

9 Agriculture and Land Use

Introduction

- 9.1 This Section of the Screening and Scoping Report outlines the proposed scope of impacts of the Proposed Project on agriculture and land use that will be assessed as part of the environmental assessment process. This includes consideration of potential for land sterilisation and land take, as well as the potential for impacts on soils, biosecurity and on the ability of farmers and landowners to achieve their commitments made under Agri-Environmental Schemes. This section also provides an outline of the baseline environment, the proposed assessment methodology, as well as possible mitigation measures.

Legislation and Policy

- 9.2 Legislation which is relevant to Land Use and Agriculture principally comprises:
- The Countryside and Rights of Way (CRoW) Act 2000;
 - The Wildlife and Countryside Act 1981 (as amended);
 - Planning Policy Wales (Edition 9) (Welsh Government, 2016);
 - Gwynedd Unitary Development Plan 2001-2016 (Gwynedd Council, 2009); and
 - Eryri Local Development Plan 2007-2022 (Snowdonia National Park Authority, 2011).

Baseline Environment

Land Use

- 9.3 A large proportion of the Area of Search for Permanent and Temporary Works (the Area of Search) comprises saltmarsh and estuarine environments. In addition, a large area to the north east of the Dwyryd Estuary is urban, consisting of the settlement of Minffordd as well as the Snowdonia Park Business Park; however, there are areas of farmland around Minffordd used for grazing. On the south eastern side of the estuary the Area of Search consists of farmland used for grazing and small pockets of woodland. In addition, there are a number of individual houses falling within the Area of Search.
- 9.4 There are also a number of Public Rights of Way (PRoW) that dissect the Area of Search, including the Wales Coast Path.
- 9.5 There are three land allocations in the Gwynedd Unitary Development Plan 2001-2016 (Gwynedd, 2009) that are applicable to the Area of Search in the settlement of Minffordd, including two areas of protected open space; and another as a safeguarded employment site, associated with the Snowdonia Park Business Park. There are no applicable land allocations included in the Eryri Local Development Plan 2007-2022 (Snowdonia National Park Authority, 2011), within the Area of Search.

Soils

- 9.6 The geology across the Area of Search is mainly Palaeozoic slate. Where this forms the parent material, in particular to the north-west of the Dwyryd Estuary (including land areas for the Sealing End Compound (SEC)), the soils are freely draining acid loamy soils over rock.

- 9.7 Within the areas of saltmarsh besides the Dwyryd Estuary and the Glaslyn River the soils are developed in sediments of varying textures and in places are covered at high tide. Where not directly affected by high tides the soils in these low-lying areas will have naturally high groundwater.

Agricultural Land Classification

- 9.8 Available Agricultural Land Classification (ALC) mapping (from the predictive ALC tool available online at <https://beta.gov.wales/land-management>) a range of land grades are likely to be present, from Grade 3a to Grade 5.
- 9.9 The ALC system classifies land into five grades of land numbered 1 to 5, with Grade 3 subdivided into Subgrades 3a and 3b. The best and most versatile land is defined as Grades 1, 2 and 3a by policy guidance (Technical Advice Note 6, Planning for Sustainable Rural Communities (Welsh Assembly Government, 2010). This is the land which is most flexible, productive and efficient in response to inputs.
- 9.10 To the west of the Dywryd estuary the higher, better drained land is a mix of Grades 3a, 3b and 4. The lowest grades lie on the steeper topography, with the higher grades occurring where the land is flatter. The soils associated with the esturine sediments give rise to predominantly Grade 5 land, with flood risk and waterlogging likely to be the main constraints to productivity.
- 9.11 Only the Grade 3a land would be classified as best and most versatile (BMV) land, according to Technical Advice Note (TAN) 6, Planning for Sustainable Rural Communities (Welsh Assembly Government, 2010).

Agri-Environmental Schemes

- 9.12 Glastir is an Agri-Environmental Schemes delivered by the Welsh Government. Within this scheme there are a range of schemes that landowners/farmers can apply for (for example Glastir Entry, Advanced, and Organic). Details of the locations of such Agri-Environmental Schemes within the Area of search are currently not known. As part of the EIA process, it is proposed to undertake a review of all Agri-Environmental Schemes in the Area of Search through contact with the Welsh Government and through interviews with landowners.

