey work and be regarded as a Key Driver for the design of the routes.

Red Squirrel

If the route has to go through woodland then any trees to be felled will require a red squirrel survey looking for dreys.

If dreys are located within these trees then they can be regarded as Key Drivers for route design. However, until ecology surveys are undertaken this is unknown.

Otter and Water Voles

Where the route crosses any watercourses or within 50m of ponds, surveys for otter and water vole will be required for 50m either side of the crossing.

If located within the 50m buffer, then these can be regarded as Key Drivers for route design. However, until ecology surveys are undertaken this is unknown.

Badger

Signs of badger and badger setts will be surveyed for in a 50m corridor either side of the route.

If located within the 50m buffer, then these can be regarded as Key Drivers for route design. However, until ecology surveys are undertaken this is unknown.

Birds

Given the habitat present and the location it is not expected that any Schedule 1 bird species or Birds of Conservation Concern would be present breeding.

Any ground clearance or removal of vegetation and trees will require a pre-construction breeding bird survey if the works are carried out between March-August inclusive. Construction timing will ensure that these are not Key Drivers for route selection.

Salmon & Sea Trout

Where horizontal horizontal directional drilling occurs liaison with the River Ythan Trust and Ugie River Salmon Fishery Board will be required to determine whether spawning redds are present in these areas.

This is considered as one of the main ecology Key Drivers for option selection.

5 CONCLUSION & RECOMMENDATIONS

Based on the constraints weighting those Route options with water crossings (**Low** & **Medium** constraints) are the key drivers for ecology.

These include Routes 2 & 4 for water crossings with significant issues, and some with potential impact, both types requiring mitigation.

Routes 1 & 3 have water crossings with potential impact and require mitigation.

Routes 2 & 4 have the only routes with significant issues (**Medium** constraints), with five and four **Medium** constraints respectively. Route 4 has nine **Low** constraints that have potential impact, and Route 2 which has five.

Looking at these figures Route 4 would be the most problematic, however, route design and installation technologies should be selected responsibly to ensure the least possible environmental impact occurs for any Route option and includes the options for the onshore joint bays and the substations options.

It is recommended to contact the River Ythan Trust and Ugie River Salmon Fishery Board in relation to the water crossings of concern in Routes 2 & 4.

Based on the Desktop Study data it is possible to include suitable mitigation measures to be incorporated within the design for the known constraints, such as, water crossings woodlands and ponds

Further ecology surveys are recommended once further route selection has been undertaken. Based on the baseline ecology survey data produced, a range of suitable mitigation measures can be incorporated within the final design which will reduce any impact further.

This methodology has ensured that a number of potentially significant adverse impacts have been avoided or reduced. No off-setting is recommended at this stage but may be applied as mitigation for the final option designs.

6 SURVEY CALENDAR

A survey calendar for the Greenvolt onshore infrastructure, joint bays and substation is detailed below.

IMTeco Ltd

Survey calendar for Greenvolt onshore infrastructure options

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Phase 1/PEA												
Vegetation surveys (Botanical/NVC)												
Badger												
Otter												
Water Vole												
Red Squirrel												
Pine marten												
Reptiles												
Bat Tree/Building Roost Assessment (PRA)												
Bats (Hibernation roosts)												
Bats (summer roosts)												
Bats (foraging/commuting)												
Birds (breeding)												
Birds (wintering)												
Birds (summer)												
Fish (Habitat Assessment)												
Fish (Salmon/Trout electrofishing)												

Optimal Surveying Period

Sub-Optimal Surveying Period

7 APPENDIX A

As detailed in Section 2.7: *Table 3* (included below for ease) the contraints along each route needs to be differentiated in terms of magnitude, sensitivity, and significance. The colour coded weighting proposed for this study should be used when assessing each table of constraints for the joint bays, substation and route options.

Table 3: Constraints weighting and associated colour key.

Issue Level	Colour Key	Description
Negligible or N/A		Unlikely to occur/insignificant impact
Low		Potential impact
Medium		Significant issue requiring mitigation
High		Critical issue requiring mitigation

The following Key (*Table 4*) is to be used when assessing the GIS images of the joint bays, substation and route options

Table 4: Key for mapping contraints for Buzzard Cable Route Options

- **250m Survey Extent for Desktop study**
- **Route 1 (100m corridor)**
- **Route 2 (100m corridor)**
- **Route 3 (100m corridor)**
- **Route 4 (100m corridor)**
- **Water courses/ditch systems**
- **Joining & Substation Options**
- **Ancient Woodland Inventory (AWI)**
- **National Woodland Survey of Scotland**
- **Class 1 Peat**
- **Sand Dune Vegetation Survey of**
- **Country Park**
- **New Substation, Peterhead**
- **Golf Course**
- **Kirkton Solar Farm Boundary**
- **Special Protection Areas (SPA)**
- **Badger data point**
- **Otter data point**
- **Water Vole data point**
- **Bat data point**
- **Reptile data point**
- **Pine marten**
- **Plant Invasive Species**
- **SSSI**
- **Geological conservation Review (GCR)**
- **National Conservation Marine Protected Areas**

7.1 Appendix A.1: Greenvolt Onshore Infrastructure Options Location Plan

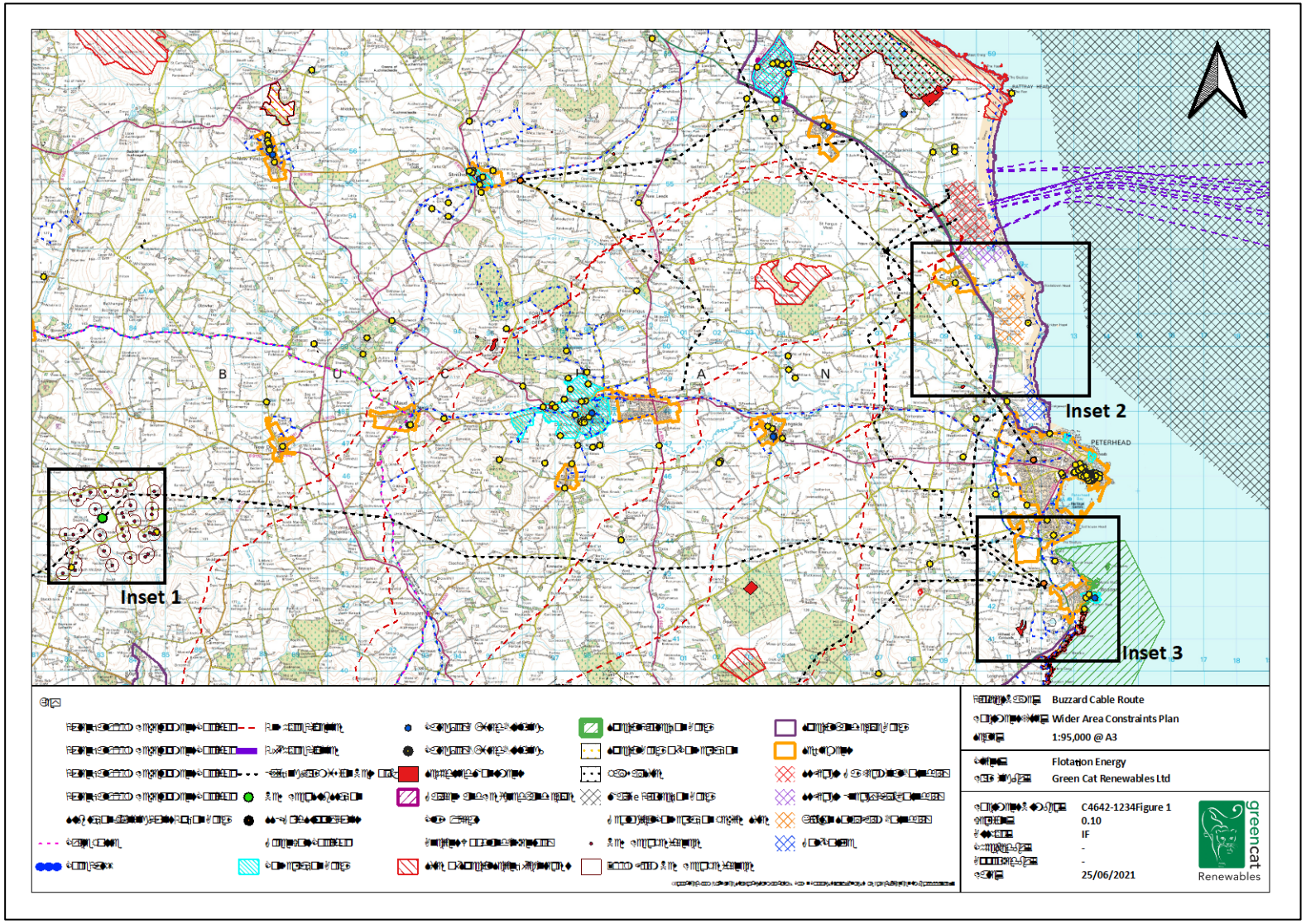
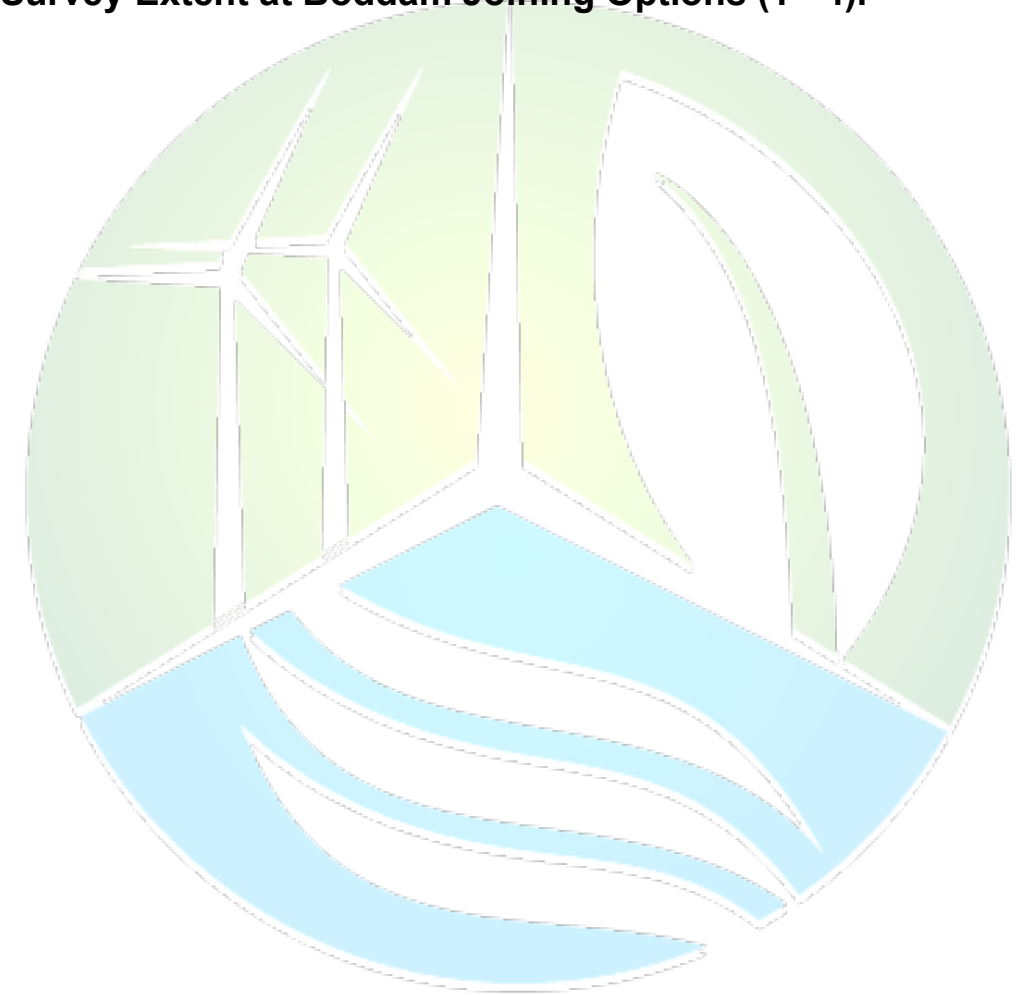


