

Dumfries and Galloway Council

Appendix C: Wind Energy Landscape Sensitivity Study

Assessment of Larger
Wind Turbines

February 2025

Dumfries and Galloway Wind Energy Landscape Sensitivity Study

Assessment of Larger Wind Turbines

October 2024

Carol Anderson Landscape Associates

Executive Summary

Introduction

The Dumfries and Galloway Wind Energy Landscape Sensitivity Study (DGWLSS) considers landscape sensitivity to different sizes of wind turbine development. The study is based on earlier assessments considering landscape sensitivity and capacity to wind energy development produced in 2010 and 2017. This 2024 study revises and updates the information in these earlier studies so that it accords with recent guidance on assessing landscape sensitivity issued by NatureScot in 2022. It also updates the assessment in terms of constructed and consented wind energy developments that have occurred in Dumfries and Galloway, and in relevant parts of adjoining local authorities, since 2017.

Scope and Methodology

Landscape sensitivity studies are intended to inform strategic planning for wind energy and to provide information that can assist in the evaluation of specific development proposals. They are a tool to help guide development to the best locations. The methodology follows best practice guidance on assessing landscape sensitivity. It establishes a landscape baseline in terms of operational and consented wind energy development in the region. This Main Report of the study considers landscape sensitivity to two categories of larger wind turbines >80m high. A separate sensitivity assessment report for smaller wind turbines <80m high has been produced.

Detailed sensitivity assessments are based on Assessment Units defined across Dumfries and Galloway which have been informed by the landscape character classification covering the region. However, as potential effects on landscape and/or on views can extend over a wide area due to the height of commercial wind turbines, sensitivity assessments for both the 'host' Assessment Unit and adjoining or close-by Assessment Units may also need to be considered.

Structure

Section A establishes the context of the study and explains the methodology that has been adopted. Section B comprises a summary of the study findings and recommendations, followed by detailed sensitivity assessments for onshore and offshore wind energy development for each Assessment Unit. A description of the landscape character of each Assessment Unit is set out in the detailed sensitivity assessment. Key constraints and opportunities to development, and findings on sensitivity to different sizes of wind turbine, are identified for each Assessment Unit. The detailed sensitivity assessments are set out in tabular form. In Assessment Units where operational and consented wind energy developments influence character and views, cumulative issues likely to be associated with additional development are identified.

Summary of Findings

The landscape of Dumfries and Galloway is notably diverse with rich, multi-layered landscapes and high-quality scenery being a key feature and recognised in the scenic designations which cover extensive parts of the region.

The region's larger operational and consented wind farms generally occupy less sensitive, sparsely settled and simple upland areas. Remaining undeveloped parts of these upland landscapes are often more constrained as they lie closer to more sensitive settled areas. Developments are particularly extensive and are a key characteristic in the Wigtownshire

Moorlands, the Southern Uplands near upper Nithsdale and the upper Glenkens and within the Forest of Ae. Sensitivity is increased in these areas due in part to the cumulative effects of multiple wind farm developments.

Smaller groups of large wind turbines are also located in less extensive areas of simpler upland plateau, lying within or closer to more settled valleys and coastal areas. Although there has not been widespread development of large wind turbines within more sensitive lowland areas, such developments are more visible from settlement and key transport routes than the more extensive wind farms located within the much larger scale upland areas.

The study identifies areas of lower landscape and visual sensitivity in parts of the *Southern Uplands with Forest* and relating to smaller parts of the remaining undeveloped *Plateau Moorlands*, *Plateau Moorlands with Forests* and *Foothills with Forest* Assessment Units. Cumulative effects with operational and consented wind farms, and likely increased effects on surrounding more sensitive landscapes, are key factors increasing sensitivity in the remaining undeveloped parts of these landscapes.

The more rugged hill ranges of the *Southern Uplands*, the *Coastal Granite Uplands* and the *Foothills* Assessment Units are concluded to be of high sensitivity to larger wind turbines because of their scenic distinctiveness and because they often form the backdrop to settled dales, glens and valleys. Smaller scale and more settled lowland landscapes, generally lying in the south of the region, are also identified in the study as being of higher sensitivity to larger wind turbines.

In terms of offshore wind energy development, the coast of Dumfries and Galloway forms an essential part of the region's identity. The enclosed bays, the wilder seascapes associated with the Mull of Galloway and the Machars peninsula and coastal views from the A75 and settlement are noted as being of particular sensitivity to potential offshore wind energy development.

Limitations

The study provides information on the relative sensitivity of landscapes to different scales of wind turbine development. The majority of commercial scale wind turbines will result in significant adverse landscape and visual effects. The study sets out strategic guidance on the likely nature and degree of severity of potential landscape and visual effects. Landscape and visual sensitivity comprise one of a range of issues that need to be considered in determining the potential acceptability of a specific development. The strategic guidance within the DGWLSS does not replace the need for more detailed Landscape and Visual Impact Assessment of specific wind energy proposals.

CONTENTS

SECTION A: BACKGROUND AND KEY FINDINGS OF STUDY

1	INTRODUCTION	9
1.1	POLICY AND GUIDANCE BACKGROUND	9
1.2	STUDY AIMS	9
1.3	STRUCTURE OF THE REPORT.....	9
1.4	HOW TO USE THE STUDY.....	10
2	STUDY METHODOLOGY	11
2.1	LANDSCAPE SENSITIVITY STUDIES	11
2.2	DEFINITION OF TERMS.....	11
2.3	GENERAL APPROACH TO THE STUDY	12
2.4	OPERATIONAL AND CONSENTED WIND ENERGY DEVELOPMENTS.....	12
2.5	BASELINE LANDSCAPE CHARACTER	14
2.6	WIND ENERGY DEVELOPMENT CONSIDERED IN THE STUDY	16
2.7	THE SENSITIVITY ASSESSMENT	19
2.8	SENSITIVITY RATINGS	20
2.9	CUMULATIVE ISSUES AND STRATEGIC CAPACITY ASSESSMENT	20
2.10	CULTURAL HERITAGE OVERVIEW	21
3	STUDY FINDINGS AND RECOMMENDATIONS.....	22
3.1	INTRODUCTION.....	22
3.2	SENSITIVITY TO VERY LARGE TURBINES 150M–250M.....	22
3.3	SENSITIVITY TO LARGE TURBINES 80-150M.....	23
3.4	OFFSHORE WIND ENERGY DEVELOPMENT	24
3.5	STRATEGIC LANDSCAPE CONSIDERATIONS	24
3.6	A RECOMMENDED LANDSCAPE STRATEGY	27
3.7	MITIGATION AND ENHANCEMENT MEASURES.....	28
4	INTRODUCTION TO THE SENSITIVITY ASSESSMENT	30
4.1	THE INFORMATION PROVIDED IN THE SENSITIVITY ASSESSMENT	30
4.2	INTERPRETING THE OVERALL SENSITIVITY RATINGS.....	31
4.3	LANDSCAPE CONTEXT AND INDIRECT EFFECTS	32
5	ASSESSMENT UNIT 1: PENINSULAS	33
5.1	INTRODUCTION.....	33
5.2	RHINS AREA	34
5.3	SENSITIVITY AND GUIDANCE	35
5.4	MACHARS AREA.....	39
5.5	SENSITIVITY AND GUIDANCE	40
5.6	DUNDRENNAN AREA.....	44
5.7	SENSITIVITY AND GUIDANCE	45
6	ASSESSMENT UNIT 2: PENINSULA WITH GORSEY KNOLLS.....	49
6.1	INTRODUCTION.....	49
6.2	DESCRIPTION	49
6.3	SENSITIVITY AND GUIDANCE	50

7	ASSESSMENT UNIT 3: COASTAL FLATS	54
7.1	INTRODUCTION.....	54
7.2	WIGTOWN, CREE/FLEET FRINGE, NITH COASTAL FRINGE AND INNER SOLWAY.....	55
7.3	SENSITIVITY AND GUIDANCE	55
7.4	STRANRAER BASIN	59
7.5	SENSITIVITY AND GUIDANCE	60
8	ASSESSMENT UNIT 6: LOWER/MIDDLE DALES.....	64
8.1	INTRODUCTION.....	64
8.2	DESCRIPTION	64
8.3	SENSITIVITY AND GUIDANCE	65
9	ASSESSMENT UNIT 9: UPPER DALES.....	69
9.1	INTRODUCTION.....	69
9.2	UPPER NITHSDALE	69
9.3	SENSITIVITY AND GUIDANCE	70
9.4	UPPER GLENKENS	74
9.5	SENSITIVITY AND GUIDANCE	75
10	ASSESSMENT UNIT 11: MOSS AND FOREST LOWLAND	79
10.1	INTRODUCTION.....	79
10.2	DESCRIPTION	79
10.3	GUIDANCE ON DEVELOPMENT	80
11	ASSESSMENT UNIT 12: MOSS, MOOR AND DRUMLIN PASTURE	85
11.1	INTRODUCTION.....	85
11.2	DESCRIPTION	85
11.3	SENSITIVITY AND GUIDANCE	86
12	ASSESSMENT UNIT 13: DRUMLIN PASTURES.....	90
12.1	INTRODUCTION.....	90
12.2	DESCRIPTION	90
12.3	SENSITIVITY AND GUIDANCE	91
13	ASSESSMENT UNIT 14: COASTAL/FLOW PLATEAU.....	95
13.1	INTRODUCTION.....	95
13.2	DESCRIPTION	95
13.3	SENSITIVITY AND GUIDANCE	96
14	ASSESSMENT UNIT 15: UPLAND FRINGE	100
14.1	INTRODUCTION.....	100
14.2	'HILL FRINGE' AREAS.....	100
14.3	SENSITIVITY AND GUIDANCE	102
14.4	'STAND-ALONE' UPLAND FRINGES.....	106
14.5	SENSITIVITY AND GUIDANCE	106
15	ASSESSMENT UNIT 16: PLATEAU MOORLAND.....	110
15.1	INTRODUCTION.....	110
15.2	DESCRIPTION	110
15.3	SENSITIVITY AND GUIDANCE	112

16 ASSESSMENT UNIT 17: PLATEAU MOORLAND WITH FOREST	116
16.1 INTRODUCTION.....	116
16.2 DESCRIPTION	116
16.3 SENSITIVITY AND GUIDANCE	118
17 ASSESSMENT UNIT 18: PLATEAU MOORLAND WITH LOCHS	122
17.1 INTRODUCTION.....	122
17.2 DESCRIPTION	122
17.3 SENSITIVITY AND GUIDANCE	123
18 ASSESSMENT UNIT 19: FOOTHILLS.....	127
18.1 INTRODUCTION.....	127
18.2 ANNANDALE FOOTHILLS	127
18.3 SENSITIVITY AND GUIDANCE	129
18.4 BEATTOCK AREA.....	133
18.5 SENSITIVITY AND GUIDANCE	134
18.6 CAIRNHARROW AREA	138
18.7 SENSITIVITY AND GUIDANCE	138
18.8 DALMACALLAN AREA	142
18.9 SENSITIVITY AND GUIDANCE	142
18.10 FLEET AREA.....	146
18.11 SENSITIVITY AND GUIDANCE	146
18.12 KEIR/TYNRON	149
18.13 SENSITIVITY AND GUIDANCE	149
18.14 NITHSDALE AREA	152
18.15 SENSITIVITY AND GUIDANCE	152
19 ASSESSMENT UNIT 20: FOOTHILLS WITH FOREST.....	155
19.1 INTRODUCTION.....	155
19.2 AE AREA.....	155
19.3 SENSITIVITY AND GUIDANCE	157
19.4 CAIRNSMORE AREA.....	161
19.5 SENSITIVITY AND GUIDANCE	161
19.6 CULLENDOCH	164
19.7 SENSITIVITY AND GUIDANCE	164
19.8 LAURIRSTON AREA.....	169
19.9 SENSITIVITY AND GUIDANCE	170
19.10 RHINNS OF KELLS AREA	174
19.11 SENSITIVITY AND GUIDANCE	175
19.12 ESKDALE, CASTLE OER AND TINNISBURN	179
19.13 SENSITIVITY AND GUIDANCE	180
19.14 STROAN AREA	183
19.15 SENSITIVITY AND GUIDANCE	184
20 ASSESSMENT UNIT 21: SOUTHERN UPLANDS.....	188
20.1 INTRODUCTION.....	188
20.2 NITHSDALE/NW LOWTHERS - DESCRIPTION.....	188
20.3 SENSITIVITY AND GUIDANCE	190
20.4 SOUTHERN UPLANDS – ‘DISTINCTIVE RUGGED HILLS’ AREAS (21) – DESCRIPTION.....	194
20.5 SENSITIVITY AND GUIDANCE	195

21 ASSESSMENT UNIT 22: SOUTHERN UPLANDS WITH FOREST	199
21.1 INTRODUCTION.....	199
21.2 DESCRIPTION	199
21.3 SENSITIVITY AND GUIDANCE	201
22 ASSESSMENT UNIT 23: COASTAL GRANITE UPLANDS	205
22.1 INTRODUCTION.....	205
22.2 CAIRNSMORE - DESCRIPTION.....	206
22.3 SENSITIVITY AND GUIDANCE	206
22.4 BENGAI RN AREA (AU 23) - DESCRIPTION.....	209
22.5 SENSITIVITY AND GUIDANCE	209
22.6 DALBEATTIE (AU 23) – DESCRIPTION.....	213
22.7 SENSITIVITY AND GUIDANCE	213
23 ASSESSMENT UNIT 24 - RUGGED GRANITE UPLANDS	218
23.1 INTRODUCTION.....	218
23.2 DESCRIPTION	218
23.3 SENSITIVITY AND GUIDANCE	219
24 ASSESSMENT UNIT 25: RUGGED GRANITE UPLANDS WITH FOREST	223
24.1 INTRODUCTION.....	223
24.2 MERRICK AND GLENTROOL AREAS (AU 25) – DESCRIPTION.....	223
24.3 SENSITIVITY AND GUIDANCE	224
24.4 CAIRN EDWARD AREA (AU 25) – DESCRIPTION.....	227
24.5 SENSITIVITY AND GUIDANCE	227
25 SENSITIVITY ASSESSMENT FOR OFFSHORE WIND FARM DEVELOPMENTS.....	231
25.1 INTRODUCTION.....	231
25.2 BACKGROUND STUDIES AND ISSUES RELATED COASTAL CHARACTER	231
25.3 SENSITIVITY ASSESSMENT FOR OFFSHORE WIND FARM DEVELOPMENT	234
25.4 CUMULATIVE EFFECTS ON WIDER SEASCAPE	240
25.5 CONCLUSIONS	241

Section A: Background

1 INTRODUCTION

1.1 Policy and guidance background

1.1.1 *National Planning Framework 4 (NPF4)*

The Scottish Government is committed to increasing the amount of electricity generated from renewable sources. NPF4 requires Local Development Plans to seek to realise their area's full potential for electricity and heat from renewable, low carbon and zero emissions sources by identifying a range of opportunities for energy development. NPF4 recognises the importance of design and mitigation of renewable energy proposals in addressing significant landscape and visual effects whilst accepting that such effects are to be expected from some forms of renewable energy generation.