Potential Impacts

- 9.13 The assessment to be presented in the Environmental Assessment Report will consider the construction and decommissioning effects of the Proposed Project on land use and agriculture. Effects during operation are expected to be very limited; any impacts would be associated with regular maintenance activities only. Hence it is proposed to scope out assessment of operational phase effects on land use and agriculture.

Land Take

- 9.14 Permanent loss of land at the SEC / tunnel head houses at either end of the VIP subsection could result in the potential for a permanent reduction in agricultural land area that can be farmed.
- 9.15 However, available mapping indicates that the Proposed Project would not affect BMV land. As such it is not proposed to assess the impact on temporary loss of the agricultural resource during the construction (to include removal of pylons and OHL) and decommissioning phases.

Agri-Environmental Schemes

- 9.16 Where the Proposed Project occurs on land subject to an Agri-Environmental Scheme, the Proposed Project may potentially result in temporary or permanent impacts on the ability of the farmer/landowner to achieve their commitments made under the Agri-Environmental Scheme, resulting in both loss of land areas or features, subject to the Agri-Environmental Scheme, as well as the landowner's/farmer's payment for this. The impact will be dependent on each individual Agri-Environmental Scheme applicant's details.
- 9.17 There are also potentially secondary impacts on biodiversity; however, these are not land use or agriculture impacts and, hence, are discussed in Section 5 Ecology.

Farming Practices

- 9.18 During the construction and decommissioning phases there could be temporary impacts on farming practices, including:
- Temporary loss of grazing areas within the working area and for contractor compounds/storage areas. This would be during construction and for a short period following reinstatement;
 - Temporary separation of livestock from water supplies;
 - Disruption to daily farming practices, such as movement of livestock and agricultural machinery or harvesting efficiency;
 - Temporary effects on agricultural accesses;
 - Temporary removal of field boundaries; and
 - Temporary disruption to field drainage and water supplies.

Soils

- 9.19 During the construction and decommissioning phases there is the potential to impact on the quality of the soils, to include reduced biological activity, compaction, lack of workability, soil mixing, inverted profiles and poor drainage. This has the potential to result principally from poor soil handling and storage.

Biosecurity

- 9.20 Where development occurs across different farm holdings and fields there are potential risks to biosecurity, including:
- Spread of plant and animal diseases, for example Bovine Tuberculosis;
 - Spread of invasive and injurious weeds, for example ragwort, on wheels of construction and maintenance vehicles; and
 - Potential for contamination of organically farmed land, either from contamination with non-organic adjacent farmland or the use of unauthorised chemicals such as pesticides, fertilisers or other non-organically approved compounds.
- 9.21 Risks to biosecurity have potential long term impacts to farm viability.

Proposed Assessment Methodology

Baseline Data Collection

- 9.22 A qualitative desk-based survey will be undertaken, utilising information from the following sources:
- Published ALC details for the area (using the predictive ALC tool available on-line at <https://beta.gov.wales/land-management>;
 - Review of Land Information System Soilscape database (National Soil Resources Institute (NSRI));
 - NSRI Soil Site Report;
 - Ordnance Survey mapping and aerial photography to establish land use and settlement patterns;
 - Survey of landowners/farmers affected by the Proposed Project (incl. farming type, farming practices, Agri-Environmental Schemes etc.);
 - Consultation with NRW to ascertain information on Agri-Environmental Schemes;
 - Planning allocations in the Gwynedd Unitary Development Plan 2001-2016 (Gwynedd Council, 2009) and the Eryri Local Development Plan 2007-2022 (Snowdonia National Park Authority, 2011);
 - Review of Gwynedd Council and Eryri Council Planning Registers to identify other relevant development proposals currently under consideration by the councils; and
 - Review of National Infrastructure Planning Registers to identify Nationally Significant Infrastructure Projects.

Assessment Guidelines

- 9.23 There is no existing guidance directly applicable to the assessment of cable infrastructure on land use and agriculture; however, there are a number of other guidance documents which are of relevance. The following documents will be used to inform the assessment methodology:
- Welsh Transport Planning And Appraisal Guidance (WelTAG), Section 7.9: Soil (The Welsh Assembly Government, 2008);
 - Design Manual for Roads and Bridges (DMRB), Volume 11, Section 2, Part 5: Assessment and Management of Environmental Effects (Highways England, 2008)¹; and
 - DMRB, Volume 11, Section 3, Part 6: Land Use (Highways England, 2001).
- 9.24 In assessing the significance of potential effects of the Proposed Project, two factors will be taken into account:
- The sensitivity of the receiving environment; and
 - The magnitude of the potential impact.