Figure 1: Greenvolt onshore infrastructure options Location Plan

7.2 Appendix A.2: Survey Extent at Boddam Joining Options (1 - 4).



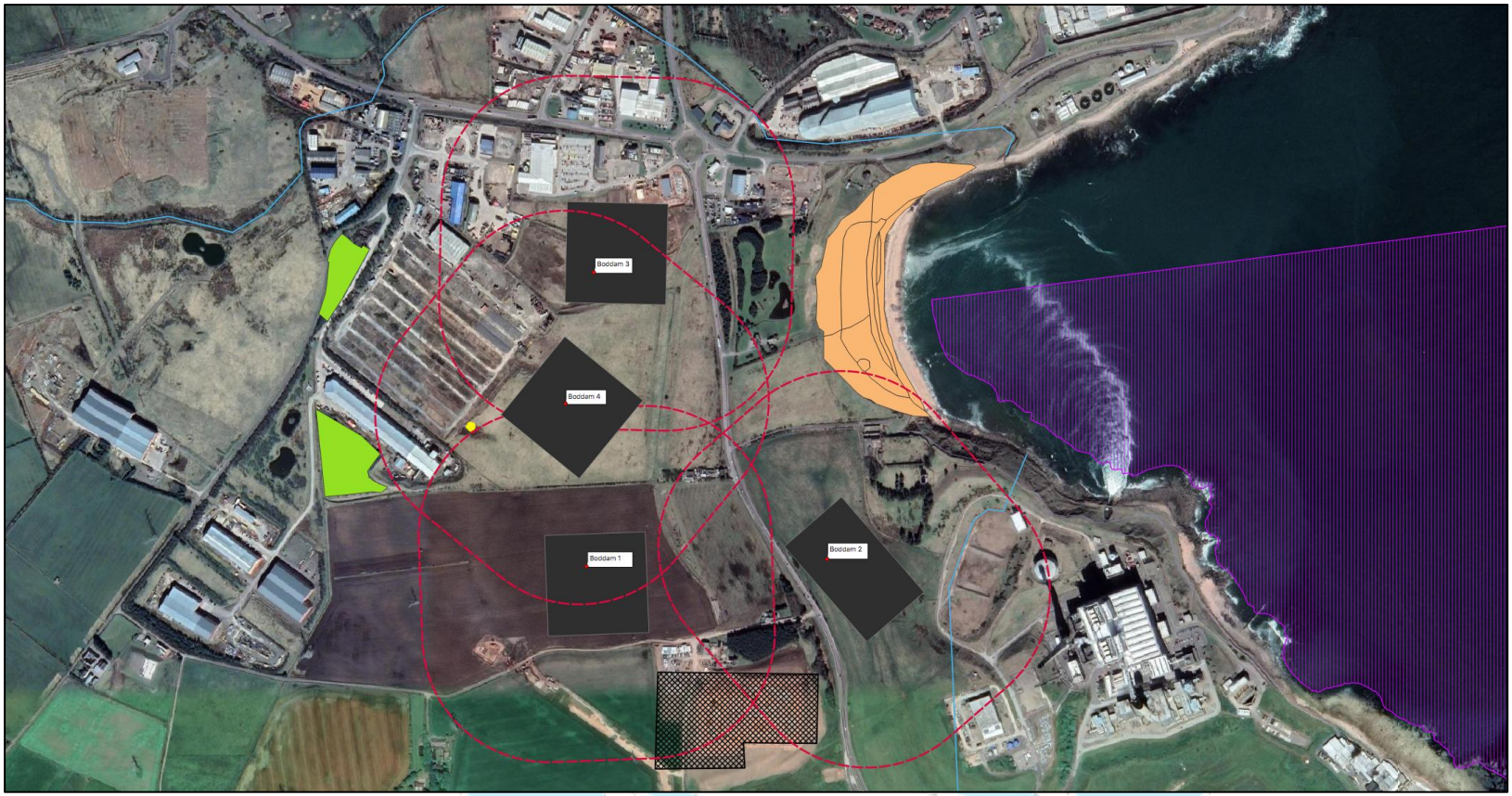


Figure 2: Greenvolt onshore infrastructure options Location Plan and Survey Extent at Boddam (1 - 4).

***Table 5*: Onshore cable route joining options at Boddam (1 – 4).**

Type	Grid Reference	Description	Actions/Mitigation
Boddam 2			
Water course/Ditch System	NK 12443 43177	Within the 250m survey extent for Boddam 2	Survey required
SDVSS	NK 12305 43566	Within the 250m survey extent for Boddam 2	Survey required (as part of NVC survey)
Boddam 3 & 4			
Pond 1	NK 12112 43739	Within survey extent for Boddam 3	Survey required
Pond 2	NK 12097 43781	Within survey extent for Boddam 3	Survey required
Water course/Ditch System	NK 12084 44079	On edge of 250m survey extent for Boddam 3	Survey may not be required due to infrastructure between option and stream/burn
Badger	NK 11506 43489	Recorded within 250m survey extent for Boddam 3 & 4 (NBN data point within survey extent)	Survey required for any final joining point as Badger data grid reference is for the general area.

7.3 Appendix A.3: Survey Extent at St Fergus Joining Options (SF 1 - 3).

Figure 3: Greenvolt onshore infrastructure options Location Plan and Survey Extent at St Fergus (SF 1 – 3).

***Table 6*: Onshore cable route joining options at St Fergus (SF1 - 3).**

Type	Grid Reference	Description	Actions/Mitigation
SF 1 Joining Point			
Pond 1	NK 10588 51568	Large - Adjacent to SF Jointing Point 1 & within 250m survey area	Survey required
Pond 2	NK 10782 51381	Small - Adjacent to SF Jointing Point 1 & within 250m survey area	Survey required
Badger	NK 10503 51499	Recorded within area (NBN data point within survey extent)	Survey required
SDVSS		At east edge of SF 1	Survey required (as part of NVC survey)
SF 2 Joining Point			
Ditch system/straightened water course	NK 11002 49096	Within 250m survey extent of SF2. From west to east to the sea	Survey required
Otter	NK 10875 48892	Out with 250m survey extent for SF2	Survey required for any final joining point as Otter data grid reference is for the general area.
SDVSS		At east edge of SF 2	Survey required (as part of NVC survey)
SF 3 Joining Point			
Water course – Cuttie Burn	NK 10791 50019	Within 250m survey extent of SF3. From west to east to the sea	Survey required
NWSS	NK 11374 49752	Broadleaved trees with open mosaic at edge of 250m survey extent for SF3.	Survey required
NWSS	NK 10905 50029	Broadleaved trees on northern extent of Cuttie Burn	Survey required
SDVSS		At east edge of SF 3	Survey required (as part of Phase 1/NVC survey)

7.4 Appendix A.4: Survey Extent at New Deer Substation Options (ND 1 - 4).

Figure 4: Greenvolt infrastructure options at New Deer with Survey Extent (ND 1 – 4).