1.1.2 *The role of landscape sensitivity studies*

NatureScot's 2022 *Landscape Sensitivity Assessment Guidance* advises that landscape sensitivity studies are intended to inform strategic planning for wind energy and to provide information that can assist in the evaluation of specific development proposals. They are a tool to help guide development to the best locations. The findings on landscape sensitivity set out in this study are strategic and indicative and are not a substitute for detailed Landscape and Visual Impact Assessment (LVIA) undertaken for site and project specific development proposals.

1.2 Study Aims

This study revises and updates the 2017 Dumfries and Galloway Wind Farm Landscape Capacity Study (DGWLCS) in response to changes in baseline conditions and to reflect updated guidance on landscape sensitivity assessment. The study provides:

- A detailed landscape and visual sensitivity assessment for wind energy developments based on Assessment Units which have been derived from landscape character classifications for Dumfries and Galloway.
- The identification of key landscape and visual constraints and opportunities for development and assessment of existing and potential cumulative effects related to multiple wind energy developments.
- Siting and design guidance for potential development.

1.3 Structure of the report

This report initially sets out the methodology adopted for the study, the Assessment Units and the type of development assessed in the study. Operational and consented wind farm developments which form the baseline for the study are also identified.

Landscape and visual sensitivity assessments have been produced for 25 broad Assessment Units and also for smaller more geographically specific smaller Landscape Areas within these Assessment Units. The Assessment Units are similar in categorisation and mapping to the Landscape Character Types identified by Nature Scot in their online national landscape character classification. The Assessment Units and smaller Landscape Areas are however generally defined at a more detailed level for the purposes of a wind energy sensitivity assessment study. The assessments

consider sensitivity against key landscape and visual criteria for different sizes of wind turbine development. Guidance is provided on cumulative issues, opportunities and constraints for development and on siting and design. Sensitivity for offshore wind energy development is also provided with this being based on a regional scale coastal character assessment.

1.4 How to use the study

The study aims to support strategic spatial planning for wind energy development. It considers broad landscape and visual sensitivities only and a range of other factors also need to be considered in determining the acceptability of specific developments. The assessment identifies constraints and opportunities at a strategic scale and Landscape and Visual Impact Assessment (LVIA) will provide more detailed assessment of specific wind energy developments.

The sensitivity assessments have been undertaken on the basis of Assessment Units which are closely allied to Landscape Character Types. These units often have 'fluid' boundaries with a gradual transition occurring with adjacent Assessment Units which have a similar character. Wind turbines are also tall structures likely to have an influence on surrounding landscapes. It is therefore recommended that when considering individual proposals both the Assessment Unit that the proposed development lies in, and relevant surrounding Assessment Units, are reviewed as wider sensitivities may apply. This should include consideration of cross-boundary landscape and visual issues in adjacent authorities where relevant.

The study considers the sensitivity of Assessment Units to a limited number of pre-determined turbine types, principally based on height. Individual applications need to be considered on a case-by-case basis with some flexibility on turbine heights being applied within close range of the upper height threshold used in the sensitivity assessment. Where turbines are slightly above the height threshold or proposed within more sensitive landscapes, they should be subject to careful and thorough consideration. The importance of design and mitigation of renewable energy development is recognised in NPF4 Policy 11 and with this in mind it is recommended that applicants demonstrate how they have dealt with potential effects on the constraints identified in the sensitivity assessment at a more detailed level.

2 STUDY METHODOLOGY

The study considers the sensitivity of key characteristics of different landscapes within Dumfries and Galloway to changes that would be brought about by new wind energy development. Although the focus is on landscapes within Dumfries and Galloway, landscape and visual sensitivities and potential cumulative issues associated with development within adjoining authorities are also considered. The Study Area is shown in Figure 1.

2.1 Landscape sensitivity studies

This study accords with the guidance contained in NatureScot's 2022 *Landscape Sensitivity Assessment Guidance*. The guidance defines landscape sensitivity assessments as strategic appraisals of the relative sensitivity of landscapes to development or land use changes. Landscape sensitivity is described in the guidance as being '*a measure of the ability of a landscape to accommodate change arising from specified development types or land management scenarios without undue negative effects on the landscape and visual baseline and their value*'.

Landscape sensitivity assessment is undertaken on the basis of Assessment Units. In the case of this study, the 1998 Dumfries and Galloway Landscape Character Assessment forms the principal classification which has informed the definition of Assessment Units. The susceptibility of key landscape and visual criteria, and the value associated with the landscape, are considered in making judgements on sensitivity. Landscape sensitivity assessment considers the principle of a particular type of change rather than a specific development in a defined location.

2.2 Definition of terms

The following definitions of terms apply to this study:

Landscape character assessment is the starting point for landscape sensitivity work. It identifies and explains the combination of elements and features that make landscape distinct from one another by mapping and describing Landscape Character Types that are generic and Landscape Character Areas that are place specific. The description of their distinctive characteristics often includes how the landscape is perceived and experienced by people. Landscape Character Assessment analyses in detail the three main physical landscape components of landform, land cover and settlement and how they combine to form the landscapes we see and experience.

Landscape susceptibility within the context of sensitivity studies, can be defined as '*the degree to which a defined landscape and its associated visual qualities and attributes might respond to the specific development type/development scenario or other change without undue negative effects on landscape character and the visual resource*'. In this study, change relates to wind energy development and any findings on landscape sensitivity are restricted to this. Landscapes may have different susceptibilities to other forms of development or land use change.

Landscape value is a measure of the relative value attached to different landscapes by society. It includes nationally and locally important designated landscapes and other formally recognised landscape interests as well as other aspects of the landscape

which may be valued by a variety of stakeholders for a range of reasons such as recreation, tourism or cultural interest.

Landscape sensitivity is a measure of the ability of a landscape to accommodate change arising from specified development types or landscape management changes. It combines judgements on the susceptibility of the landscape to change and the values attached to the landscape. Sensitivity assessments or studies provide an indication of this in a manner which is robust and repeatable.

2.3 General approach to the study

The approach to the study has been informed by guidance on the potential impacts and landscape sensitivities associated with wind energy development and on the practical application of methodologies used in recent landscape sensitivity studies we have undertaken. The study has involved the following key tasks:

- Identification of operational and consented wind energy developments in Dumfries and Galloway and within adjoining authorities to inform the baseline for this study.
- Identification of the different wind turbine development typologies to be assessed in the study in collaboration with Dumfries and Galloway Council.
- Definition of the landscape and visual susceptibility criteria to be used in the assessment and the scope of factors to consider in determining the value associated with the landscape.
- Field work to assess the sensitivity of Assessment Units to the agreed development typologies using identified sensitivity criteria and considering operational and consented wind energy developments.
- Identification of areas, through fieldwork and examination of recent LVIA of consented but not yet built wind farms, where the number, extent and proximity of operational and consented wind farm developments has resulted/will be likely to result in significant cumulative landscape and visual impacts.
- An overview of landscape and visual sensitivity across the study area with recommendations on strategic landscape and visual considerations for wind energy developments within and close to Dumfries and Galloway.

2.4 Operational and consented wind energy developments

The operational and consented wind farm developments set out in Table 3 which follows have formed the baseline for the assessments set out in this study with a cut-off date of the end of March 2024 being set. The majority of these developments are located in Dumfries and Galloway but other wind farms lying close to the boundary of the authority which have a noticeable influence on landscape character and on views are also listed. These developments are shown in Figure 2.

Table 3: Wind Farm Baseline for the Study

Windfarm	Turbines	Height to blade tip	Authority and DG Assessment Unit
Operational and under-construction wind farms with turbines > 50m high			
Afton	23	120m	EAC
Arcleoch	60	135m	SAC

Aries	14	137m	DG (17)
Artfield Fell	15	76m	DG (16)
Balmurrie Fell	7	80m	DG (16)
Barlockhart	4	115m	DG (1/12)
Benbrack	12	149m	DG (22)
Blackcraig	23	125m	DG (20)
Carlesgill	6	99.5m	DG (22)
Carscreugh	18	70m	DG (15)
Clyde	152	125m	SL
Clyde extension	54	142/125.5m	SL
Crossdykes	10	176.5m	DG (20)
Dalswinton	15	125m	DG (20)
Ewe Hill	22	111.5m	DG (20/22)
Glen App	11	126.5m	SA
Glenchamber	11	126.5m	DG (16)
Hare Hill	20	63.5m	EA
Hare Hill Extension	35	125m	EA
Harestanes	68	125m	DG (20)
Kilgallioch	95	146.5m	DG (17)
Minnygap	10	125m	DG (19)
Minsca	16	120m	DG (19)
North Rhinns	11	100m	DG (1)
Plascow	3	76.5m	DG (23)
Robin Rigg	60	125m	DG (offshore)
Sandy Knowe	24	125m	DG (9/21)
Sanquhar	9	126.5m	DG (21)
Solwaybank	15	126.5m	DG (19)
South Kyle	50	149.5m	DG/EA (22)
Stranoch II	20	140/175m	DG (16)
Sunnyside	2	62m	DG (9)
Torrs Hill	2	100m	DG (20)
Twenty Shilling	9	140m	DG (19)
Wether Hill	14	93m	DG (22)
Windy Rig	12	125m	DG (22)
Windy Standard	32	53.5m	DG (22)
Windy Standard II	30	120m	DG (22)
Whiteside Hill	10	121.2m	DG (21)
Consented wind farms and turbines >50m high			
Arcleloch extension	13	200m	SA
Cornharrow	7	180m	DG (22)
Enoch Hill	16	149.9m	EA
Fell	9	200m	DG (20)
Glenmuckloch	8	149.9m	DG (21)
Glenshimmeroch	10	200m	DG (20)
Hopsrig	12	140m	DG (22)
Kilgallioch extension	9	180m	DG (17)
Loganhead	8	135m	DG (21)
Lorg	9	149.9m	DG (22/21)
Margee	9	200m	DG (20)
Pencloe	19	149.9m	EA
Sanquhar II	44	200/149.9m	DG (21)

Shepherds Rig	17	125/149.9m	DG (21)
Trostan Loch	14	149.9m	DG (20)
Windy Standard III	20	125/177.5m	EA/DG

DG Dumfries and Galloway, EA East Ayrshire, SL South Lanarkshire, SA South Ayrshire

2.4.1 Smaller wind turbine developments

Operational single and small groups of turbines below 50m high are evident within the farmed lowlands of the region and are particularly prevalent within the Machars and Rhinns peninsulas.

2.5 Baseline landscape character

The 1998 Dumfries and Galloway Landscape Character Assessment forms the basis for the Assessment Units considered in this study. Some minor revisions to the classification and boundaries of Landscape Character Types (LCTs) defined in the 1998 study were made when defining Assessment Units for the purposes of the sensitivity assessment. NatureScot's updated 2019 landscape character assessment is largely based on the 1998 Dumfries and Galloway Character Assessment with no significant changes made to the classification or boundaries of LCTs and minimal alteration made to the original descriptions of landscape character.

The Assessment Units considered in the sensitivity assessment are shown in Figure 3. Geographically distinct Landscape Areas are also defined within the majority of the Assessment Units and these are shown on the key maps which accompany the sensitivity assessments prepared for each Assessment Unit.

2.6 Wind energy development considered in the study

The majority of operational wind turbines within commercial wind farms in Dumfries and Galloway are around 125m. There has been an increase in the size, efficiency and energy output of turbines since the first onshore wind energy developments became operational with recent consents in Dumfries and Galloway being for turbines 200m high to blade tip. Turbines <150m high are now not generally considered to be economic in a subsidy free context by the renewables industry. Manufacture of smaller turbines has slowed and turbines <150m high are more likely to comprise second hand turbines from older wind farms that may be used by industrial and farming businesses or by communities.

The focus of this study is on new commercial wind farm developments and extensions to operational wind farms likely to comprise turbines >150m high to blade tip. Developments of this size are usually located away from the more settled parts of Dumfries and Galloway. While there are currently very few applications for turbines <150m high, these smaller turbines may be proposed in future in more settled areas.

Repowering of older operational wind farms (where smaller, less efficient wind turbines are replaced, usually with larger models) has not materialised to any great extent across Scotland. None of the older operational wind farms in Dumfries and Galloway operational wind farms currently have repowering proposals with developers preferring to extend operational consents to take advantage of subsidy agreements associated with the original development.

Turbines below 30m high to blade tip are not considered in detail in this study. The majority of landscapes within Dumfries and Galloway can accommodate turbines of this size providing they are appropriately sited. Supplementary Guidance has been produced for siting turbines below 50m high and is contained in the accompanying Assessment of Smaller Wind Turbines Report.