¹ This document is also relevant to Wales.

Sensitivity of Receptor

- 9.25 The sensitivity of the receptor takes into account the sensitivity or importance of land use and agriculture and the activities or functions it supports. Example criteria for describing the sensitivity are summarised in Table 9.1.

Table 9.1: Sensitivity of Receptor Criteria

Sensitivity of receptor	Description	Examples
High	Very high agricultural and land use value, quality or rarity on a national scale.	National land use allocations; Grade 1, 2 and 3a Agricultural Land (i.e. best and most versatile (BMV) land); Higher Tier Agri-Environmental Schemes; Soils with a very low resilience to structural damage (e.g. clayey soil); Pastoral Farms.
Medium	High agricultural and land use value, quality or rarity on a national scale.	Regional land use allocations; Grade 3b Agricultural Land; Soils with a moderate resilience to structural damage (e.g. loamy soils); Mixed farms.
Low	Medium agricultural and land use value, quality or rarity on a regional scale.	Local land use allocations; Grade 4 Agricultural Land; Soils with a low resilience to structural damage (e.g. sandy soils); Organic arable farms.
Very Low	Low or negligible agricultural and land use value, quality or rarity on a local scale.	Grade 5 Agricultural Land; Individual planning applications; Lower Tier Agri-Environmental Schemes; Other soil types (e.g. Made ground); Non-organic arable farms.

Magnitude of Impact

- 9.26 The magnitude of an impact considers the physical and geographical scale of the predicated change to baseline conditions resulting from a given potential impact and takes into account the duration of impact, for example whether it is temporary or permanent, direct or indirect, as well as reversibility of the effect. Impacts can also be classified as adverse or beneficial. Criteria for describing the magnitude are described in Table 9.2.

Table 9.2: Magnitude of Impact Criteria

Magnitude of Impact	Description	Examples
High	Results in total loss or substantial change to key features or attributes of the resource, or its key characteristics, features or elements, such that post development character/composition will be fundamentally changed, affecting its integrity or viability.	Permanent loss of >20ha of BMV land; Permanent, full displacement of intended land uses; Current farm practice is seriously affected leading to major to viability issues.
Medium	Results in partial loss or alteration to key features or attributes of the resource, or its key characteristics, features or elements, such that post development character/composition will be materially changed, affecting its integrity or viability.	Permanent loss of 5-20ha of BMV land; Permanent, moderate displacement of intended land uses; Current farm practice is affected but overall viability unlikely to be affected.
Low	Results in a measurable, but not material change, to key features or attributes of the resource, or its key characteristics, features or elements, such that post development character/composition will be similar to the pre-development situation.	Permanent loss of <5ha of BMV land; Permanent loss of peripheral land for intended land use or temporary loss of large-moderate area; Current farm practice is marginally affected, but with no effect on viability.
Very Low	Results in a little or no change to key features or attributes of the resource, or its key characteristics, features or elements, such that change is barely distinguishable.	Permanent loss of non-BMV land; Permanent loss of minor land, such that existing and intended land use can continue or temporary loss of minor area; No noticeable changes in farm practices.

Classification of Effects

- 9.27 A combination of the magnitude of impact under consideration and the sensitivity of the receptor determines the significance of effect. A classification of effects table is provided in Table 9.3.
- 9.28 The assessment method is largely qualitative and requires a degree of professional judgement to be applied, so may require deviation to what is shown in Tables 9.1 to 9.3 where necessary.
- 9.29 For the purposes of this assessment, effects are classified as significant when major or moderate. Minor and negligible effects are classified as not significant.

Table 9.3: Classification of Effects

Sensitivity of Receptor	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

Basis of Assessment

Impacts on Development Land

- 9.30 This will identify land use allocations in planning policy as well as developments proposed by way of the submission of a planning application, permitted/with a resolution to grant permission or under construction (including Nationally Significant Infrastructure Projects). The level of allocation will determine the sensitivity of the land, while the magnitude will take regard to the degree of change the Proposed Project would have on future development outlined in the allocation/application.