***Table 7*: New Deer Substation options and 250m survey extent (ND 1 - 4).**

Type	Grid Reference	Description	Actions/Mitigation
ND 1 option			
Water course	NJ 83555 43534	Ditch system/straightened water course: Burn of Asleid (adjacent to ND 1)	Survey Required
Water Voles	NJ 83555 43534	Multiple records of Water Voles within area (Five NBN data points within survey extent. One Grid Ref given as closest data point). Likley associated with Burn of Asleid	Survey Required
ND 3 Option			
Otter	NJ 83909 43345	Otter records within 250m survey extent of ND 3. Possibly associated with Burn of Asleid.	Survey Required
Water course	NJ 83846 43086	Ditch system/straightened water course: Burn of Asleid. At westerly edge of 250m survey extent for ND 3	Survey Required
Water Voles	NJ 83849 43049	Multiple records of Water Voles within area (Five NBN data points within survey extent. One Grid Ref given as closest data point). Likley associated with Burn of Asleid above (NJ 83849 43049).	Survey Required

7.5 Appendix A.5: Survey Extent for Route 1 Option.

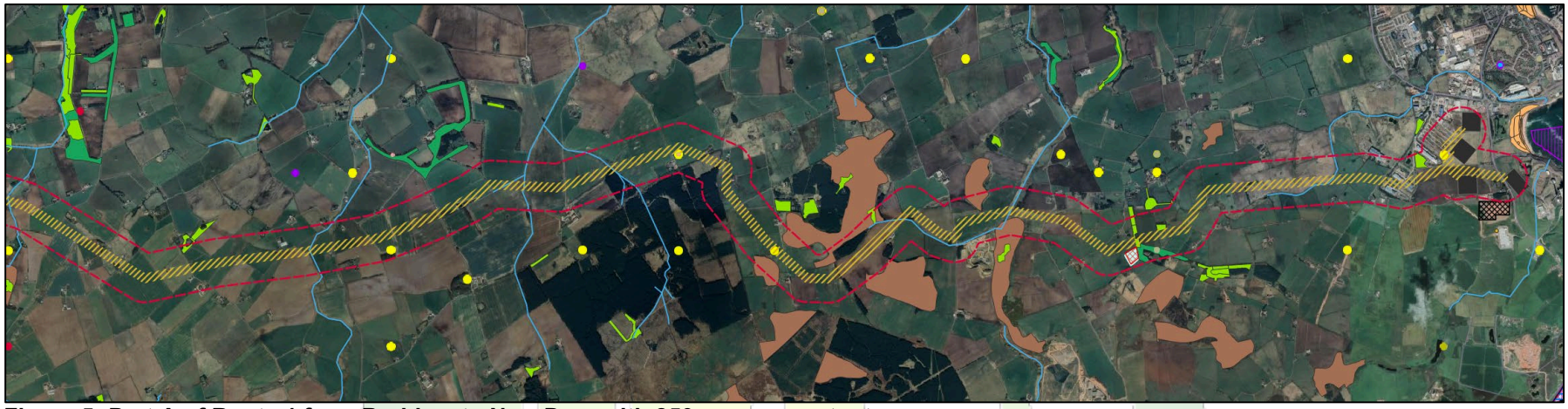


Figure 5: Part A of Route 1 from Boddam to New Deer with 250m survey extent.

Figure 6: Part B of Route 1 from Boddam to New Deer with 250m survey extent.

Table 8: **Route 1 option from Boddam to New Deer.**

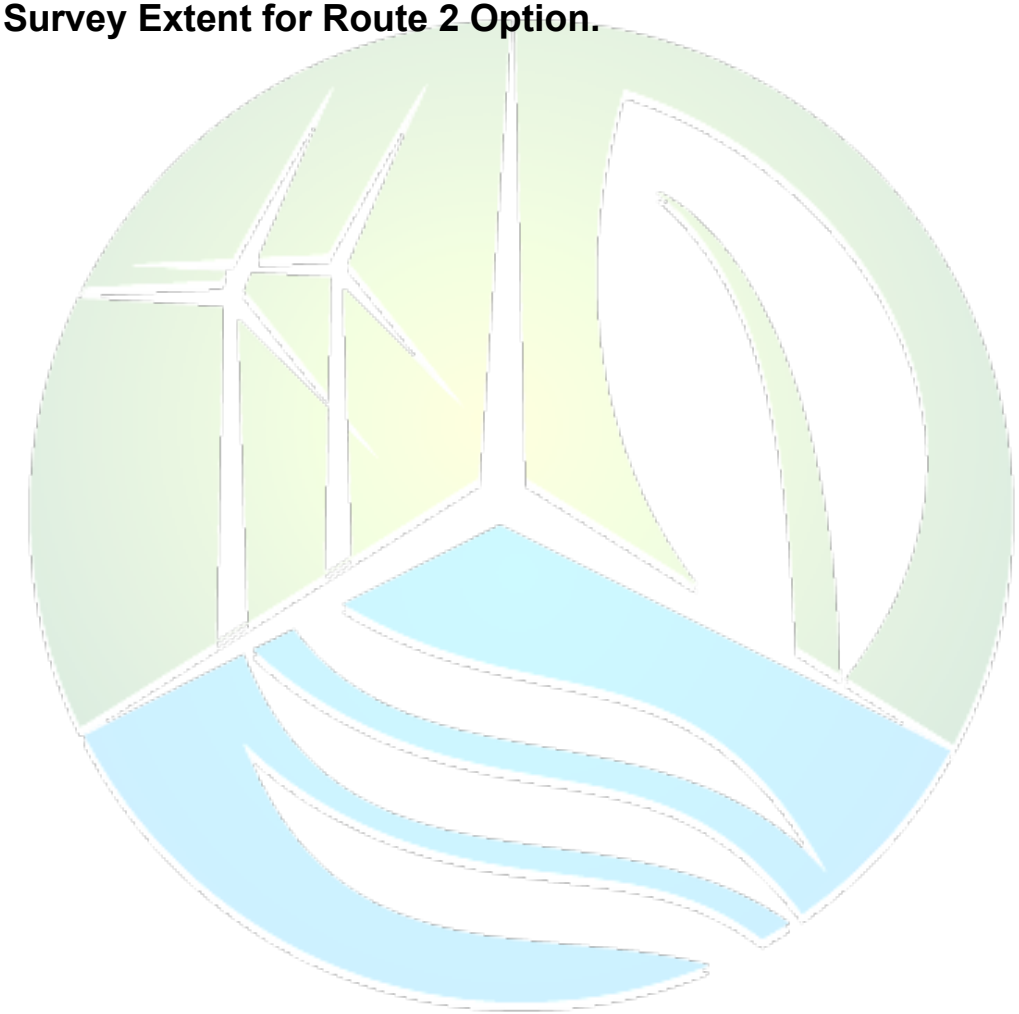
Type	Grid Reference	Description	Actions/Mitigation
NWSS	NK 11205 43519		Survey Required
Pond 3	NK 11123 43419		Survey Required
Pond 4	NK 11138 43489	Just out with the survey boundary (to survey)	Survey Required
Water course crossing point	**NK 10326 43237**	**Ditch system/straightened water course**	**Horizontal directional drilling under water course**
Pond 5	NK 10554 43429		Survey Required
Pond 6	NK 10453 43333		Survey Required
Pond 7	NK 10464 43091	Seasonal	Survey Required
Reservoir	NK 10827 43054	Covered/built	
Pond 8	NK 09631 43046		Survey Required
Pond 9	NK 09131 43297	Likely seasonal	Survey Required
Pond 10	NK 08689 43025		Survey Required
NWSS	NK 08674 42991	Just on edge of survey extent	Survey required (as part of Phase 1/NVC survey)
NWSS	NK 08569 42738		Survey required (as part of Phase 1/NVC survey)
NWSS	**NK 08311 42613**	**Route goes through NWSS. Broadleaved trees and scrub**	**Re-design of route at this point, if possible**
AWI & NWSS	NK 08325 42525	Route does not go through AWI & NWSS	Survey required (as part of Phase 1/NVC survey)
Invasive Species	NK 08500 42500	Japanese knotweed	Survey required (as part of Phase 1/NVC survey)
SSSI/GCR	NK 08226 42471	Hill of Longhaven SSSI for Quaternary geology & geomorphology. https://sitelink.nature.scot/site/785 Geological Conservation Review (Ponds within disused quarry) Route is close but avoids the SSSI.	Survey required (as part of Phase 1/NVC survey)

Pond 11	NK 08057 42608	Likely seasonal	Survey Required
Pond 12	NK 07468 42882		Survey Required
Pond 13	NK 07044 42748	Within Class 1 area of peat	Survey Required
Class 1 Peat	NK 06979 42750	Class 1 Peat with peatland type vegetation	Survey required (as part of Phase 1/NVC survey)
Class 1 Peat	NK 06678 43000	Class 1 Peat with peatland type vegetation	Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NK 06972 42919**	**Ditch system**	**Horizontal directional drilling under water course**
Pond 14	NK 05926 42833		Survey Required
Water course crossing point	**NK 05807 42824**	**Ditch system**	**Horizontal directional drilling under water course**
NWSS	NK 05554 42797	On Class 1 peat, surrounded with plantation	Survey required (as part of Phase 1/NVC survey)
Class 1 Peat	NK 05643 42813	Class 1 Peat area with conifer plantation and NWSS	Survey required (as part of Phase 1/NVC survey)
Badger	NK 04498 42502	Recorded within area (NBN data point within survey extent)	Survey Required
Badger, water vole, Bats (pipistrelles)	NK 03499 43505	Multiple protected species recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NK 02800 43358**	**Ditch system/straightened water course**	**Horizontal directional drilling under water course**
Water course crossing point	**NK 01885 43173**	**Burn of Ludquhan**	**Horizontal directional drilling under water course**
Pond 15 (1/4)	NK 01375 43026	Series of 4 ponds adjacent to Route 1 option	Survey Required
Pond 16 (2/4)	NK 01299 43009	Series of 4 ponds adjacent to Route 1 option	Survey Required
Pond 17 (3/4)	NK 01265 42999	Series of 4 ponds adjacent to Route 1 option	Survey Required
Pond 18 (4/4)	NK 01217 42995	Series of 4 ponds adjacent to Route 1 option	Survey Required
Badger	NK 00499 42502	Recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NJ 99641 42499**	**Quhomery Burn**	**Horizontal directional drilling under water course**