This study also considers sensitivity to offshore wind turbine development. The offshore Dogger Bank wind farm in England, which is currently under-construction, comprises turbines 260m high to blade tip. Current applications for offshore wind farm developments comprise turbines of up to 310m high to blade tip (at lowest astronomical tide level)¹.

2.6.1 *Wind turbine types considered in this updated study*

We have considered the following development typologies in the study:

- ***Small turbines 30m to 50m***
- ***Medium turbines 50m to 80m high***
- ***Large turbines 80-150m high***
- ***Very Large turbines 150-250m***

This report sets out a sensitivity assessment for wind turbines >80m high to blade tip. An accompanying Assessment of Smaller Wind Turbines Report considers sensitivity in relation to smaller wind turbines <80m high.

Detailed sensitivity assessment has not been undertaken for smaller turbines <80m for the Assessment Units which comprise sparsely settled upland landscapes as applications for this size of turbine are unlikely to occur in these landscapes.

Detailed sensitivity assessment for larger wind turbines >80m is not provided for the Assessment Units which comprise small scale valleys and glens where applications for this size of wind turbine are unlikely. Key landscape and visual sensitivities pertinent to these smaller scale landscapes are however identified in the accompanying Assessment of Smaller Wind Turbines Report. Table 4, within Chapter 4 of this report, sets out which turbine sizes are considered in the detailed tabular assessments for each Assessment Unit.

Appendix C to this report provides a mapped summary of sensitivity to smaller wind turbines within the more settled landscapes of Dumfries and Galloway where applications for this size of wind turbine may occur in future.

We have principally considered the height of turbine within the sensitivity assessment as this is a critical factor in determining landscape and visual sensitivity. We have not specifically considered pre-determined numbers of turbines within the typologies assessed as this would make the sensitivity assessment complex and potentially difficult to follow. Some indication is given however of the likely extent of development that may be accommodated in lower sensitivity Assessment Units. The number of turbines that can be accommodated within a wind farm development will be influenced

¹ For example, the Berwick Bank offshore wind proposal (Environmental Impact Assessment 2022)

by the relative extent of undeveloped land within the Assessment Unit (or place-specific Landscape Area) and the potential effects on key landscape and visual constraints outlined in the assessment.

2.6.2 *Aviation lighting*

All onshore wind turbines >150m high and over to blade tip require visible red aviation warning lighting under Civil Aviation Authority (CAA) rules. These generally comprise 2000 candela lights fixed to the top of the turbine nacelle which can be dimmed to 200 candela in clear visibility. Shielding of the light can additionally help reduce the intensity of lighting experienced in closer lower-elevation views. A reduction in the numbers of turbines within a wind farm scheme requiring lighting is commonly agreed with the CAA by wind farm developers. Aircraft Detection Lighting Systems (ADLS), which would allow the lights to only be activated when an aircraft approaches, thus significantly reducing the duration of lighting, are also currently being considered by some developers (including a pilot study being conducted at the Mark Hill wind farm in South Ayrshire) but such systems await the approval of the CAA. NatureScot have produced the Guidance on Aviation Impact Assessment which seeks to bring consistency to the assessment of effects from aviation lighting located on onshore wind turbines and outlines potential mitigation measures.

Visible aviation lighting (assuming no ADLS is in place) would be likely to increase the duration of effects on views. It may also have an effect on the sense of wildness associated with some landscapes and this is considered in the sensitivity assessment where relevant.

2.6.3 *Ancillary development*

Access tracks, temporary construction compounds, substations and control buildings and grid connections are features common to all commercial wind farm developments. In addition, many proposals now include Battery Energy Storage Systems (BESS) to enable the energy produced by the wind farm to be used more flexibly and to maximise the usable output from intermittent generation. BESS are usually housed in steel shipping containers approximately 12m length x 2.5m width x 3m high which may be stacked on top of each other. BESS are commonly located close to the wind turbines on the site and security fencing may be erected around them.

2.6.4 *Solar energy generation*

Some wind farm developments additionally include solar energy generation. These comprise solar panels mounted on steel frames and inclined around 20 degrees towards the south. They are usually 3m at their highest point, arranged in rows and security fencing may be required around them. Solar panels generally appear dark due to their non-reflective coating which maximises light absorption but in some lighting conditions/angles they can appear paler and reflect the sky. They are particularly noticeable when seen from above or if sited on open slopes.

2.7 **The sensitivity assessment**

2.7.1 *Landscape and visual sensitivity criteria*

The sensitivity assessment considers the susceptibility of key landscape and visual characteristics of different Assessment Units to the turbine types outlined above. The

value associated with the Assessment Unit is also considered with susceptibility and value being combined to arrive at a sensitivity rating for each of the turbine types considered in the assessment. Table 1 sets out the landscape and visual criteria and the factors considered in the sensitivity assessment.

Table 1: Criteria considered in the sensitivity assessment

Sensitivity criteria	Factors considered and relevance of criteria to wind turbines
Scale	<ul style="list-style-type: none"> • Consideration of the scale of the landscape taking into account the degree of relief, amount of topographical containment, degree of openness and enclosure and the extent of land visible. • Assessment of how the development would relate to the scale of the landscape including whether they would be likely to dominate or appear compatible in scale in terms of the relative scale of landform, landscape pattern and individual features, including buildings, in the landscape. • Consideration of how development would affect the sense of expansiveness and distance experienced. • In general, more open and larger scale landscapes are likely to be less susceptible to larger wind turbines.
Landform	<ul style="list-style-type: none"> • Consideration of the overall topographical shape and the degree of complexity of landform including identification of any distinct 'landmark' features such as drumlins, pronounced summits or cliffs/scarps. • Assessment of how development, including ancillary works, would impact on, or relate to, landform and whether it would intrude or detract if close to distinctive landform features. • In general, the simpler and more gently graded the landform the better the visual relationship with the simple form of turbines, and more gentle gradients are likely to better accommodate the platforms and roads associated with larger turbines.
Landcover	<ul style="list-style-type: none"> • Consideration of the degree of complexity and diversity of land cover pattern (field enclosure, woodlands, water courses and lochs) and whether pattern is distinctive and displays a strong integrity or where it is fragmented. • Assessment of the degree of diversity, and the importance of this in informing the distinctiveness of the landscape. • Assessment of how development could relate to pattern; whether it would disrupt or dominate a strong land cover pattern or further fragment the integrity of land cover. Consideration of potential effects on landmark features, such as hill-top copses, designed landscape features or water bodies. • In general, a landscape with a simple land cover pattern, for example open grass moorland or more uniform commercial forestry, would be of reduced susceptibility to larger turbines while a more intricate pattern of woodlands and/or strong field enclosure pattern would be more susceptible.
Built environment	<ul style="list-style-type: none"> • Consideration of the pattern, density and character of settlement, its relationship to topography or other natural features and its setting, roads and other built structures. Consideration of historic features and their setting.

	<ul style="list-style-type: none"> • Assessment of how development might impinge on these characteristics; where there may be scope to attain some visual separation to minimise effects on settlement setting and avoid fragmentation of the pattern of built development and its association with topography or other natural features. • Where larger scale industrial buildings and built structures such as pylons, masts and existing wind farms are present, the relationship of additional wind energy development to these is considered with a judgement needing to be made on the degree of concentration of existing development in determining whether susceptibility to additional wind energy development would be reduced or increased. The siting, size, spacing and layout of turbines within existing wind farms is additionally reviewed and any contrasts that would arise with different turbine types assessed. • Landscapes with distinctive and/or intact historic settlement patterns and features would generally be of increased susceptibility to development while largely unsettled or industrial/more modified landscapes would be less susceptible.
Perceptual qualities	<ul style="list-style-type: none"> • Consideration of the degree of modification by human intervention (such as roads, settlement, forestry, masts and wind turbines) and how development could affect perceptions of naturalness and the degree of tranquillity experienced. More modified and well-settled landscapes (some of these featuring wind farm development) would generally have a reduced sensitivity to additional wind energy development. • The relative darkness of night-skies is considered and the assessment considers potential effects of visible aviation lighting. • Consideration of the sense of remoteness in terms of ease of access or seclusion (in the sense of the degree of containment that can be experienced rather than purely the distance from roads and settlement) and whether and how development would alter these perceptions. Identification of landscapes where the number and distinctiveness of archaeological or historic features can give a strong sense of history or 'timelessness'.
Landscape context	<ul style="list-style-type: none"> • The role of adjacent landscapes in contributing to the overall character of the Assessment Unit being assessed and vice versa. This includes consideration of the degree of inter-visibility and likely effects on key characteristics such as prominent skylines or backdrops and the contrast between landscapes. • Smaller Assessment Units that are more closely juxtaposed and contrast strongly with surrounding landscapes are likely to be of increased susceptibility while Assessment Units which are larger in extent, or which have a similarly large scale and simple landcover pattern to neighbouring landscapes, may be less susceptible to development.
Views and visibility	<ul style="list-style-type: none"> • The extent of likely visibility (including considerations of whether the landscape is well settled and easily accessible or not) and the degree of openness or enclosure which influences visibility, including the amount of screening created by topography and woodland. • The nature of views, including elevated, extensive views which are sustained, framed views to focal points or glimpse views, or views

	<p>experienced as part of a sequence or as revealed views creating a sense of arrival into the landscape.</p> <ul style="list-style-type: none"> • Consideration of the significance of skylines, visual horizons, key vistas or backdrops which form a setting to valued landscapes and/or historic features. • In general, well-settled landscapes with many roads and footpaths are likely to be more susceptible in visual terms than sparsely settled landscapes distant from transport routes although some remote upland landscapes can be highly visible from surrounding lower-lying landscapes or from areas/routes used for recreation thus increasing susceptibility.
Landscape value	<ul style="list-style-type: none"> • The assessment of landscape values takes into account designated landscapes including National Scenic Areas (NSAs) and Regional Scenic Areas (RSAs) and other non-designated landscape values including Wild Land Areas, Inventory and Non-Inventory listed Gardens and Designed Landscapes and the Galloway Forest Park (including the Dark Skies Park). • In addition, the presence of indicators of related interest such as promoted viewpoints and recreation/tourist routes and cultural heritage/nature conservation designations which reinforce the importance of landscape features, for example ASAs or Sites of Special Scientific Interest (SSSIs) for geomorphological and/or landcover features. • Judgements have been made in the assessment on the extent of the designation/interest as it occurs across the Assessment Unit and the potential effects of development on the special qualities associated with the designation/interest. • Figures 4, 5 and 6 show Archaeologically Sensitive Areas, landscape designations and Gardens and Designed Landscapes in Dumfries and Galloway.

2.8 Sensitivity ratings

Each sensitivity criterion set out in Table 1 has been scored using a five-point scale of high, high-medium, medium, medium-low and low. An overall landscape and visual sensitivity rating is also set out for each Assessment Unit using the same five-point scale and giving equal weight to each of the eight landscape and visual criteria. The overall sensitivity rating does not represent a median score across all criteria but rather considers the degree of susceptibility of each criterion to a development type and the nature of likely effects on valued landscapes. For example, an Assessment Unit which has been judged in the assessment to have a high susceptibility across three or more criteria would be considered to have a high overall sensitivity rating. This is interpreted in the following table:

Table 2: Overall sensitivity ratings of Assessment Units

Overall Sensitivity rating	Definition
High	Key assessment criteria such as scale, landform and visual aspects are highly vulnerable to change from the development type. Development would conflict with most or several of the assessment criteria with

	widespread and/or severe significant and adverse impacts likely to arise.
High-medium	Assessment criteria are vulnerable to change from the development type. Development would conflict with some of the assessment criteria but small parts of the Assessment Unit may be less susceptible to change.
Medium	Assessment criteria are generally less vulnerable to change from the development type. There is some ability to accommodate development in some situations without widespread or severe change occurring to the landscape. The development may relate to some key aspects of landscape character.
Medium - low	Relatively few of the assessment criteria are vulnerable to change from the development type. Much of the Assessment Unit is less susceptible to development and is less likely to incur widespread or severe effects on key characteristics.
Low	Assessment criteria are generally not vulnerable to change and development could be accommodated without widespread or severe significant adverse effects occurring on landscape and visual interests.

2.9 Cumulative issues and strategic capacity assessment

The sensitivity assessment considers operational and consented turbines and wind farms within the Assessment Unit and, where relevant, in adjacent landscapes under the criterion of 'Built Environment'.