Permanent Land Take

- 9.31 This will assess permanent land take in terms of quality (sensitivity of receptor) and future viability of individual farms (magnitude of impact). Sensitivity of the receptor will be assessed in terms of the ALC of the land. Magnitude of impact will be assessed in terms of the future viability of individual farms. Consultation will need to be undertaken with landowners/farmers to ascertain the magnitude of impact.

Agri-Environmental Schemes

- 9.32 Details of Agri-Environmental Schemes that may be affected by the Proposed Project will be identified as part of the environmental assessment process, through review of available data from NRW, as well as in consultation with landowners/farmers. The effect of the Proposed Project on these Agri-Environmental Schemes will be qualitatively assessed, with sensitivity based on the tier and area of the Agri-Environmental Scheme(s). The magnitude of impact is based on degree of loss or change to key features or attributes of the Agri-Environmental.

Farming Practices

- 9.33 The effect of the Proposed Project on farming practices will be assessed through a qualitative assessment, principally in consultation with farmers, to ascertain how the construction and decommissioning phases will affect their farming practices, as it is recognised this may differ between farms.
- 9.34 Sensitivity of the receptor will be assessed in terms of the farming type (for example pastoral, mixed, or arable); while the magnitude of impact will be assessed in terms of the future viability of individual farms.

Soils

- 9.35 The effect of the Proposed Project on soils will be based on the characteristics of soils and the potential for them to be reinstated to their pre-construction condition. Information on

dominant soil types will be gained from published sources and supplemented by information obtained from discussion with the landowner/farmer. Sensitivity is based on the soil's resilience to structural damage when being handled. Clay-rich soils are less resilient to handling, especially when wet, than sandy soils. Magnitude of impact will be based on the risk of change to the soil characteristics following reinstatement.

Biosecurity

- 9.36 The effect of the Proposed Project on biosecurity will be based on the farming type (sensitivity) and the likely magnitude of impact based on how much of an effect a biosecurity breach will have on farm practices and the likely financial impact. Biosecurity will be assessed qualitatively across each section of the proposed route, largely through discussions with the landowner/farmer. Farm types most sensitive to biosecurity will be pastoral, followed by mixed farming and least sensitively arable farming. Organic farming of is also considered more sensitive than non-organic farming, and shall be included in the sensitivity.

Proposed Mitigation Measures

- 9.37 Detailed routeing and design will seek to minimise impacts and mitigate effects in the construction and decommissioning phases. Mitigation measures are also likely to include:
- Best practice approach to soil handling and restoration, following the Defra 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (Defra, 2009) and the MAFF guidance 'Good Practice Guide for Handling Soil' (Ministry of Agriculture, Fisheries and Food, 2000);
 - Welsh Assembly Government guidance 'The Code of Good Agricultural Practice' (Welsh Assembly Government, 2011);
 - Biosecurity mitigation measures such as wheel and shoe wash facilities;
 - Re-instatement of all areas subject to Agri-Environmental Scheme agreements and, if necessary, implementation of a special management plan to regain the agri-environmental scheme status; and
 - Reasonable compensation for loss of Agri-Environmental Scheme payments and loss of earnings.

Issues to be Scoped Out

- 9.38 It is proposed to scope out the following topics:
- Impacts on land use and agriculture during the operational phase;
 - Potential economic effects that the Proposed Project will have on individual landowners and farmers; and
 - Temporary land take during the construction and decommissioning phases.

Operation

- 9.39 Effects during operation are expected to be very limited; any impacts would be associated with regular maintenance activities only.

Economic Effects

- 9.40 Economic effects of the Proposed Project are dealt with in Section 13 (Socio-Economics and Tourism) of this Report and are therefore not replicated here. Furthermore, any financial consequences on individual landowners and farmers due to the Proposed Project will be temporary, as the land will be reinstated after the construction and decommission phase, moreover, farmers will be reasonably compensated for loss of earnings as a direct result of the Proposed Project.

Temporary Land Take

- 9.41 As the Proposed Project is not located on BMV land it is not proposed to assess the impact on temporary loss of the agricultural resource.

Overview of the Likely Significance of Effect

- 9.42 From the information currently available, it is not anticipated that the Proposed Project will give rise to significant residual impacts.