NWSS	NJ 98331 42485		Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NJ 96491 43018**	**Ditch system/straightened water course (?). Connected to Crichie Moss**	**Horizontal directional drilling under water course**
Badger	NJ 95299 43311	Recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NJ 93454 43631**	**Annochie Burn**	**Horizontal directional drilling under water course**
NWSS	NJ 92358 44140	Broad leaved trees	Survey required (as part of Phase 1/NVC survey)
NWSS	NJ 91987 44127	Broad leaved trees	Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NJ 91871 44358**	**Ditch system/straightened water course: Ebrie Burn**	**Horizontal directional drilling under water course**
Marshy grassland field	NJ 91309 44624	Route adjacent to marshy grassland field. Likely historical and may have drainage.	Survey required (as part of Phase 1/NVC survey)
NWSS	**NJ 91034 44712**	**Route goes through NWSS.** **Appears to be mixed plantation (with higher % of broadleaved trees)**	**Re-design of route at this point**
AWI	NJ 90555 44954	Route has been re-routed to avoid the AWI. Appears to be semi-natural broadleaved trees	Survey required (as part of Phase 1/NVC survey)
NWSS	**NJ 89850 45036**	**Route goes through NWSS.** **Appears to be mixed trees, with high % of broadleaved trees**	**Re-design of route at this point**
NWSS	NJ 89818 44926	Broadleaved trees	Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NJ 89636 44992**	**Ditch system/straightened water course**	**Horizontal directional drilling under water course**
Water Voles	NJ 89549 45154 & NJ 89698 44753	Recorded within area (Two NBN data points within survey extent). Possibly associated with ditch system above (NJ 89636 44992)	Survey required

Water course crossing point	**NJ 87121 44328**	**Ditch system/straightened water course: Black Burn**	**Horizontal directional drilling under water course**
Water Voles	NJ 87151 44452	Multiple records of Water Voles within area (Four NBN data points within survey extent. One Grid Ref given as closest data point). Possibly associated with ditch system/Black Burn above (**NJ 87121 44328)**	Survey required
NWSS	**NJ 85090 43972**	**Route goes through woodland, scrub and an NWSS**	**Re-design of route at this point**
Water course crossing point	**NJ 85071 44003**	**Route crosses the Little Water (which connects with the Black Burn and by-passes a large pond)**	**Horizontal directional drilling under water course**
Pond 19	NJ 84862 44017	Large pond within survey extent.	Survey required
Route Splitting Point	***NJ 85029 44003***	***Splits to ND Sub - Station 3***	
Otter & Water Vole	NJ 83909 43345	Otter and multiple water vole records within 250m survey extent of ND Sub -Station 3. Possibly associated with ditch system/Burn of Asleid (on edge of survey extent)	Survey required
Water course crossing point	**NJ 83555 43534**	**Ditch system/straightened water course: Burn of Asleid (near ND Sub-Station 1)**	**Horizontal directional drilling under water course**
Water Voles	**NJ 83555 43534** (data point directly at crossing point)	Multiple records of Water Voles within area (Five NBN data points within survey extent. One Grid Ref given as closest data point). Possibly associated with ditch system/ Burn of Asleid above (**NJ 83555 43534)**	Survey required

7.6 Appendix A.6: Survey Extent for Route 2 Option.



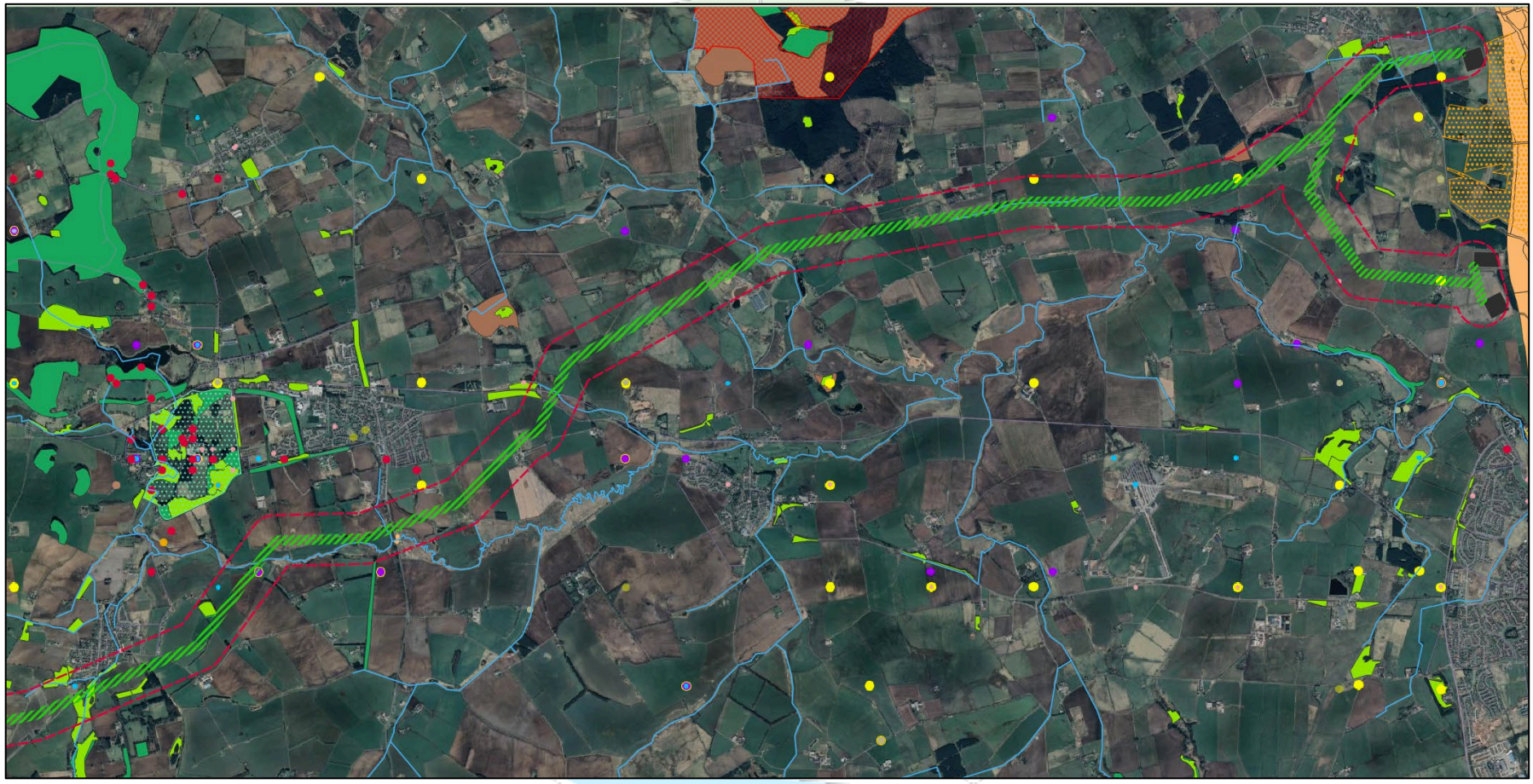


Figure 7: Part A of Route 2 from St Fergus to New Deer with 250m survey extent.

Figure 8: Part B of Route 2 from St Fergus to New Deer with 250m survey extent.

Table 9: **Route 2 option from St Fergus to New Deer.**

Type	Grid Reference	Description	Actions/Mitigation
Badger	NK 10496 51500	Recorded within area (NBN data point within survey extent)	Survey Required
Pond R2-1	NK 09432 50536	Large pond within 250m survey extent	Survey Required
Pond R2-2	NK 09258 50683	Pond within survey extent, and between the two branches for Route connection options	Survey Required
Pond R2-2	NK 09237 50395	Possible seasonal pond	Survey Required
Class 1 Peat	NK 08511 50671	Area of peat habitat on edge of survey extent	Survey Required
Water course crossing point	**NK 07338 50286**	**Crooko Burn.** **A tributary to the River Ugie, known for salmon and sea trout.**	**Survey required.** **Horizontal directional drilling under water course**
Water course/Ditch system	NK 06856 50287	Route 2 follows the line of the field drainage ditch	Re-route away from drainage ditch
Badger	NK 06503 50487	Recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NK 03784 49736**	**North Ugie Water. Known for salmon and sea trout.** **A tributary to the River Ugie.**	**Survey required.** **Horizontal directional drilling under water course.**
Invasive Species	NK 03499 49504	Japanese knotweed recorded within area (NBN data point within survey extent)	Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NK 01800 48417**	**Un-named watercourse coming from large pond. The water course is a tributary to the South Ugie Water, known for salmon and sea trout.**	**Survey required.** **Horizontal directional drilling under water course.**
NWSS	NK 01645 48370	Two areas within survey extent	Survey required (as part of Phase 1/NVC survey)
Pond R2-3	NK 01599 48531	Large pond on edge of survey extent	Survey required
Water course crossing point	**NK 00146 47062**	**Ditch system that flows into the South Ugie Water known for salmon and sea trout.**	**Survey required.**

			Horizontal directional drilling under water course.
Water vole	NK 00264 46998	Two water vole records within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NJ 98893 46749**	**Route 2 is through the South Ugie Water, known for salmon and sea trout.**	**Survey required.** **Horizontal directional drilling under water course.**
Otter, badger	NJ 98899 46641	Recorded within area (NBN data point within survey extent)	Survey Required
Bats	NJ 98499 46503	Recorded within area (NBN data point within survey extent)	Survey Required
NWSS & AWI	NJ 98459 46252	Recorded within survey extent and in proximity to Route 2.	Survey required (as part of Phase 1/NVC survey)
NWSS	NJ 97779 45606	Within survey extent	Survey required (as part of Phase 1/NVC survey)
NWSS	**NJ 97274 45500**	**Route 2 goes through NWSS woodland**	**Re-design of route at this point, where possible**
NWSS	NJ 96909 45534	Within survey extent	Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NJ 97216 45472**	**Ditch system/straightened water course.** **Drains into long pond south of the survey extent**	**Horizontal directional drilling under water course**
Bats	NJ 97102 45536	Recorded within area (NBN data point within survey extent)	Survey required
AWI	NJ 95460 45002	Within survey extent	Survey required (as part of Phase 1/NVC survey)
Badger, otter, bats, reptiles, water vole	NJ 95000 45002	Multiple species recorded within area (NBN data point within survey extent)	Survey required
Water course crossing point	**NJ 94045 44760**	**Ditch system/straightened water course. Annochie Burn**	**Horizontal directional drilling under water course**
NWSS	NJ 94084 44589	Within survey extent	Survey required (as part of Phase 1/NVC survey)
Pond R2-4	NJ 93505 44498	Two adjacent ponds in proximity to Route 2	Survey required