In addition, we have also identified potential cumulative landscape and visual issues. These are more speculative potential impacts and reflect what might happen depending on the number and type of developments which might be introduced into the Assessment Unit which is the subject of the assessment or in adjacent Assessment Units. Potential landscape and visual cumulative impacts considered include:

- Changes to landscape character – i.e. where an addition to existing and consented wind farms and turbines is likely to result in wind turbines becoming a recognisable and consistent characteristic associated with a specific landscape character area, rather than a one off feature (this may not necessarily be a negative impact).
- Significant alteration to a defining characteristic of that landscape character – i.e. a characteristic which is recognised as contributing to the distinctive identity of the character of an area is likely to be lost or significantly diminished by the addition of one or more wind farms/ wind turbines to multiple operational and consented wind farms or turbines.
- Loss of recognisable development pattern – i.e where wind farms or turbines are introduced into a landscape where operational wind farms or turbines already create a recognisable pattern of development which relates strongly to particular landscape characteristics but additional development diminishes the integrity and robustness of the pattern leading to fragmentation of landscape character.
- Visual dominance – i.e where wind farms or turbines become a visually dominant feature because of their combined presence as multiple or merged developments affecting a skyline as viewed from a significant viewpoint, or encountered

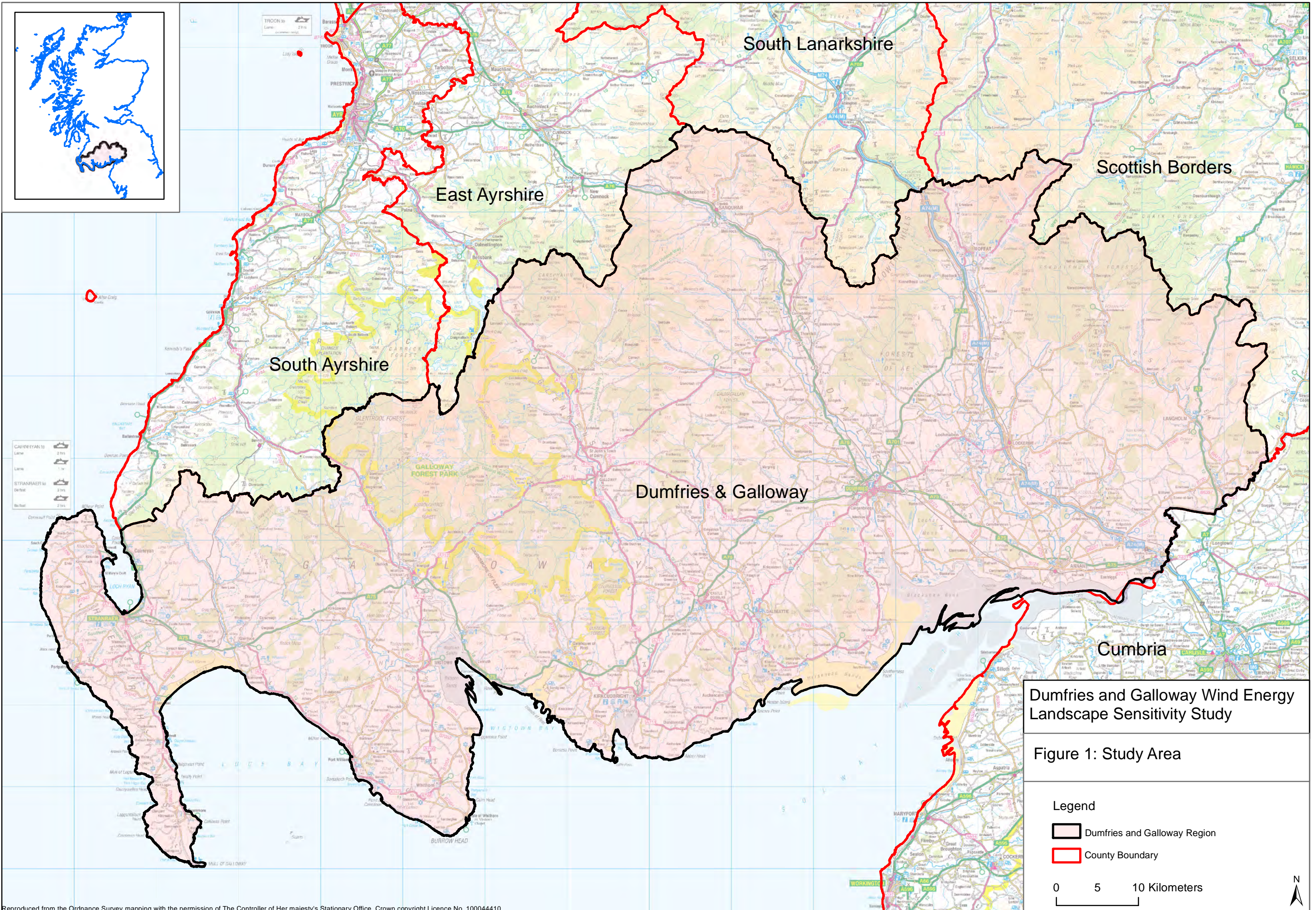
sequentially as a series of focal points from a road or stretch of coast which is a definable journey.

- Visual clutter – where different types of turbines, including different heights and styles of design, come together to create a muddled visual distraction from the landscape or key features.

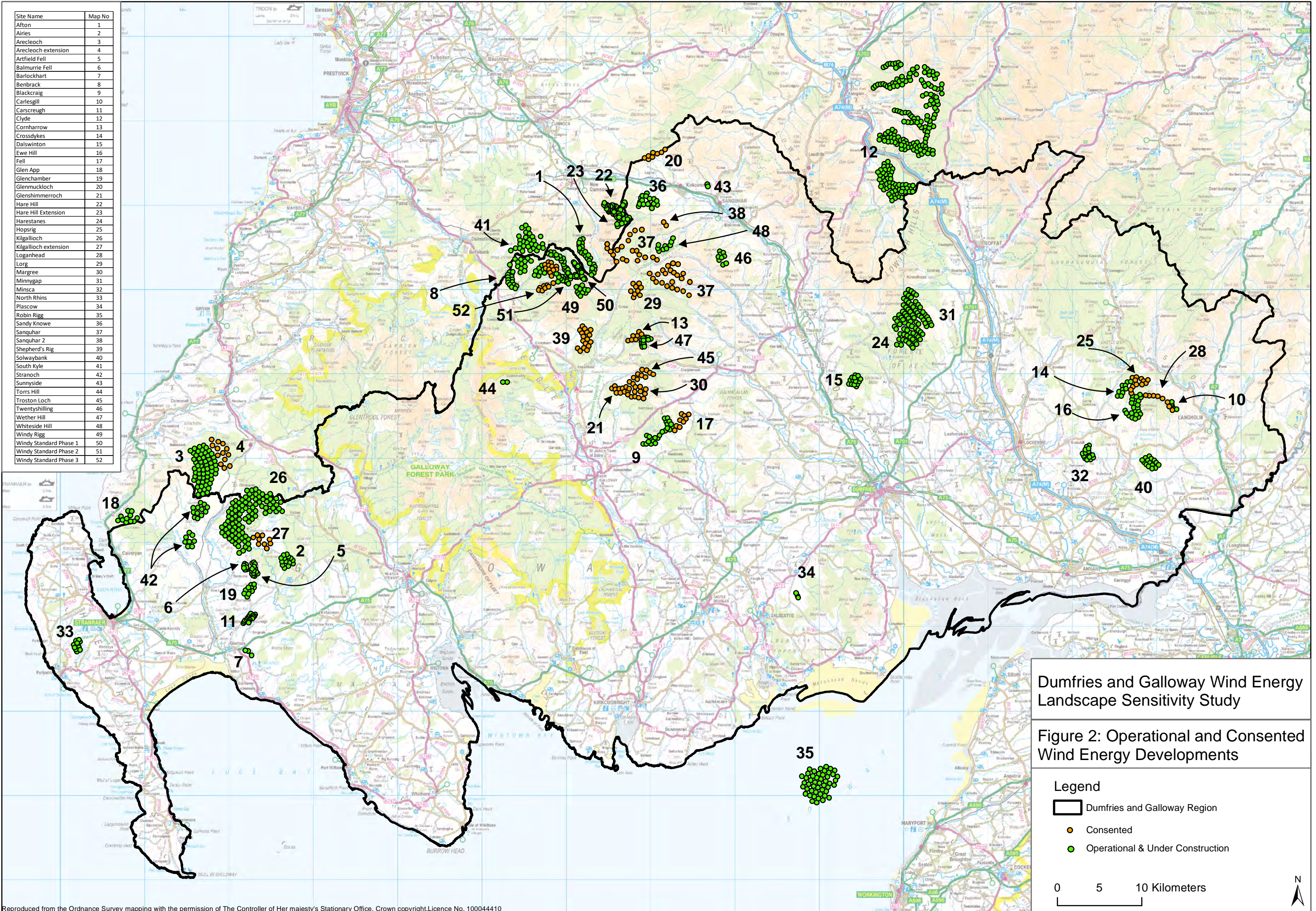
2.10 Cultural heritage overview

The study team for the 2011 Dumfries and Galloway Wind Energy Landscape Capacity Study included an archaeologist who researched baseline information on cultural heritage, accompanied us during field work and provided specialist advice to the Council on designations and policy. Cultural heritage features which make a notable contribution to landscape character were recorded during our field work.

Archaeologically Sensitive Areas (ASA), which are referenced in the sensitivity assessment, are shown on Figure 4. Historic Environment Scotland's guidance 'Managing Change Guidance Note on Setting' sets out the principles that apply to developments affecting the setting of historic assets or places.



Site Name	Map No
Afton	1
Airies	2
Arcleloch	3
Arcleloch extension	4
Artfield Fell	5
Balmurrie Fell	6
Barlockhart	7
Benbrack	8
Blackcraig	9
Carlesgill	10
Carscreugh	11
Clyde	12
Cornharrow	13
Crossdykes	14
Dalswinton	15
Ewe Hill	16
Fell	17
Glen App	18
Glenchamber	19
Glenmuckloch	20
Glenshimmeroch	21
Hare Hill	22
Hare Hill Extension	23
Harestanes	24
Hopsrig	25
Kilgallioch	26
Kilgallioch extension	27
Loganhead	28
Lorg	29
Margree	30
Minnygap	31
Minsca	32
North Rhins	33
Plascow	34
Robin Rigg	35
Sandy Knowe	36
Sanquhar	37
Sanquhar 2	38
Shepherd's Rig	39
Solwaybank	40
South Kyle	41
Stranoch	42
Sunnyside	43
Torr's Hill	44
Troston Loch	45
Twentysilling	46
Wether Hill	47
Whiteside Hill	48
Windy Rigg	49
Windy Standard Phase 1	50
Windy Standard Phase 2	51
Windy Standard Phase 3	52



Dumfries and Galloway Wind Energy Landscape Sensitivity Study

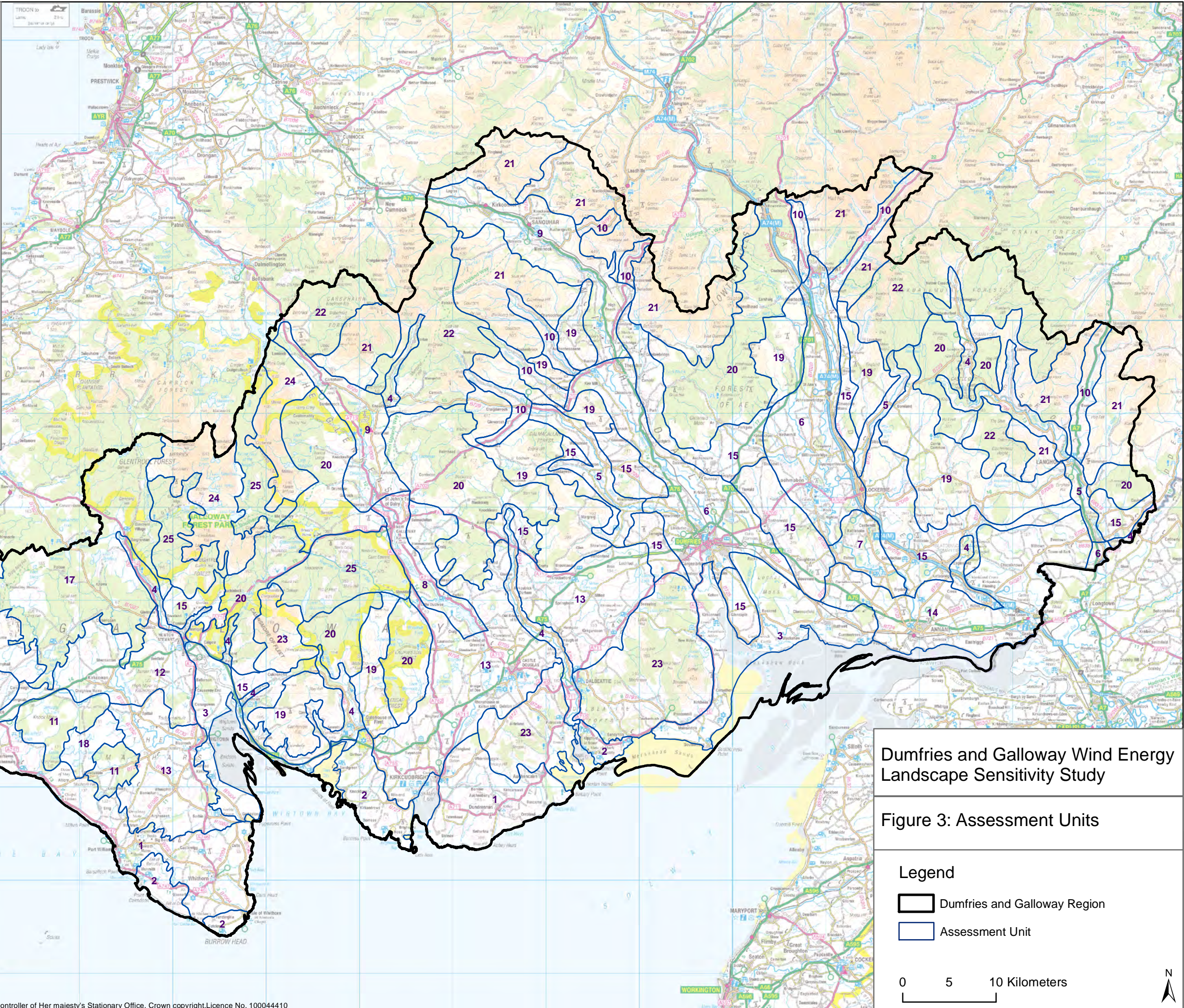
Figure 2: Operational and Consented Wind Energy Developments

- Legend**
- Dumfries and Galloway Region
 - Consented
 - Operational & Under Construction

0 5 10 Kilometers



Assessment Unit	No.
Peninsula	1
Peninsula with Gorsey Knolls	2
Coastal Flats	3
Narrow Valleys	4
Pastoral Valleys	5
Lower and Middle Dale	6
Dale with Hills	7
Flooded Valley	8
Upper Dale	9
Upland Glens	10
Moss and Forest Lowland	11
Moss, Moor and Drumlin Pasture	12
Drumlin Pastures	13
Coastal/Flow Plateau	14
Upland Fringe	15
Plateau Moorland	16
Plateau Moorland with Forest	17
Plateau Moorland with Lochs	18
Foothills	19
Foothills with Forest	20
Southern Uplands	21
Southern Uplands with Forest	22
Coastal Granite Uplands	23
Rugged Granite Upland	24
Rugged Granite Upland with Forest	25