Pond R2-5	NJ 93489 44478	Two adjacent ponds in proximity to Route 2	Survey required
NWSS	**NJ 92949 44346**	**Route 2 goes through NWSS woodland**	**Re-design of route at this point, where possible**
Badger	NJ 92906 44425	Recorded within area (NBN data point within survey extent)	Survey Required
Connects with Route 3			
Water course crossing point	**NJ 91948 44692**	**Ditch system/straightened water course. Ebrie Burn**	**Horizontal directional drilling under water course**
Water Voles	NJ 91669 44631	Recorded within area (NBN data point within survey extent). Possibly associated with Ebrie Burn.	Survey Required
Marshy grassland field	NJ 91309 44624	Likely historical pond/marshy grassland and may have drainage.	Survey Required
NWSS	**NJ 91111 44785**	**Route goes through edge of NWSS**	**Re-design of route at this point**
AWI	NJ 90573 44845	Route has been re-routed to avoid the AWI. Appears to be semi-natural broadleaved trees	Survey required (as part of Phase 1/NVC survey)
NWSS	NJ 89868 44925	**Route goes through edge of NWSS. (It may be that the route goes through OHL clearing an may be out on GIS by a metre or so)**	**Re-design of route at this point**
Water Voles	NJ 89696 44754	Multiple records of Water Voles within area (Three NBN data points within survey extent. One Grid Ref given as closest data point). Possibly associated with ditch systems in area.	Survey Required
Pond R3-12	NJ 88947 45089	Small pond just north of route and within survey extent	Survey Required
Pond R3-13	NJ 87113 45100	Pond just south of route and within survey extent	Survey Required
Water course within survey extent	NJ 86778 45127	Black Burn south of route	Survey Required
Water Voles	NJ 86850 45252	Multiple records of Water Voles within area (Six NBN data points within survey extent. One Grid Ref given as closest data point, which is closest	Survey Required

		to route). Possibly associated with ditch systems in area and Black Burn.	
Otter	NJ 85714 45559	Recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NJ 85741 45384**	**Ditch system/straightened water course.**	**Horizontal directional drilling under water course**
Water Voles	NJ 85500 45403	Records of Water Voles within area (NBN data point within survey extent)	Survey Required
Red Squirrel & multiple mammal records	NJ 85001 45003	Multiple mammal records within area. (Same NBN data point within survey extent)	Survey Required
NWSS	NJ 84658 44580	Within survey extent	Survey required (as part of Phase 1/NVC survey)
AWI	NJ 84875 44517	Within survey extent	Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NJ 84384 44493**	**Ditch system/straightened water course. Little Water**	**Horizontal directional drilling under water course**
Otter	NJ 84512 44453	Records of Otter within area (NBN data point within survey extent). Possibly associated with Little Water	Survey Required
Water Vole	NJ 84299 44504	Records of Water Voles within area (NBN data point within survey extent). Possibly associated with Little Water	Survey Required

7.7 Appendix A.7: Survey Extent for Route 3 Option

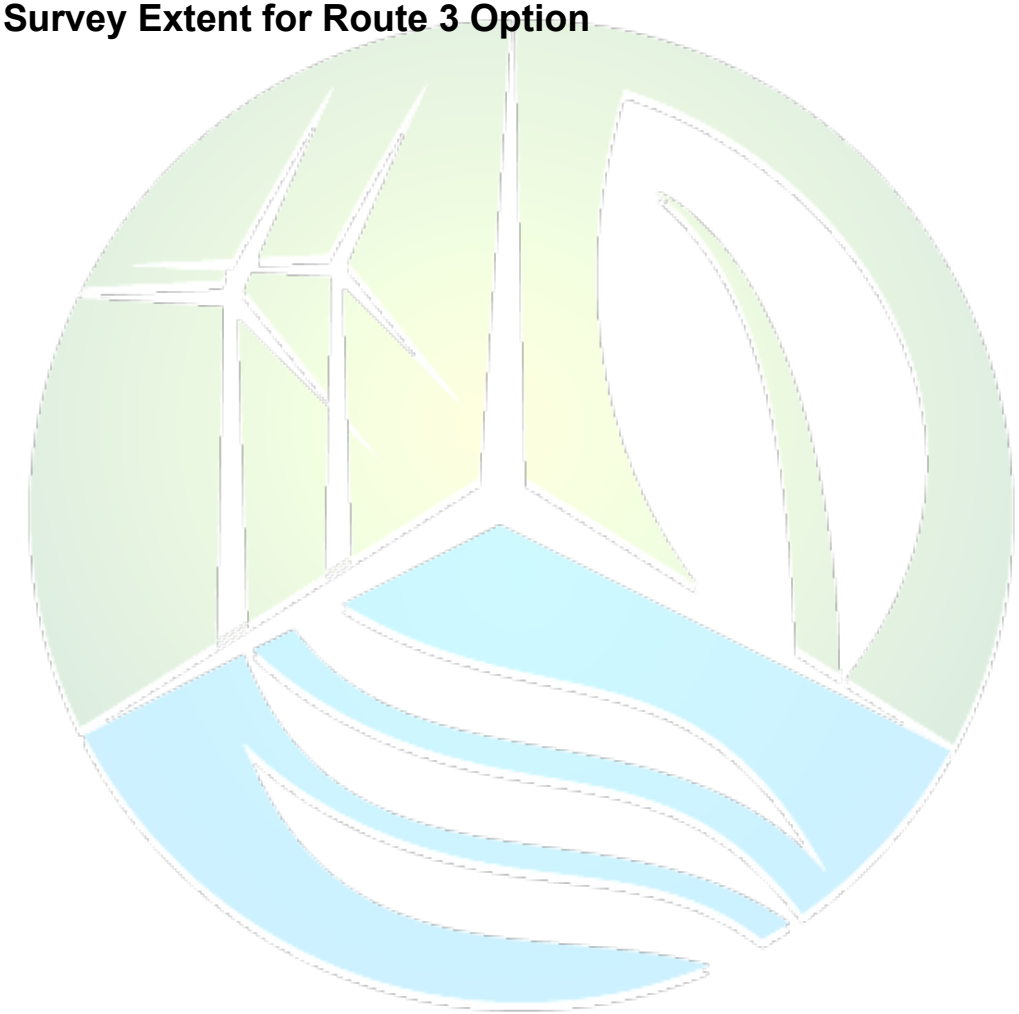


Figure 7: Part A of Route 3 from Boddam to New Deer with 250m survey extent.

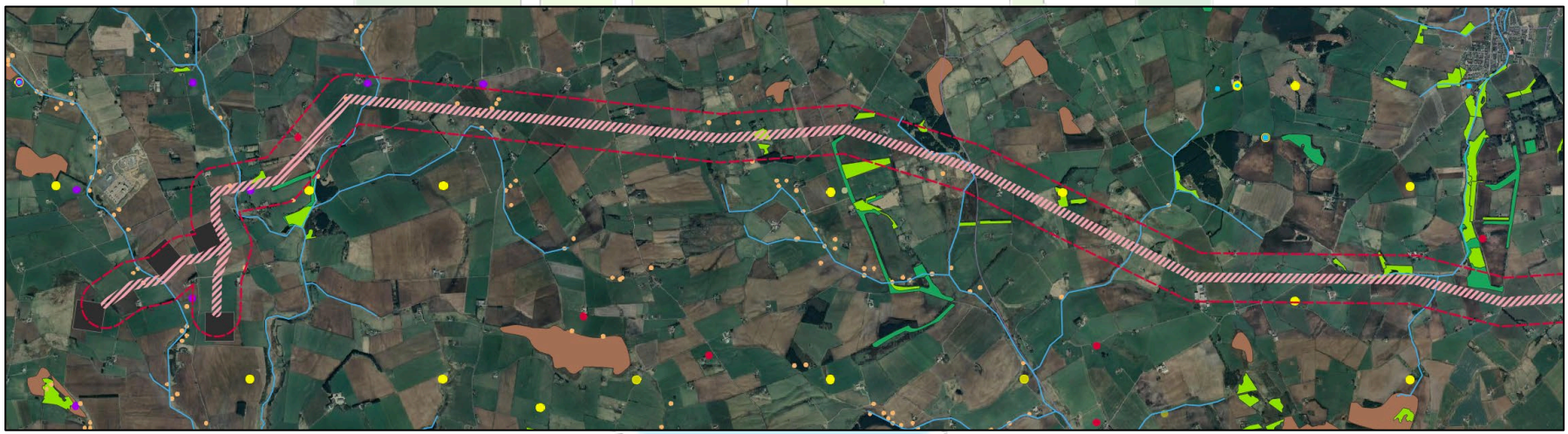


Figure 8: Part B of Route 3 from Boddam to New Deer with 250m survey extent.

Table 10: **Route 3 option from Boddam to New Deer.**

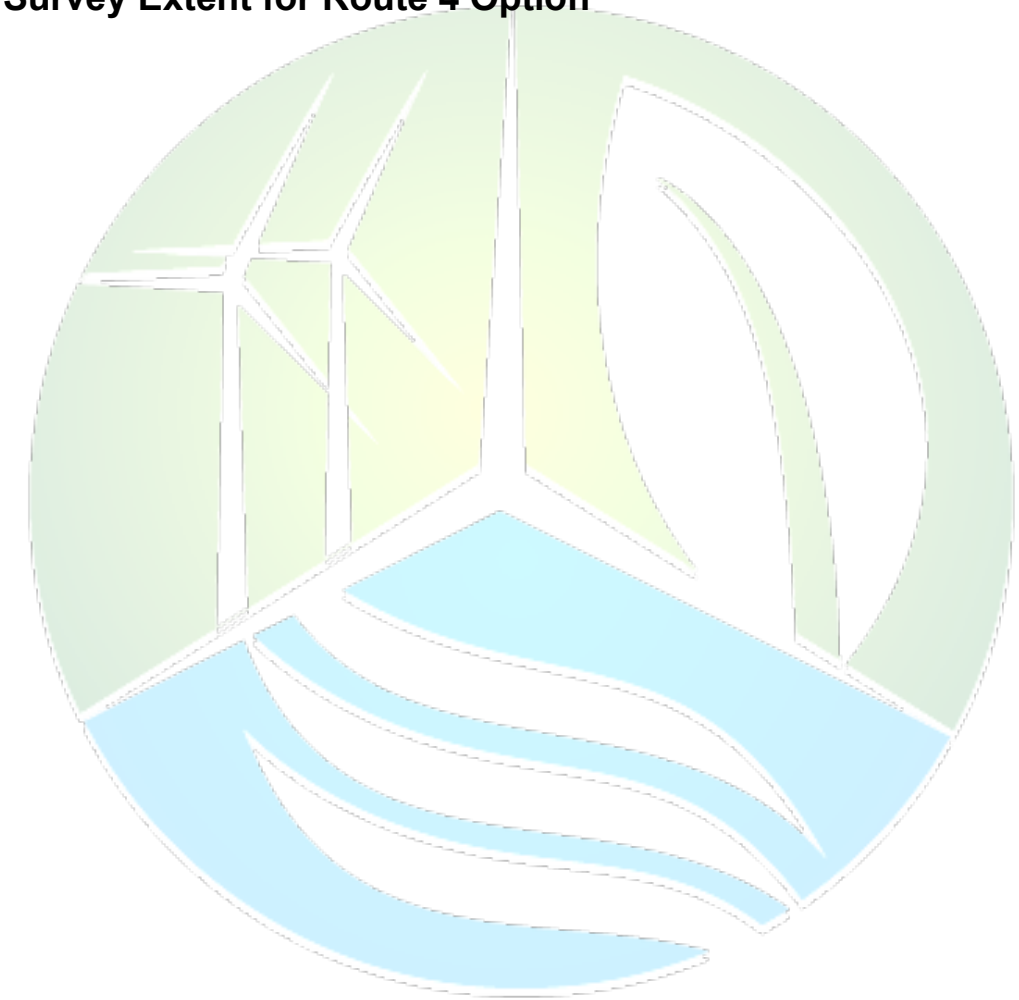
Type	Grid Reference	Description	Actions/Mitigation
Badger	NK 11506 43489	Recorded within area (NBN data point within survey extent)	Survey Required
NWSS	NK 11211 43723	On edge of 250m survey extent	Survey Required(as part of Phase 1/NVC survey)
NWSS	**NK 11205 43519**	**Route goes through NWSS**	**Re-design of route at this point**
Pond 3	NK 11123 43419		Survey Required
Pond 4	**NK 11138 43489**	**Route goes through Pond 4**	**Re-design of route at this point**
Pond R3-1	NK 10976 43820	Just on edge of survey extent	Survey Required
Pond 5	NK 10554 43429	Just on edge of survey extent	Survey Required
Water course crossing point	**NK 10307 43783**	**Route crosses ditch system/straightened water course. Connected to Grange Moss.**	**Horizontal directional drilling under water course**
Pond R3-2 & Class 1 Peat	NK 09169 43842	Peat, pond & wetland area at Grange Moss	Survey Required
Pond R3-3 & Class 1 Peat	NK 09155 43805	Peat, pond & wetland area at Grange Moss	Survey Required
Pond R3-4	NK 07989 44238	Pond with Woodland (at edge of 250m survey extent)	Survey Required
AWI & NWSS	NK 07962 44266	Woodland (at edge of 250m survey extent)	Survey Required(as part of Phase 1/NVC survey)
Water course crossing point	**NK 07581 43902**	**Ditch system/straightened water course. Burn of Faichfield**	**Horizontal directional drilling under water course**
NWSS	**NK 06850 43651**	**Route goes through NWSS.**	**Re-design of route at this point**
Pond R3-5	NK 06703 43396	Pond at edge of 250m survey extent	Survey Required
Pond R3-6	**NK 05343 43832**	**Route goes through Pond R3-6**	**Re-design of route at this point**

Badger, water vole, Bats (pipistrelles)	NK 03498 43504	Multiple protected species recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NK 02706 43437**	**Ditch system/straightened water course. Un-named water course which connects with Small Burn & Burn of Ludquharn**	**Horizontal directional drilling under water course**
Water course crossing point	**NK 01886 43298**	**Ditch system/straightened water course. Small Burn which connects to Burn of Ludquharn**	**Horizontal directional drilling under water course**
AWI	NK 00845 43254	Route has been re-routed to avoid AWI	Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NK 00191 43225**	**Ditch system/straightened water course.**	**Horizontal directional drilling under water course**
Badger	NK 00099 43308	Recorded within area (NBN data point within survey extent)	Survey Required
Otter	NJ 99497 43307	Recorded within area (NBN data point within survey extent)	Survey Required
AWI	NJ 97296 43538	Route has been re-routed to avoid AWI	Survey required (as part of Phase 1/NVC survey)
NWSS	NJ 97170 43826	Scrub and woodland classed as NWSS near edge of survey extent.	Survey required (as part of Phase 1/NVC survey)
Pond R3-7	NJ 96976 43611	Within 250m survey extent	Survey Required
Pond R3-8	NJ 97055 43696	Within 250m survey extent	Survey Required
Water course crossing point	**NJ 96781 43539**	**Ditch system/straightened water course.**	**Horizontal directional drilling under water course**
Pond R3-9	NJ 96357 43623	Larger pond within NWSS	Survey Required
Badger	NJ 95306 43310	Recorded within area (NBN data point within survey extent)	Survey Required
Pond R3-10	**NJ 94063 43634**	**Route is adjacent to a small wet pond/scrape within field. Likely seasonal and possibly drained**	**Re-design of route at this point**
Water course crossing point	**NJ 93644 43871**	**Ditch system/straightened water course. Annochie Burn**	**Horizontal directional drilling under water course**

Pond R3-11	**NJ 93630 43877**	**Route goes through possible pond. Seasonal as dry at times.**	**Re-design of route at this point**
NWSS	NJ 92872 44280	NWSS within survey extent.	Survey required (as part of Phase 1/NVC survey)
Badger	NJ 92906 44425	Recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NJ 91948 44692**	**Ditch system/straightened water course. Ebrie Burn**	**Horizontal directional drilling under water course**
Water Voles	NJ 91669 44631	Recorded within area (NBN data point within survey extent). Possibly associated with Ebrie Burn.	Survey Required
Marshy grassland field	NJ 91309 44624	Likely historical pond/marshy grassland and may have drainage.	Survey Required
NWSS	**NJ 91111 44785**	**Route goes through edge of NWSS**	**Re-design of route at this point, if necessary**
AWI	NJ 90573 44845	Route has been re-routed to avoid AWI	Survey required (as part of Phase 1/NVC survey)
NWSS	NJ 89868 44925	**Route goes through edge of NWSS. (It may be that the route goes through OHL clearing an may be out on GIS by a metre or so)**	**Re-design of route at this point, if necessary**
Water Voles	NJ 89696 44754	Multiple records of Water Voles within area (Three NBN data points within survey extent. One Grid Ref given as closest data point). Possibly associated with ditch systems in area.	Survey Required
Pond R3-12	NJ 88947 45089	Small pond just north of route and within survey extent	Survey Required
Pond R3-13	NJ 87113 45100	Pond just south of route and within survey extent	Survey Required
Water course within survey extent	NJ 86778 45127	Black Burn south of route	Survey Required
Water Voles	NJ 86850 45252	Multiple records of Water Voles within area (Six NBN data points within survey extent. One Grid Ref given as closest data point, which is closest to route). Possibly associated with ditch systems in area and Black Burn.	Survey Required

Otter	NJ 85714 45559	Recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NJ 85741 45384**	**Ditch system/straightened water course.**	**Horizontal directional drilling under water course**
Water Voles	NJ 85500 45403	Records of Water Voles within area (NBN data point within survey extent)	Survey Required
Red Squirrel & multiple mammal records	NJ 85001 45003	Multiple mammal records within area. (Same NBN data point within survey extent)	Survey Required
NWSS	NJ 84658 44580	Within survey extent	Survey required (as part of Phase 1/NVC survey)
AWI	NJ 84875 44517	Within survey extent	Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NJ 84384 44493**	**Ditch system/straightened water course. Little Water**	**Horizontal directional drilling under water course**
Otter	NJ 84512 44453	Records of Otter within area (NBN data point within survey extent). Possibly associated with Little Water	Survey Required
Water Vole	NJ 84299 44504	Records of Water Voles within area (NBN data point within survey extent). Possibly associated with Little Water	Survey Required