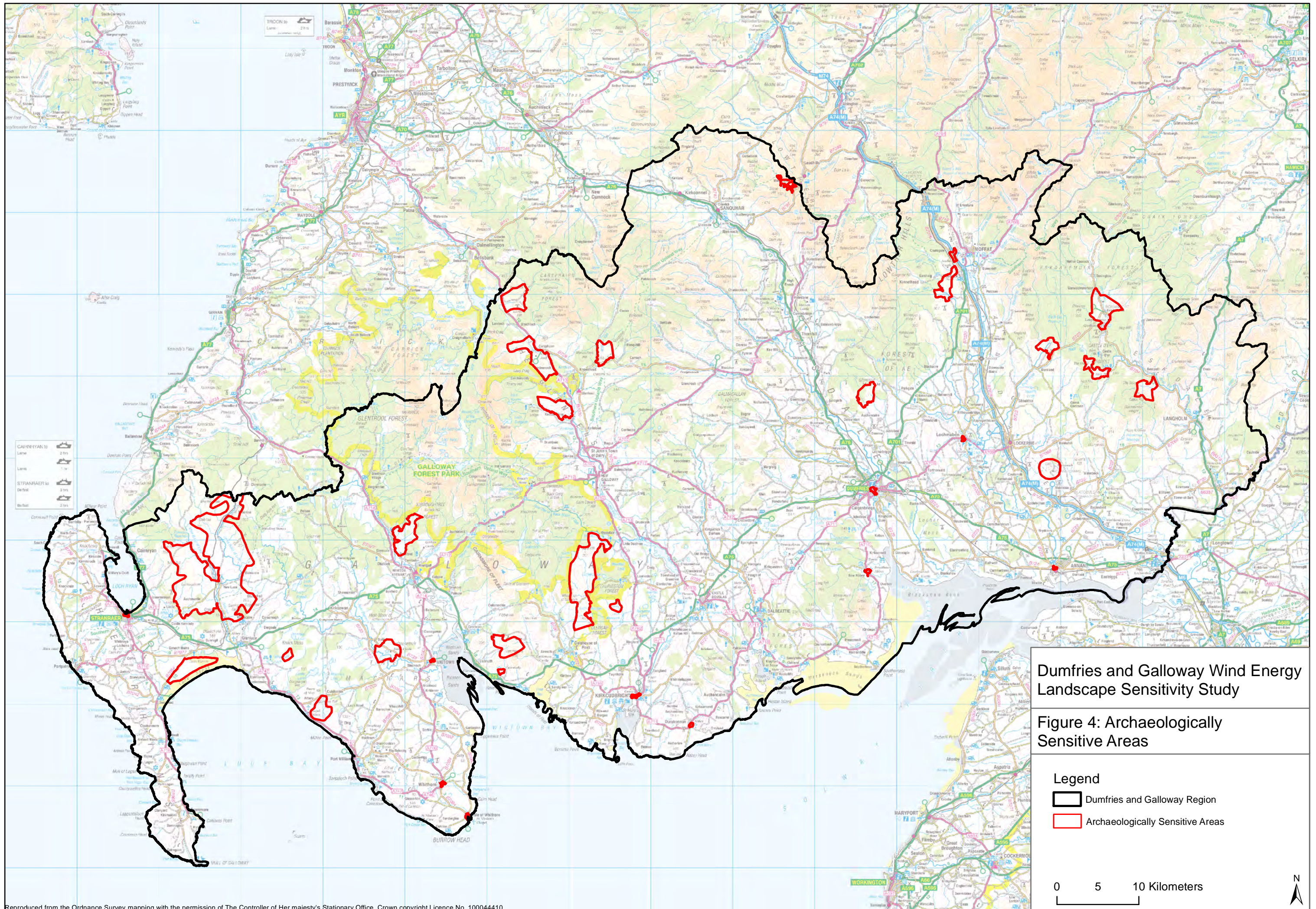
Dumfries and Galloway Wind Energy Landscape Sensitivity Study