7.8 Appendix A.8: Survey Extent for Route 4 Option



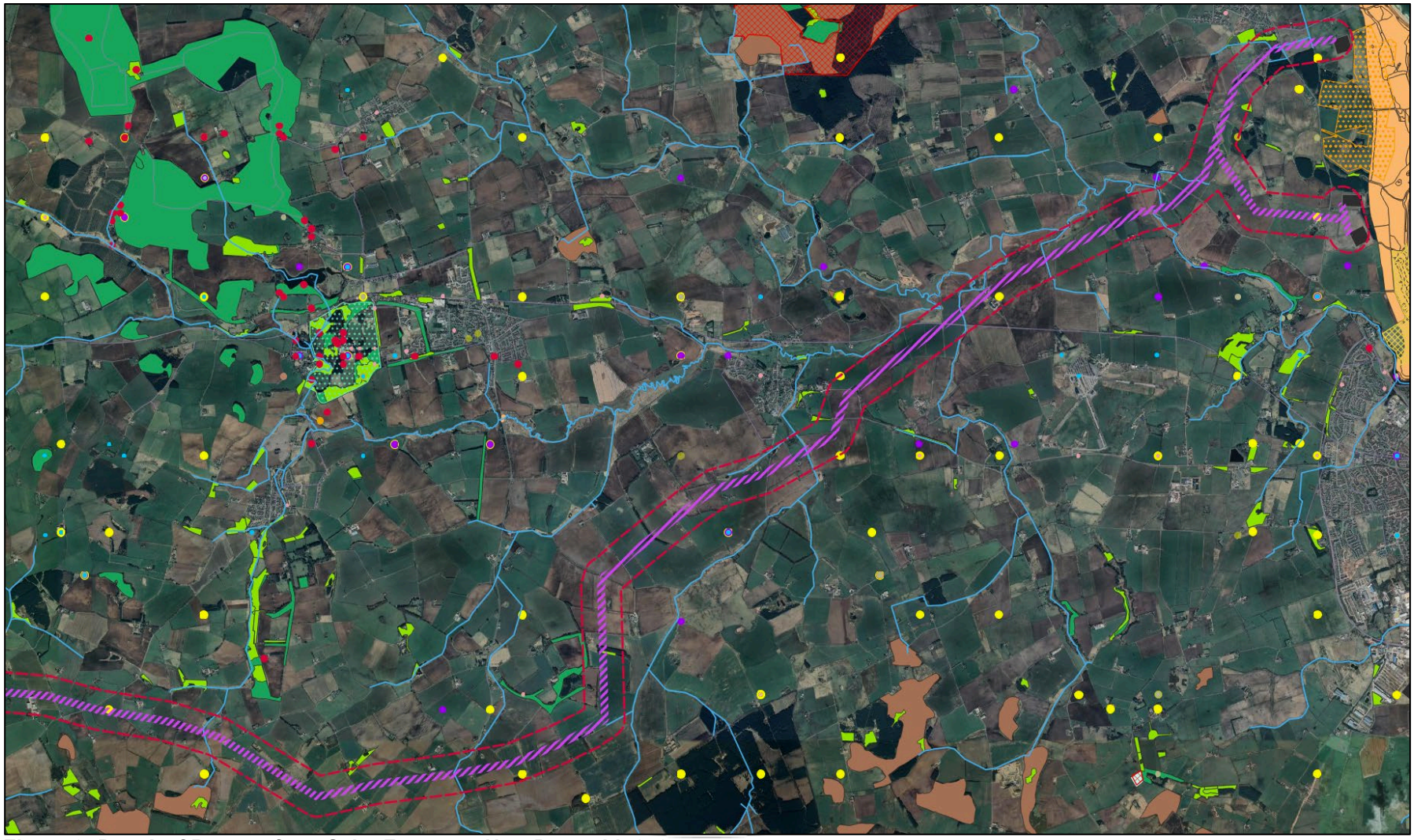


Figure 9: Part A of Route 4 from Saint Fergus to New Deer with 250m survey extent.

Figure 10: Part B of Route 4 from Saint Fergus to New Deer with 250m survey extent.

Table 11: **Route 4 option from Saint Fergus to New Deer.**

Type	Grid Reference	Description	Actions/Mitigation
Badger	NK 10496 51500	Recorded within area (NBN data point within survey extent)	Survey Required
Pond R2-1	NK 09432 50536	Large pond within 250m survey extent	Survey Required
Pond R2-2	NK 09258 50683	Pond within survey extent, and between the two branches for Route connection options	Survey Required
Pond R2-2	NK 09237 50395	Possible seasonal pond	Survey Required
Water course/ditch system crossing point	**NK 09010 49963**	**Ditch system that links to the River Ugie.** **Known for its salmon & sea trout.**	**Survey Required.** **Horizontal directional drilling under water course**
Otter	NK 08477 49999	Otter recorded just out with the 250m extent, however it can be assumed they are in the general area	Survey Required
Water course crossing point	**NK 08540 49627**	**Route 4 crosses the River Ugie.** **Known for its salmon & sea trout.**	**Survey Required.** **Horizontal directional drilling under water course.** **Wider Expanse.**
Water course/ditch system crossing point	**NK 07079 48979**	**Ditch system that links to the River Ugie.** **Known for its salmon & sea trout.**	**Horizontal directional drilling under water course**
Badger	NK 06500 48510	Recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NK 06022 48307**	**Burn of Falchfield that links to the River Ugie.** **Known for its salmon & sea trout.**	**Survey Required.** **Horizontal directional drilling under water course**
Pond R4-1	NK 05700 48316	Possible seasonal pond. Adjacent to the South Ugie Water	Survey Required
Badger, hedgehog,	NK 04492 47505	Multiple species recorded within area (NBN data point within survey extent)	Survey Required
NWSS	NK 04360 46960		Survey required (as part of Phase 1/NVC survey)

Badger	NK 04499 46507	Recorded on edge of area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NK 04073 46568**	**Burn of Cairngall, Connects with the South Ugie Water. Known for its salmon & sea trout.**	**Survey Required.** **Horizontal directional drilling under water course.** **Low, due to distance, but may change to Moderate impact.**
Pond R4-2	NK 03908 46680	Pond within survey extent.	Survey Required
Pond R4-3	NK 03666 46545	Pond within survey extent.	Survey Required
Pond R4-4	NK 03076 46227	Pond within survey extent.	Survey Required
NWSS	NK 01508 44040	Route goes through NWSS. Re-route where possible.	Survey required (as part of Phase 1/NVC survey)
AWI	NK 01329 43990	Within survey extent	Survey required (as part of Phase 1/NVC survey)
Connects with Route 1			
Pond 15 (1/4)	NK 01375 43026	Series of 4 ponds adjacent to Route 1 option	Survey Required
Pond 16 (2/4)	NK 01299 43009	Series of 4 ponds adjacent to Route 1 option	Survey Required
Pond 17 (3/4)	NK 01265 42999	Series of 4 ponds adjacent to Route 1 option	Survey Required
Pond 18 (4/4)	NK 01217 42995	Series of 4 ponds adjacent to Route 1 option	Survey Required
Badger	NK 00499 42502	Recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NJ 99641 42499**	**Quhomery Burn**	**Horizontal directional drilling under water course**
NWSS	NJ 98331 42485		Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NJ 96491 43018**	**Ditch system/straightened water course (?). Connected to Crichie Moss**	**Horizontal directional drilling under water course**
Badger	NJ 95299 43311	Recorded within area (NBN data point within survey extent)	Survey Required
Water course crossing point	**NJ 93454 43631**	**Annochie Burn**	**Horizontal directional drilling under water course**

NWSS	NJ 92358 44140	Broad leaved trees	Survey required (as part of Phase 1/NVC survey)
NWSS	NJ 91987 44127	Broad leaved trees	Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NJ 91871 44358**	**Ditch system/straightened water course: Ebrie Burn**	**Horizontal directional drilling under water course**
Marshy grassland field	NJ 91309 44624	Route adjacent to marshy grassland field. Likely historical and may have drainage.	Survey required (as part of Phase 1/NVC survey)
NWSS	**NJ 91034 44712**	**Route goes through NWSS.** **Appears to be mixed plantation (with higher % of broadleaved trees)**	**Re-design of route at this point**
AWI	NJ 90555 44954	Route has been re-routed to avoid the AWI. Appears to be semi-natural broadleaved trees	Survey required (as part of Phase 1/NVC survey)
NWSS	**NJ 89850 45036**	**Route goes through NWSS.** **Appears to be mixed trees, with high % of broadleaved trees**	**Re-design of route at this point**
NWSS	NJ 89818 44926	Broadleaved trees	Survey required (as part of Phase 1/NVC survey)
Water course crossing point	**NJ 89636 44992**	**Ditch system/straightened water course**	**Horizontal directional drilling under water course**
Water Voles	NJ 89549 45154 & NJ 89698 44753	Recorded within area (Two NBN data points within survey extent). Possibly associated with ditch system above (NJ 89636 44992)	Survey required
Water course crossing point	**NJ 87121 44328**	**Ditch system/straightened water course: Black Burn**	**Horizontal directional drilling under water course**
Water Voles	NJ 87151 44452	Multiple records of Water Voles within area (Four NBN data points within survey extent. One Grid Ref given as closest data point). Possibly associated with ditch system/Black Burn above (**NJ 87121 44328)**	Survey required
NWSS	**NJ 85090 43972**	**Route goes through woodland, scrub and an NWSS**	**Re-design of route at this point**

Water course crossing point	**NJ 85071 44003**	**Route crosses the Little Water (which connects with the Black Burn and by-passes a large pond)**	**Horizontal directional drilling under water course**
Pond 19	NJ 84862 44017	Large pond within survey extent.	Survey required
Route Splitting Point	***NJ 85029 44003***	***Splits to ND Sub - Station 3***	
Otter & Water Vole	NJ 83909 43345	Otter and multiple water vole records within 250m survey extent of ND Sub -Station 3. Possibly associated with ditch system/Burn of Asleid (on edge of survey extent)	Survey required
Water course crossing point	**NJ 83555 43534**	**Ditch system/straightened water course: Burn of Asleid (near ND Sub-Station 1)**	**Horizontal directional drilling under water course**
Water Voles	**NJ 83555 43534** (data point directly at crossing point)	Multiple records of Water Voles within area (Five NBN data points within survey extent. One Grid Ref given as closest data point). Possibly associated with ditch system/ Burn of Asleid above (**NJ 83555 43534**)	Survey required

APPENDIX B – PROTECTED SPECIES LEGISLATION

B1. General

This section briefly describes the legal protection afforded to the protected species referred to in this report. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation but summarises the salient points.

B2. European Protected Species

Habitats Regulations

European Protected Species (EPS) are those listed on Schedule 2 and 4 of the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended).