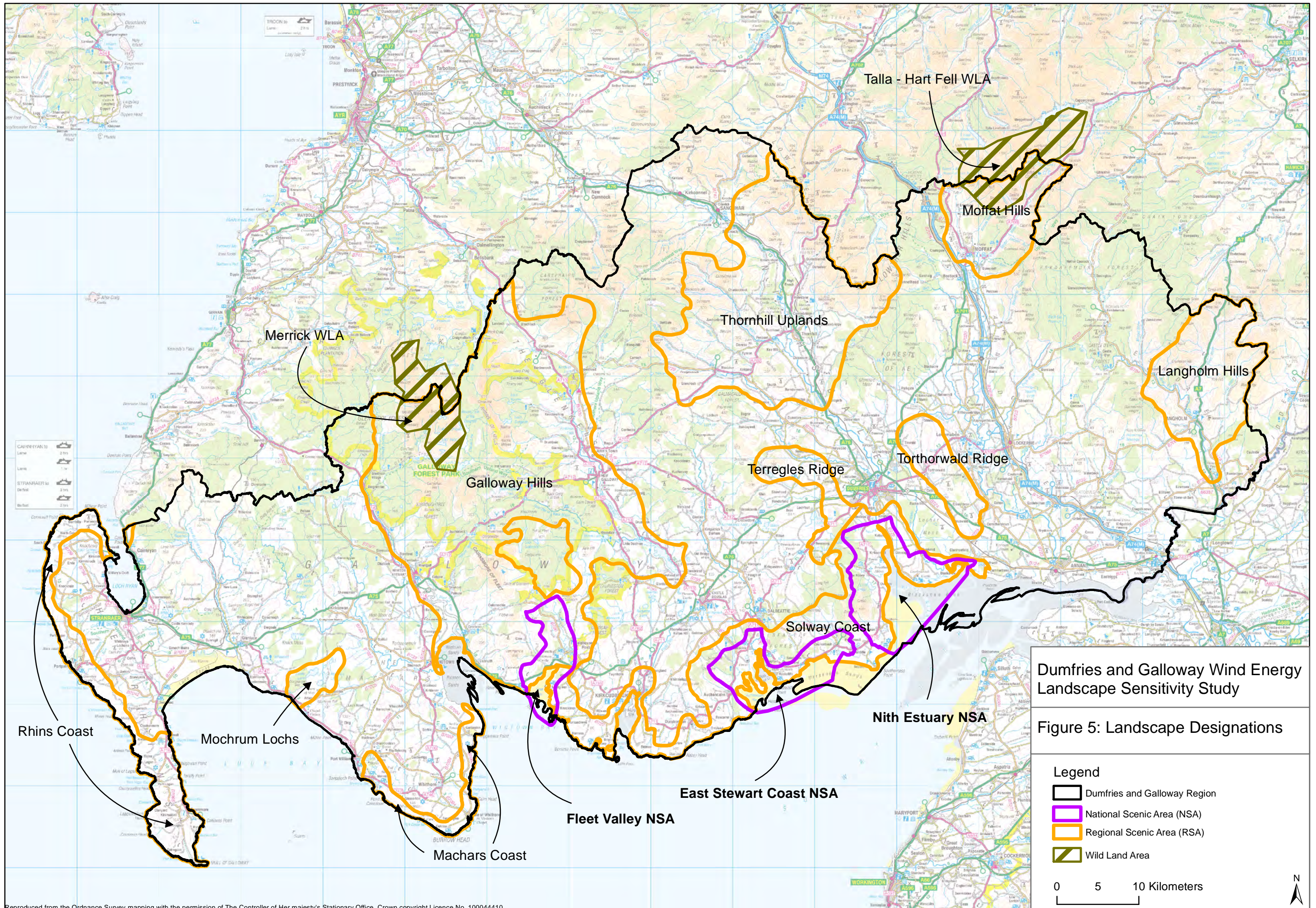
Figure 3: Assessment Units

Legend
 Dumfries and Galloway Region
 Assessment Unit

0 5 10 Kilometers







Talla - Hart Fell WLA

Moffat Hills

Thornhill Uplands

Langholm Hills

Merrick WLA

Galloway Hills

Terregles Ridge

Torthorwald Ridge

Rhins Coast

Mochrum Lochs

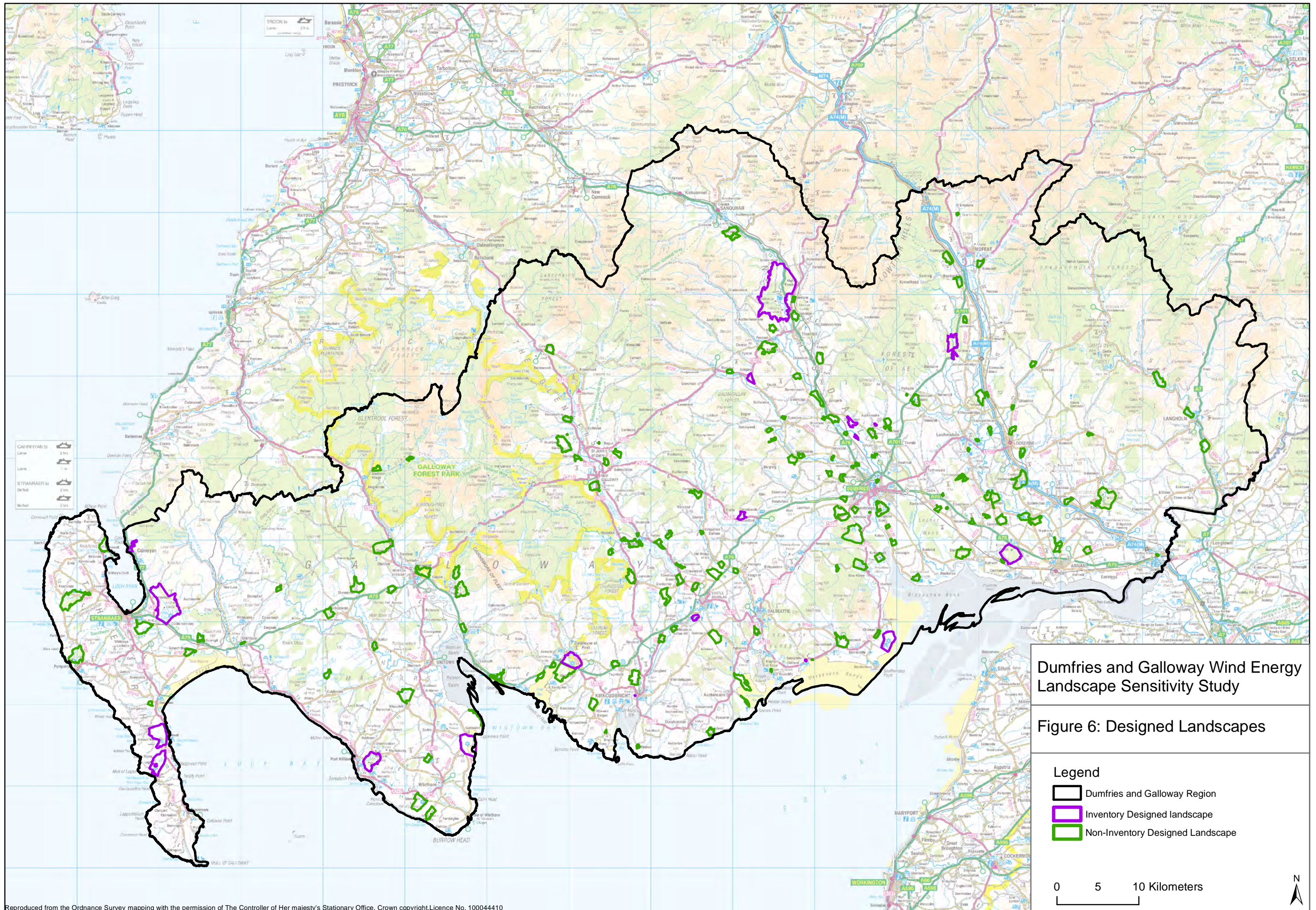
Solway Coast

Nith Estuary NSA

East Stewart Coast NSA

Fleet Valley NSA

Machars Coast



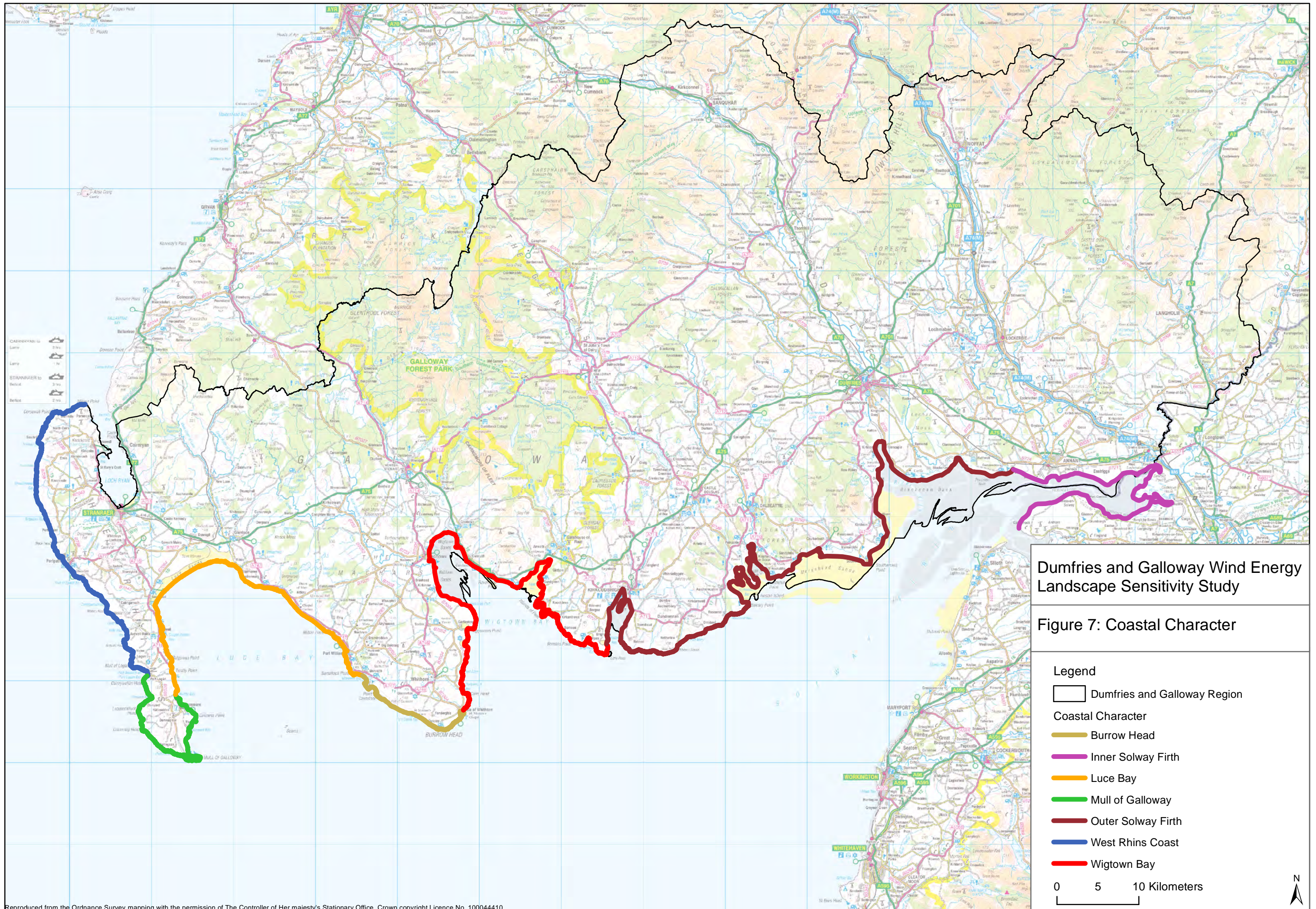
Dumfries and Galloway Wind Energy Landscape Sensitivity Study

Figure 6: Designed Landscapes

- Legend
- Dumfries and Galloway Region
 - Inventory Designed landscape
 - Non-Inventory Designed Landscape

0 5 10 Kilometers





3 STUDY FINDINGS AND RECOMMENDATIONS

3.1 Introduction

This section of the report summarises the key findings of the sensitivity assessment. It addresses the landscape and visual issues associated with wider strategic planning of wind energy developments, considers potential cumulative landscape and visual effects, and provides an outline strategy which would minimise landscape and visual effects across the region.

Figures 9 and 10 show the sensitivity of Assessment Units and more specific Landscape Areas to Very Large and Large categories of wind turbine development.

3.2 Sensitivity to very large turbines 150m–250m

3.2.1 Introduction

The size of wind turbines within wind farm developments has significantly increased. Some of the earliest wind farms in Dumfries and Galloway comprise 57m and 76m high turbines. The majority of wind turbines within operational wind farms in Dumfries and Galloway are currently between 100m and 146.5m high while some consented wind farms within the region include turbines 200m high.

Many of Dumfries and Galloway's landscapes are concluded in the study to be of high sensitivity to larger wind turbines. The following Assessment Units/Landscape Areas are concluded to be of reduced sensitivity to Very Large wind turbines >150m high:

- *Foothills with Forest (20) – Eskdale/Castle Oer/Tinnisburn and Stroan Landscape Areas*
- *Southern Uplands with Forest (22) – Eskdalemuir Landscape Area.*

3.2.2 Conclusions

Many of the least sensitive sites in landscape and visual terms within Dumfries and Galloway are already occupied by operational wind farms. The most successful of these sites (in terms of minimising landscape and visual effects) lie at the core of extensive, simple and large-scale upland landscapes distant from the diverse and more settled valleys, lowlands and coasts of the region. While repowering of older wind farms is not occurring at present, the replacement of smaller operational turbines with turbines 200m high and over within many of these generally well-sited wind farms would be likely to minimise landscape and visual effects. The remaining undeveloped parts of these simple and large-scale uplands often lie on the outer fringes of these landscapes and closer to surrounding settled valleys, glens, dales and lowlands which increases sensitivity.

The sensitivity assessment concludes that turbines around 200m high and over would be likely to result in widespread and severe significant landscape and visual effects in the majority of Dumfries and Galloway's landscapes. The *Eskdalemuir* area of the *Southern Uplands with Forest* and the northern part of the *Castle Oer* area of the *Foothills with Forest* are however of lower sensitivity in this respect as no operational or consented wind farms already occupy the less sensitive core of these uplands and this landscape is distant from settlement and roads. The Craik Forest area in neighbouring

Scottish Borders (an area with similar character and lower sensitivity) borders the *Eskdalemuir* area thus increasing the extensiveness of this landscape.

3.2.3 *Guidance for minimising scale differences between developments*

Cumulative landscape and visual effects associated with the introduction of larger wind turbines close to existing smaller wind turbines are likely to be minimised where developments are distant from roads, well-used recreational routes and settlement thus reducing instances where turbines of different design, spacing and proportions are seen together in close views.

As many of the older wind farms with smaller turbines now lie close to wind farms with much larger turbines, for example, the 76m high turbines of the Artfield Fell development seen closely juxtaposed with the 125m high Glenchamber turbines, replacement of smaller turbines with larger turbines could theoretically attain some compatibility of size and reduce cumulative effects. Other factors need to be considered, however, including whether the wind farm was appropriately sited in landscape and visual terms in the first place and whether much larger turbines would be compatible with the scale of the landscape.

Contrasts in turbine size between developments will also be more obvious where the existing development is sited in flatter and very open landscapes, or in the case of the Robin Rigg windfarm, offshore, where the full height of turbines is seen from key views. There is likely to be greater opportunity to accommodate a more significant height differential between turbines in undulating landscapes where the wind farm is more distant from roads and settlement.

3.3 **Sensitivity to large turbines 80-150m**

The sensitivity assessment concludes that the following landscapes would be of reduced sensitivity to Large wind turbines:

- *Coastal Flats (3) – Solway Basin*
- *Moss and Forest Lowland (11)*
- *Coastal/Plateau Flow (14)*
- *Plateau Moorland (16)*
- *Plateau Moorland with Forest (17)*
- *Foothills with Forest (20) – Ae, Cullendoch, Stroan, Castle Oer and Eskdale Landscape Areas*
- *Southern Uplands (22) – NW Lowthers Landscape Area*
- *Southern Uplands with Forest (23) – Ken and Eskdalemuir Landscape Areas*
- *Rugged Granite Uplands with Forest (25) – Cairn Edward Landscape Area*

Operational and consented wind farms are already present in the majority of these landscapes. Key sensitivities associated with these landscapes include the proximity of remaining undeveloped areas to adjacent smaller scale settled valleys and coasts, potential effects on more distinctive landscape features, for example on the setting of prehistoric hill forts within Eskdale or on the special qualities of the *Galloway Hills*, *Thornhill Uplands*, *Moffat Hills* and *Langholm Hills* RSAs and nearby designated and valued landscapes in the Scottish Borders. Cumulative landscape and visual effects are also a key sensitivity and careful design will be needed to minimise effects on sensitive

skylines for example and to reduce contrasts between developments with turbines of different sizes.

3.4 Offshore wind energy development

General landscape and visual sensitivities relating to coastal character and offshore wind farm development have been identified in the study. Seven Coastal Assessment Units have been defined and the sensitivity of each of these to a development typology assumed to comprise developments of over 50 turbines and with turbines >250m height and located >10km from the coast. The *Mull of Galloway*, *Wigtown Bay* and *Inner Solway* Seascape Assessment Units were concluded to have a high sensitivity to offshore wind farm development principally because of the proximity of the coast and potential effects on coastal character and/or on wildland qualities. Sensitivity was High-medium in all remaining seascape units. Sensitivity would increase if offshore wind farms were sited closer than 10km from the coastal edge.

3.5 Strategic landscape considerations

The sensitivity assessment identifies constraints and opportunities within Assessment Units and location-specific Landscape Areas. Although landscape context is considered as one of the key sensitivity criteria, the assessment essentially relates to specific landscapes and any effect on surrounding landscapes. The sensitivity assessment does not take into account the experience and appreciation of the landscape of Dumfries and Galloway as a whole. The text which follows provides this landscape overview and outlines strategic recommendations for siting and design while minimising landscape and visual effects.

3.5.1 *An overview of the landscape of Dumfries and Galloway*

The landscape of Dumfries and Galloway is notable for its diversity, featuring an extensive and varied coastline and associated seascapes, small scale valleys and glens, broad dales, farmed lowlands with an intricate pattern of small, enclosed pastures, punctuated by outcrop coastal hills and fringed by rolling foothills. Extensive plateau moorlands occur to the west while the remote Galloway Hills and Southern Uplands backdrop the lowland landscapes to the north, extending into neighbouring authorities. The juxtaposition and contrast of different landscapes produces rich, multi-layered and high-quality scenery, recognised in the National Scenic Areas (NSAs) and Regional Scenic Areas (RSA) that cover substantial parts of the Region.

3.5.2 *Current trends and issues related to wind farm development in Dumfries and Galloway*

The following trends have been considered in devising an appropriate landscape strategy for successfully accommodating additional wind energy development in Dumfries and Galloway:

- The occupation of the least sensitive locations lying at the more remote core of simple upland areas by operational and consented wind farms which may result in additional new development proposals on the outer edges of the uplands where there is likely to be an increase in effects on nearby smaller scale and/or more settled landscapes.

- Demand for extensions and new developments to/close-by operational wind farms where turbines will be substantially larger and could result in cumulative effects.
- The effect of increasing wind farm development on open moorland which is becoming rare in Dumfries and Galloway and threats to other key landscape features such as the coast, diverse farmland and intimately scaled valleys and glens.

3.5.3 *Current patterns of wind energy development*

Operational large wind farms over 50 turbines in number, such as the Harestanes and Kilgallioch development, are associated with extensive, simple, gently undulating upland landscapes which provide a better context for the size of these developments. They are also generally set back from the periphery of these uplands thus minimising landscape and visual impact on more sensitive settled landscapes. Very large wind farms also border Dumfries and Galloway in South Ayrshire, East Ayrshire and South Lanarkshire.

Smaller groups of turbines <20 turbines, but still comprising turbines over 100m in height, include Dalswinton, Wether Hill, North Rhins, Blackcraig, Barlockhart, Solwaybank and Minsca. With the exception of Wether Hill, these developments are located in less extensive areas of gently undulating upland plateau located on the edge of, or within, settled lowland landscapes with a more intricate and smaller scale pattern of topography and landuse. These wind farms are consequently also much more visible from settlement and key transport routes than the more extensive wind farm developments located within the much larger scale and sparsely settled uplands.

The existing pattern of wind farm development therefore varies across Dumfries and Galloway and neighbouring authorities, although some developments are more successful in their siting and design than others.

3.5.4 *Siting larger turbines to minimise landscape and visual effects*

The sensitivity assessment found that the uplands and forested foothills within Dumfries and Galloway were least sensitive to larger wind turbines.

Extensive areas of the uplands and foothill landscapes within Dumfries and Galloway (and neighbouring authorities) are commercially forested. Wind farm development could be perceived as the 'next wave' of dramatic change to these landscapes and it is perhaps too easy to conclude that wind farms should be sited within commercial forestry as the landscape has already been radically changed in the recent past. Forestry has often (although not always) been established on the more accessible upland slopes, which are often gently graded. It is the underlying topography and, in some instances the simple vegetation pattern of less diverse forest, and not the presence of the forestry alone, which results in some of these uplands and foothills being identified as potential areas for development in the sensitivity assessment. The sensitivity assessment however clearly identifies forests where good design and other attributes, such as more complex landform, have created attractive forests often well-used for recreation and these landscapes consequently have a higher sensitivity to development.

In a context where extensive commercial forestry is a key characteristic of much of the *Southern Uplands* (21), some *Foothills with Forest* (20) and the *Plateau Moorland with Forest* (17) Assessment Units, areas of less modified open ground, found more discretely within each of these landscapes and more extensively in surrounding uplands, are valuable in providing contrast to coniferous forest and increasing landscape diversity. While the expansive scale, often simple landform and land cover of these more open upland landscapes can theoretically relate better to large scale wind farm development, such development would also, conversely, substantially alter the character of these areas which are often valued for their openness, expansiveness and natural qualities. The sensitivity assessment identifies where the openness and less modified character of the landscape is an important attribute increasing sensitivity.

There is merit in consolidating the association of more successfully sited operational wind farm developments with extensive, sparsely settled landscapes with a predominantly simple landform and land cover by directing new wind farm developments to similar landscapes. Directing larger typologies to more extensive upland landscapes set back from more sensitive lowland areas would also reduce the potential for cumulative landscape and visual impacts to occur between different scales and designs of turbines, in more settled areas where any future demand for farm-based turbines is likely to be greatest.

It is recommended that this clear pattern of wind farm development should not be weakened by locating larger wind turbines in more complex, smaller scale and/or settled landscapes as this will increase landscape and visual impacts but also dilute a clear strategy and association of a particular wind turbine type with a particular landscape character.

The *Upland Fringe* (15), *Foothills* (19), *Moss and Forest Lowland* (11) and *Coastal Granite Uplands* (23) Assessment Units, while having some characteristics that could relate to larger typologies, are generally more sensitive in that they form the transition between uplands and lowlands and/or lie closer to smaller scale, more intricate and diverse, lowland or coastal landscapes where they could potentially overwhelm the scale and detract from the character of these landscapes. The inter-visibility of these transitional landscapes between Uplands and Lowlands also adds further complication in terms of potential cumulative effects between smaller and larger wind turbines. ***It is recommended that larger wind farm typologies are directed away from these landscapes.***

3.5.5 *Designated landscapes*

Clear justification and description of special qualities exists to support the NSA and RSA designations in Dumfries and Galloway. The assessment has considered these special qualities, and the qualities of Inventory and Non-Inventory listed designed landscapes in determining sensitivity to different development typologies. The NSAs, as nationally important landscapes, would be afforded significant protection within a spatial framework for wind farm development. A number of the RSAs are important in providing a wider landscape setting to the much more closely defined NSAs.

Although none of the larger wind farms are sited within designated landscapes in Dumfries and Galloway, the operational Carlesgill, Torrs Hill and Twenty Shilling wind farms are wholly or partially located in RSAs.

3.6 A recommended landscape strategy

- **Protection of the most scenic of Dumfries and Galloway's landscapes** by directing larger wind turbines away from designated landscapes and avoiding significant intrusion on Inventory and non-Inventory designed landscapes.
- **Maintaining the sense of wildness associated with the Galloway Hills** as a core aspect of the identity of Dumfries and Galloway (and a special quality of the *Galloway Hills* RSA) by directing wind farm development away from these uplands and avoiding developments that could impact on the wider landscape setting and appreciation of these uplands in views from surrounding landscapes. Cumulative landscape and visual effects of wind farm development in surrounding landscapes will need to be carefully considered in terms of potential effects on the sense of wildness associated with these uplands. With wind farm development now occupying extensive tracts of the uplands of Dumfries and Galloway, it is important to protect remaining more complex and open upland landscapes and their setting/special qualities.
- **Protect the special qualities of coastal landscapes and the wider seascape** which form an essential part of the identity of Dumfries and Galloway, by avoiding offshore development within enclosed bays, close to shore or sited within a seascape context with a notably wild, elemental quality where it would result in significant landscape and visual impacts. Operational wind farms do not have a significant effect on the scenic coastal peninsulas and views from the A75 between Dumfries and Newton Stewart are largely free of large-scale wind farm development.
- **Promote a clear pattern of larger wind farm development associated with less sensitive upland landscapes** where their more extensive scale and simpler landform and landcover can better accommodate and provide an appropriate wider setting to large developments, minimising impacts on less sensitive landscapes, and consolidating a strategy whereby a particular wind farm type is associated with a particular landscape character.
- **Direct larger turbines away from lowland areas** as these are striking in the rich variety of landscapes, often with many layers of archaeological and historical interest, small-scale topography, complex landforms and intricate patterns of settlement and land use. Smaller turbines would form more of an incidental feature in these sensitive landscapes while larger turbines would dominate and detract from their character and on views from these often well-settled areas.
- **Direct larger turbines away from landscapes with some 'upland' characteristics but which lie within a lowland context** including landscapes such as the *Moss and Moor Lowland* (11), the *Moss and Moor with Drumlins* (12) and parts of the *Coastal Granite Uplands* (23) Assessment Units where a simple landform and land cover and increased scale could theoretically relate to turbines of this size but where these areas are not extensive and lie in close proximity to more sensitive smaller scale, settled landscapes.
- **Limit intrusion on adjacent settled landscapes** by avoiding larger typologies within the *Upland Fringes* (15) and setting all turbines well back from the sensitive edges of the *Foothills* (19) where they can appear overly dominant on skylines and impact on adjacent smaller scale landscapes.

- **Conserve the openness and unmodified nature of dramatic and distinctive rugged upland landscapes** including the *Southern Uplands – North Moffat, East Moffat, West Langholm, North Langholm, Tarras, Lowther, Beneraird, Carsphairn* (21), the *Coastal Granite Uplands* (23) and the *Foothills* (19). These landscapes have important scenic qualities in a context where many upland areas within Dumfries and Galloway are commercially forested and/or accommodate extensive wind energy development.
- **Avoid cumulative effects of wind farm development in Annandale** which is important in providing the threshold to Scotland and Dumfries and Galloway from the south. A more continuous band of Very Large wind energy development sited on the outer edges of the *Foothills* and the *Southern Uplands with Forestry* Assessment Units could create a dominant corridor effect seen sequentially with the Clyde wind farm to the north.
- **Protect the setting of landmark archaeological features** and the ASAs which make a strong contribution to the richness of the Dumfries and Galloway landscape.

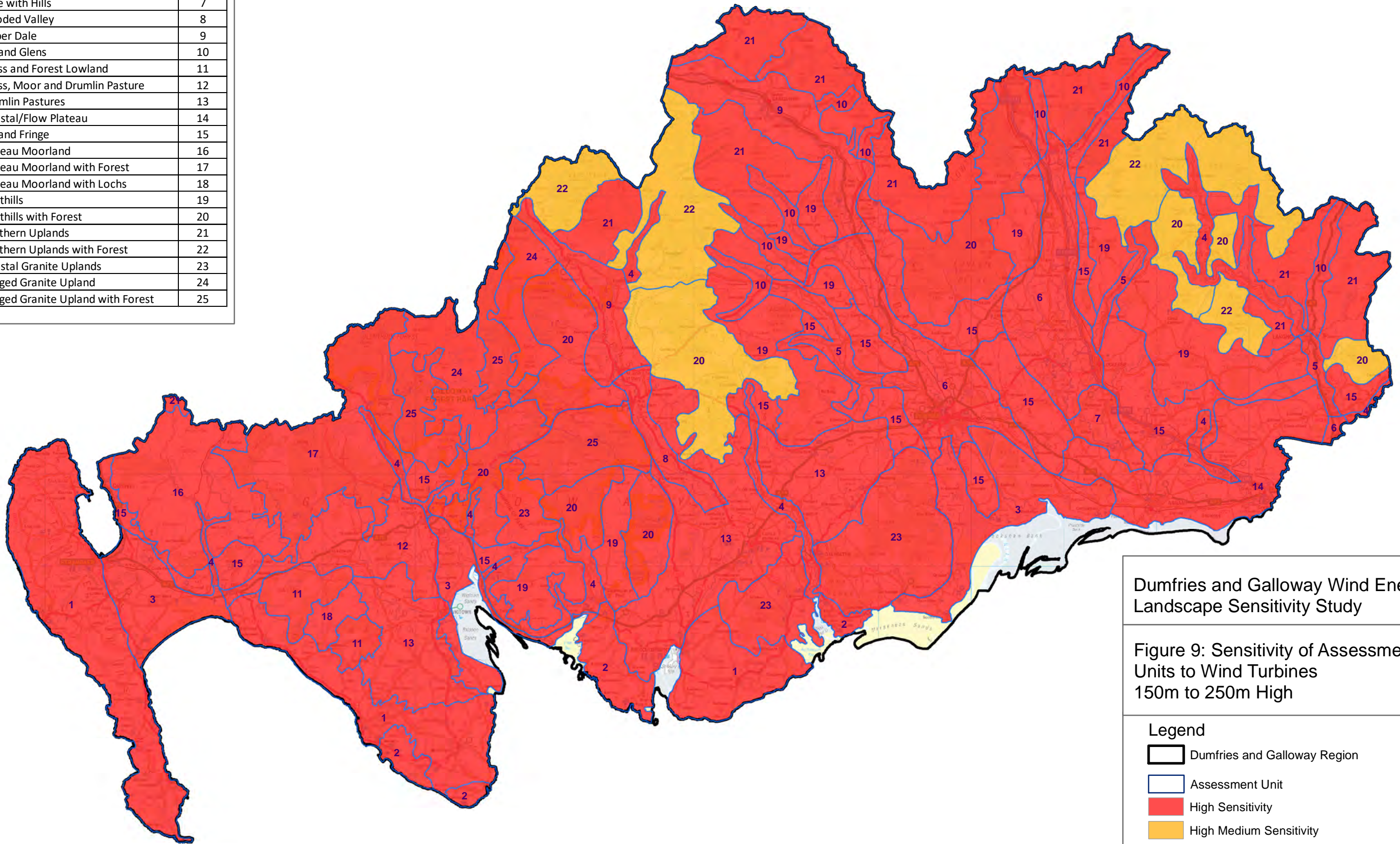
3.7 Mitigation and enhancement measures

NPF4 Policy 11e requires project design and mitigation to demonstrate how impacts on communities and significant landscape and visual impacts are addressed (particularly ix and xii which relate to mitigation and quality of restoration plan). Other policies within NPF4 will have implications for mitigation and enhancement measures, particularly in light of the Nature Crisis. The next LDP will need to consider how enhancements to habitats and landscapes will be implemented in Dumfries & Galloway.

Significant adverse landscape and visual effects are to be expected from wind energy development and mitigation and compensatory landscape enhancement should form a key part of wind farm proposals. This should include:

- Mitigation of visible aviation lighting effects working towards implementation of ADLS to significantly reduce the duration of any significant adverse effects associated with this lighting.
- Landscape scale mitigation and enhancement plans should be drawn up to address the policies set out in NPF4. These should extend beyond the confines of the application site to provide increased native woodland and hedgerow planting to aid screening and, if the application site is forested, to better integrate forest margins increasing benefits for landscape character and biodiversity.
- Peat restoration will be an important part of mitigation and enhancement plans for some application sites and this should be adequately monitored to ensure optimum outcomes in terms of landscape and biodiversity benefits.
- Compensatory planting required due to felling of woodland to accommodate a wind farm development should be carefully sited and designed. Such compensatory planting should be implemented in line with guidance produced by Scottish Forestry and will be considered more favourably where it positively contributes to biodiversity within Dumfries & Galloway.

Assessment Unit	No.
Peninsula	1
Peninsula with Gorsey Knolls	2
Coastal Flats	3
Narrow Valleys	4
Pastoral Valleys	5
Lower and Middle Dale	6
Dale with Hills	7
Flooded Valley	8
Upper Dale	9
Upland Glens	10
Moss and Forest Lowland	11
Moss, Moor and Drumlin Pasture	12
Drumlin Pastures	13
Coastal/Flow Plateau	14
Upland Fringe	15
Plateau Moorland	16
Plateau Moorland with Forest	17
Plateau Moorland with Lochs	18
Foothills	19
Foothills with Forest	20
Southern Uplands	21
Southern Uplands with Forest	22
Coastal Granite Uplands	23
Rugged Granite Upland	24
Rugged Granite Upland with Forest	25



Dumfries and Galloway Wind Energy Landscape Sensitivity Study

Figure 9: Sensitivity of Assessment Units to Wind Turbines 150m to 250m High

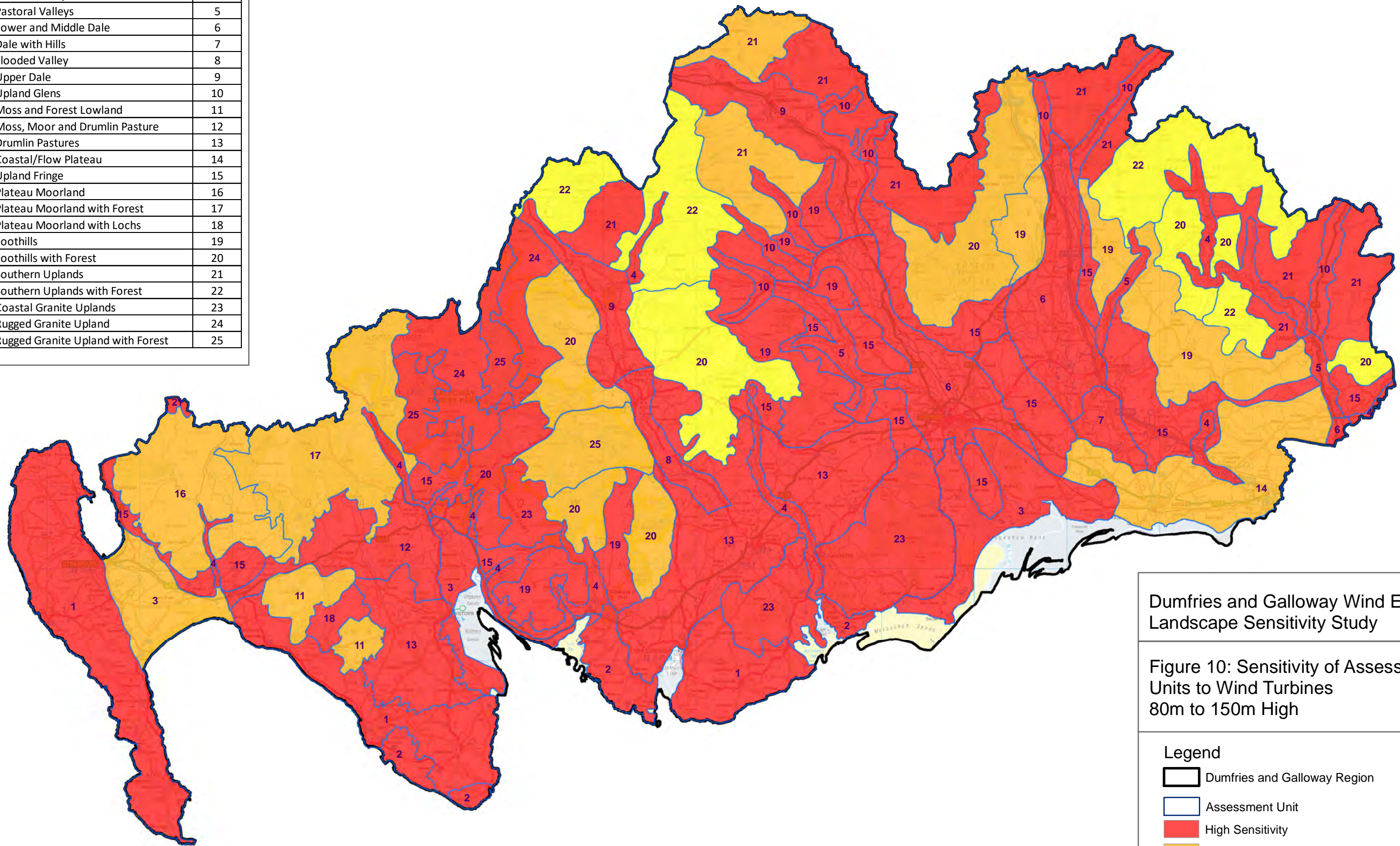
Legend

- Dumfries and Galloway Region
- Assessment Unit
- High Sensitivity
- High Medium Sensitivity