Regulation 39 states that it is an offence to:

- Deliberately capture, injure or kill a EPS
- Deliberately disturb a EPS, including in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young; or (ii) hibernate or migrate, where relevant; or (b) to affect significantly the local distribution or abundance of the species to which they belong
- Damage or destroy a breeding site or resting place of a EPS
- Possess, control, transport, sell, exchange a EPS, or offer a EPS for sale or exchange.

Confirmed habitats (*i.e.* breeding sites, sheltering places) receive legal protection even when EPS are not present.

Regulation 43 states that it is an offence to:

- Deliberately pick, collect, cut, uproot or destroy a wild plant of a European protected species
- Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild plant of a European protected species, or any part of, or anything derived from, such a plant.

Works affecting an EPS may require a development licence from the licensing authority, which is Scottish Natural Heritage (SNH). Licences are only issued for a specific purpose and where SNH are satisfied that there is no satisfactory alternative (*i.e.* works are for health and safety or for overriding reasons of public interest) and that the favourable conservation status of bat populations will not be detrimentally affected.

At present, *Schedule 2* EPS comprise of bats (*Rhinolophidae* and *Vespertilionidae*), large blue butterfly (*Maculinea arion*), wildcat (*Felis silvestris grampia*), dolphins (*Cetacea*), dormouse (*Muscardinus avellanarius*), sand lizard (*Lacerta agilis*), great crested newt (*Triturus cristatus*),

otter (*Lutra lutra*), smooth snake (*Coronella austriaca*), sturgeon (*Acipenser sturio*), natterjack toad (*Bufo calamita*) and marine turtles (five species).

At present, *Schedule 4* EPS comprise of *Apium repens* (creeping marshwort), *Cypripedium calceolus* (lady's-slipper), *Gentianella anglica* (early gentian), *Liparis loeselii* (fen orchid), *Luronium natans* (floating-leaved water plantain), *Najas flexilis* (slender naiad), *Rumex rupestris* (shore dock), *Saxifraga hirculus* (marsh saxifrage) and *Trichomanes speciosum* (Killarney fern).

B3. UK Protected Species

Wildlife and Countryside Act 1981 (as amended)

UK Protected Species are those listed on Schedule 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended) extended by the Nature Conservation (Scotland) Act 2004.

Section 1 states that it is an offence to:

- Kill, injure or take any wild bird
- Take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- Take or destroy an egg of any wild bird
- Disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young, or
- Disturb dependent young of such a Schedule 1 bird.

It is not possible to licence works affected nesting birds for development purposes; therefore, work should avoid the nesting bird season (*i.e.* March to August inclusive).

Section 5 of the Act states that it is an offence to:

- Intentionally, or recklessly, kill, injure or take a *Schedule 5* species
- Possess or control a *Schedule 5* species
- Intentionally, or recklessly, or recklessly damage, destroy or obstruct access to any structure or place used by a *Schedule 5* species, and
- Intentionally, or recklessly, or recklessly disturb a *Schedule 5* species whilst is occupies any structure or place.

Section 13 of the Act states that it is an offence to:

- Intentionally picks, uproots or destroys any wild plant included in *Schedule 8*; or
- Not being an authorised person, intentionally uproots any wild plant not included in *Schedule 8*.

Section 14(2)(as amended by Section 14 of the Wildlife and Natural Environment (Scotland) Act 2011), states that it is an offence to plant or otherwise cause to grow any plant in the wild at a place outside its native range.

Wild Mammals (Protection) Act 1996

All wild mammals are protected under the Wild Mammals (Protection) Act 1996. *Section 1* of the Act states that it is an offence to *mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering*.

B4. Invasive Plant Legislation

Wildlife and Countryside Act 1981 (as amended)

This act is the principal domestic legislation concerning non-native species. It was amended by the Wildlife and Natural Environment (Scotland) Act 2011. These amendments enable Scotland to adopt the internationally recognised 3-stage approach to dealing with invasive non-native species and aim to:

- Prevent the release and spread of non-native animal and plant species into areas where they can cause damage to native species and habitats and to economic interests;
- Ensure a rapid response to new populations can be undertaken; and
- Ensure effective control and eradication measures can be carried out when problem situations arise.

APPENDIX C – ABBREVIATIONS

Glossary of abbreviations used in this report

Code	Full Title	Explanation
Amber	Amber list	Amber listed species have a population status in the UK of medium conservation concern.
BA	The Protection of Badgers Act 1992	Legislation making it an offence to kill, injure or take a Badger, or to damage or interfere with a sett unless a licence is obtained from a statutory authority.
BAP	Biodiversity Action Plan	A plan that identifies threats to significantly important species and habitats, and sets out targets and actions to enhance or maintain biodiversity.
DA	The Deer Act 1991	All wild deer with the exception of Muntjac (*Muntiacus reevesi*) and Chinese Water deer (*Hydropotes inermis*) are protected by a closed season.
GB RDB	Red Data Book Species	Species identified in one of the UK Red Data 2001.
GB RDB(CR)	Critically Endangered	An IUCN Red List designation for species at an extremely high risk of extinction.
GB RDB(EN)	Endangered	An IUCN Red List designation for species at a very high risk of extinction.
GB RDB(VU)	Vulnerable	An IUCN Red List designation for species at high risk of extinction.
HAP	Habitat Action Plan	A plan that identifies threats to a priority habitat and sets out targets and actions to enhance or maintain that habitat.
HR-1994(Sch 2)	European Protected Species (Schedule 2)	Animals protected on *Schedule 2* of the *Conservation (Natural Habitats &c.) Regulations 1994* as amended in Scotland)
HR-1994(Sch 4)	European Protected Species (Schedule 4)	Plants protected on *Schedule 4* of the *Conservation (Natural Habitats &c.) Regulations 1994* as amended in Scotland)
IUCN	International Union for Conservation of Nature and Natural Resources (also known as The World Conservation Union)	A worldwide partnership and conservation network to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

Code	Full Title	Explanation
LBAP	Local Biodiversity Action Plan	A plan that identifies threats to locally important species and habitats, and sets out targets and actions in Species Action Plans and Habitat Action Plans to enhance or maintain biodiversity at the county or regional level.
LHAP	Local Habitat Action Plan	A plan that identifies threats to a locally important priority habitat and sets out targets and actions to enhance or maintain that habitat.
LSAP	Local Species Action Plan	A plan that identifies threats to locally important species, and sets out targets and actions to prevent losing that species from the local area.
Notable	Scarce and threatened invertebrates	Invertebrate species which are estimated to occur within the range of 16 to 100 10km squares but subdivision into Notable A and Notable B categories is not possible as there is insufficient information available).
Notable:A	Scarce and threatened invertebrates	Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid or, for less well-recorded groups, within seven or fewer vice-counties.
Notable: B	Scarce and threatened invertebrates	Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in between 31 and 100 10km squares of the National Grid or, for less-well recorded groups between eight and twenty vice-counties.
NN	Nationally Notable	Designation for invertebrate taxa that are thought to be notably important in the UK.
NR	Nationally Rare	Species in 15 or fewer hectads in Great Britain.
NS	National Scarce	Species in 16-100 hectads in Great Britain.
OSPAR	OSPAR	Species listed on *The Convention for the Protection of the Marine Environment of the North-East Atlantic*
Red	Red List	Red listed species have a population status in the UK with high conservation concern.
SAP	Species Action Plan	A plan that identifies threats to significantly important species, and sets out targets and actions to prevent losing that species to extinction.

Code	Full Title	Explanation
SBL	Scottish Biodiversity List	A list of animals, plants and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland.
WCA	The *Wildlife & Countryside Act 1981* as amended by *The Wildlife and Natural Environment (Scotland) Act 2011*	Containing 4 Parts and 17 Schedules, the Act covers protection of wildlife (birds, and some animals and plants), the countryside, National Parks, and the designation of protected areas, and public rights of way. All wild plants in Britain are protected from intentional uprooting by an unauthorized person, but land owners, land occupiers, persons authorized by either of these or persons authorized in writing by the Local Authority for the area are exempt. Protection for some species may be limited to certain Sections of the Act (*e.g.* S13(2).
WCA1	Schedule 1 of The *Wildlife & Countryside Act 1981* as amended by *The Wildlife and Natural Environment (Scotland) Act 2011*	This Schedule lists birds protected by special penalties at all times, but virtually all wild birds have some protection in law. Acts which are prohibited for all wild birds (except derogated 'pest' species) include intentional killing, injuring or taking; taking, damaging or destroying nests in use or being built; taking or destroying eggs; possessing or having control of (with certain exceptions but including live for dead birds, parts or derivative); setting or permitting certain traps, weapons, decoys or poisons. Selling, offering or exposing for sale, possessing or transporting for sale any live wild bird, egg or part of an egg or advertising any of these for sale, or dead wild bird including parts or derivatives are also prohibited. Many birds must be formally registered and ringed if kept in captivity. Schedule I WCA birds are additionally protected from intentional or reckless disturbance while building a nest, or when such a bird is in, on or near a nest containing eggs or young, or intentional or reckless disturbance of dependent young.
WCA5	Schedule 5 of The *Wildlife & Countryside Act 1981* as amended by *The Wildlife and*	Schedule 5 animals are protected from intentional killing, injuring or taking; possessing (including parts or derivatives); intentional or reckless damage, destruction or obstruction of any structure or place used for shelter or protection; selling, offering or exposing for sale,

Code	Full Title	Explanation
	Natural Environment (Scotland) Act 2011	possessing or transporting for the purpose of sale (alive or dead, including parts or derivatives). Protection of some species is limited to certain Sections of the Act (*e.g.* S9(1), S9(4a), S9(4b), S9(5)).
WCA8	Schedule 8 of The *Wildlife & Countryside Act 1981* as amended by *The Wildlife and Natural Environment (Scotland) Act 2011*	Plants and fungi protected from intentional picking, uprooting, destroying, trading (including parts or derivatives), *etc*.