0 5 10 Kilometers








Assessment Unit	No.
Peninsula	1
Peninsula with Gorsey Knolls	2
Coastal Flats	3
Narrow Valleys	4
Pastoral Valleys	5
Lower and Middle Dale	6
Dale with Hills	7
Flooded Valley	8
Upper Dale	9
Upland Glens	10
Moss and Forest Lowland	11
Moss, Moor and Drumlin Pasture	12
Drumlin Pastures	13
Coastal/Flow Plateau	14
Upland Fringe	15
Plateau Moorland	16
Plateau Moorland with Forest	17
Plateau Moorland with Lochs	18
Foothills	19
Foothills with Forest	20
Southern Uplands	21
Southern Uplands with Forest	22
Coastal Granite Uplands	23
Rugged Granite Upland	24
Rugged Granite Upland with Forest	25



Dumfries and Galloway Wind Energy Landscape Sensitivity Study

Figure 10: Sensitivity of Assessment Units to Wind Turbines 80m to 150m High

Legend

-  Dumfries and Galloway Region
-  Assessment Unit
-  High Sensitivity
-  High Medium Sensitivity
-  Medium Sensitivity

0 5 10 Kilometers



Section B: Detailed Sensitivity Assessments

4 INTRODUCTION TO THE SENSITIVITY ASSESSMENT

4.1 The information provided in the sensitivity assessment

The assessments which follow are principally focused on determining sensitivity to **larger wind turbines >80m high to blade tip**. A sensitivity assessment for smaller turbines <80m high is contained in the accompanying Assessment of Smaller Wind Turbines Report. Table 4 below shows the turbine types considered for each Assessment Unit in the detailed sensitivity assessment tables.

Table 4: Turbine types considered in the detailed sensitivity assessment tables

Assessment Unit	Turbines 30-50m	Turbines 50-80m	Turbines 80-150m	Turbines 150m+
	Appendix Report		Main Report	
1: Peninsulas	√	√	√	√
2: Peninsula with Gorsey Knolls	√	√	√	√
3: Coastal Flats	√	√	√	√
4: Narrow valleys	√	X	X	X
5: Pastoral valleys	√	X	X	X
6: Lower and Middle Dales	√	√	√	√
7: Dale with Hills	√	X	X	X
8: Flooded Valley	√	X	X	X
9: Upper Dales	√	√	√	√
10: Upland Glens	√	X	X	X
11: Moss and Forest Lowland	X	√	√	√
12: Moss, Moor and Drumlin Pasture	√	√	√	√
13: Drumlin Pastures	√	√	√	√
14: Coastal/Flow Plateau	√	√	√	√
15: Upland Fringe	√	√	√	√
16: Plateau Moorland	X	√	√	√
17: Plateau Moorland and Forest	X	√	√	√
18: Plateau Moorland with Lochs	X	√	√	√
19: Foothills	√	√	√	√
20: Foothills with Forest	X	X	√	√
21: Southern Uplands	X	X	√	√
22: Southern Uplands with Forest	X	X	√	√
23: Coastal Granite Uplands – Dalbeattie/ Bengairn	√	√	√	√
23: Coastal Granite Uplands – Cairnsmore	X	X	√	√
24: Rugged Granite Uplands	X	X	√	√
25: Rugged Granite Uplands with Forest	X	X	√	√

Figure 8 shows the Assessment Units where detailed sensitivity assessment has been undertaken for larger wind turbines.

An introduction to each Assessment Unit is set out in the sensitivity assessments that follow. This briefly describes the location of the Assessment Unit and outlines operational and consented wind energy developments located both within the subject

Assessment Unit and sited in the surrounding area (and clearly visible from the Assessment Unit being assessed).

A summary of sensitivity is provided for each Assessment Unit. Professional judgement has been used in arriving at the overall sensitivity scores, taking into account the weight of evidence rather than adopting a rigid numerical scoring system. Potential cumulative issues and key constraints and opportunities to development are set out for each Assessment Unit and the sensitivity assessment concludes with guidance on the siting and design of wind turbine development. Further detail on the method of assessment is included in Section A, Chapter 2 of this report.

The assessment within this study focuses on the landscapes lying within Dumfries and Galloway's boundaries but notes key landscape and visual sensitivities within adjacent authorities where relevant.

Figures B and C within the Assessment of Smaller Wind Turbines Report show the sensitivity of each of the Assessment Units considered in relation to the small and medium turbine typologies. These figures are replicated in Appendix C of this report for information.

4.2 Interpreting the overall sensitivity ratings

In terms of guidance, the study indicates that where an Assessment Unit is identified as being of **High** sensitivity rating overall for any typology, it is the opinion of the consultants that the typology cannot be accommodated in the Assessment Unit (or in some instances close-by it) without significant adverse landscape and/or visual effects arising across a wide range of key landscape and visual sensitivities.

Assessment Units found to be of **High-medium** sensitivity will have a number of significant constraints to wind farm/turbine development. While some characteristics may relate better to such development, significant adverse effects are likely to occur on other key landscape and visual characteristics. Landscape and visual effects may be minimised if development is subject to careful siting and design, for example being set back into the interior of upland areas to reduce intrusion on surrounding more sensitive landscapes.

Where a **Medium** sensitivity is identified, development is likely to be accommodated with fewer significant impacts on key sensitivities. Medium sensitivity landscapes are not without constraints however and developers should be required to take note of these in the siting and design of proposals. A **Low-medium** sensitivity indicates some limited sensitivities although there are opportunities to accommodate the development in most locations. A **Low** sensitivity landscape is one where the development typology relates well to key landscape characteristics and where change is able to be accommodated without significant adverse impacts arising on landscape character or visual amenity. This scenario is most likely to be associated with extensive degraded industrial landscapes which are not characteristic of Dumfries and Galloway.

4.2.1 Consideration of turbine height

The study considers the sensitivity of Assessment Units to a limited number of pre-determined turbine typologies, principally based on height. It is not practical to appraise

a wide range of turbine typologies in a landscape sensitivity assessment as it becomes too complicated in the field assessment but also in clearly presenting findings on sensitivity. Individual applications therefore need to be considered on a case-by-case basis with some flexibility on turbine heights being applied within close range of the upper height threshold used in the assessment. Where turbines are slightly above the height threshold or proposed within more sensitive landscapes, they should be subject to careful and thorough consideration with the developer being requested to demonstrate how they have dealt with potential effects on the constraints identified in the sensitivity assessment at a more detailed level.

4.2.2 *The need for more detailed appraisal of specific proposals*

Caution is needed in interpreting the sensitivity findings set out in the sensitivity tables contained in section B of this report as these represent an average across broad Assessment Units and considerable variation can occur across these landscapes. The assessment identifies constraints in analysis and at a strategic scale and developers would need to demonstrate how they have dealt with potential effects on the constraints identified in the sensitivity assessment at a detailed level.

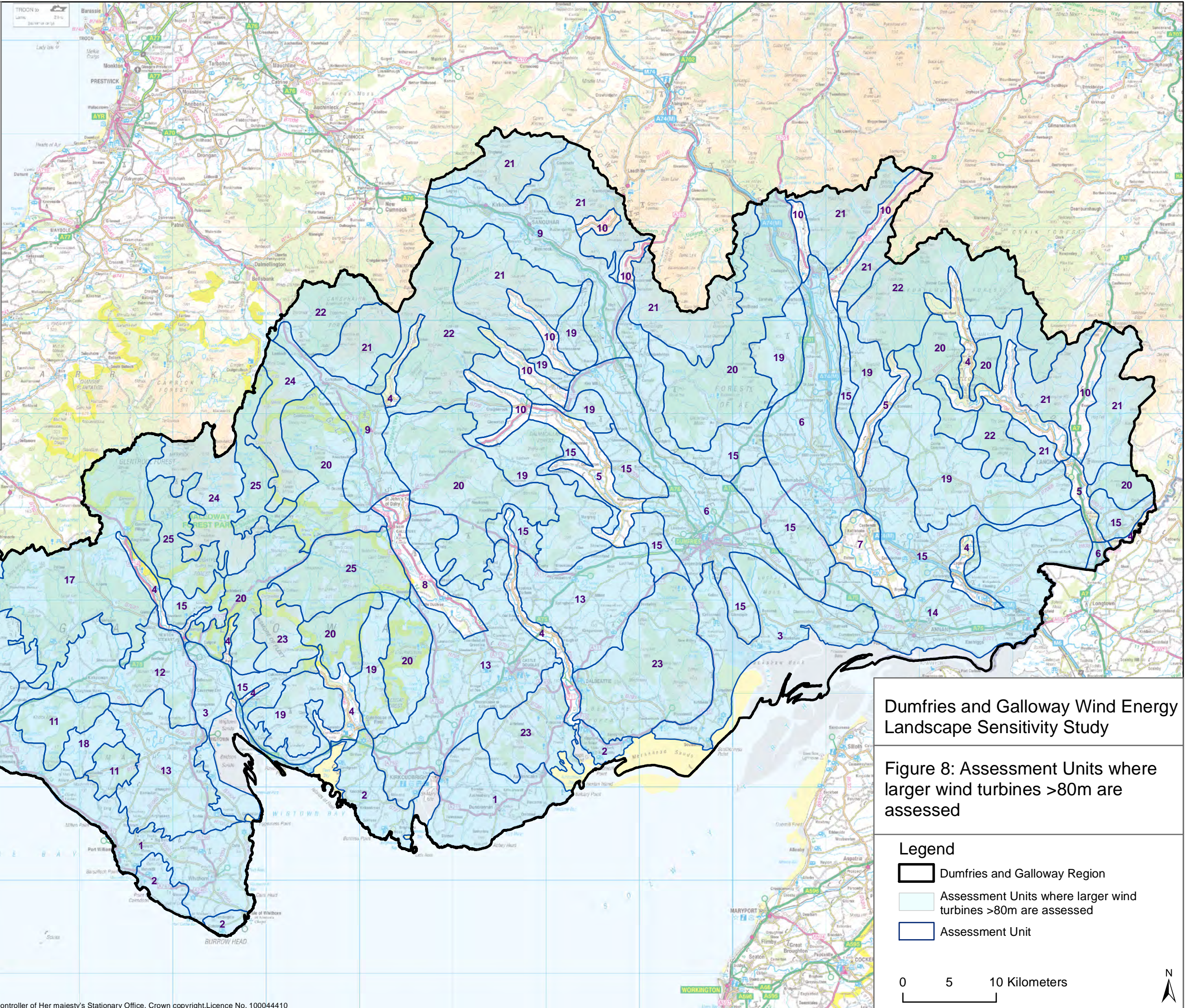
4.3 **Landscape context and indirect effects**

The Assessment Units have been defined on the basis of Landscape Character Types (LCTs). LCTs can have 'fluid' boundaries where a gradual transition occurs between adjacent landscapes with some similar characteristics. Wind turbines are also tall structures which often influence other nearby landscapes resulting in indirect effects on character and/or on views. It is recommended that when considering individual proposals, the sensitivity assessments outlined for both the Assessment Unit that the development lies in and immediately adjoining, and any other close-by Assessment Units, are reviewed as wider sensitivities may apply. In some cases, similar Assessment Units extend into adjacent authorities and these areas also need to be considered.

Indirect landscape and visual effects can be determining considerations in the appraisal of wind farm proposals. Where there is a close juxtaposition of contrasting landscapes (as often occurs in Dumfries and Galloway) large developments in one area can have considerable effects on neighbouring and nearby areas and, where intervening areas are coastal or low-lying, even on areas at longer range. Such effects are most marked where:

- A host landscape is relatively elevated and more influential on the character or views of surrounding landscapes.
- The host landscape is less sensitive and surrounding landscapes more sensitive because of their reduced scale or increased diversity, for example.
- The host landscape has a function as a backdrop, skyline or plays an otherwise important role in the overall scenic composition.

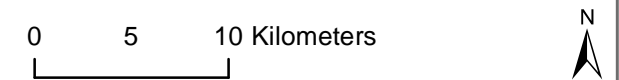
Assessment Unit	No.
Peninsula	1
Peninsula with Gorsey Knolls	2
Coastal Flats	3
Narrow Valleys	4
Pastoral Valleys	5
Lower and Middle Dale	6
Dale with Hills	7
Flooded Valley	8
Upper Dale	9
Upland Glens	10
Moss and Forest Lowland	11
Moss, Moor and Drumlin Pasture	12
Drumlin Pastures	13
Coastal/Flow Plateau	14
Upland Fringe	15
Plateau Moorland	16
Plateau Moorland with Forest	17
Plateau Moorland with Lochs	18
Foothills	19
Foothills with Forest	20
Southern Uplands	21
Southern Uplands with Forest	22
Coastal Granite Uplands	23
Rugged Granite Upland	24
Rugged Granite Upland with Forest	25



Dumfries and Galloway Wind Energy Landscape Sensitivity Study

Figure 8: Assessment Units where larger wind turbines >80m are assessed

- Legend**
- Dumfries and Galloway Region
 - Assessment Units where larger wind turbines >80m are assessed
 - Assessment Unit



5 ASSESSMENT UNIT 1: PENINSULAS

5.1 Introduction

The *Peninsula* Assessment Unit comprises the coastal promontories of the *Rhins*, *Machars* and *Dundrennan* found in the western half of the region. Each of these three areas are considered separately in the sensitivity assessment which follows due principally to the differences in landform, the degree of openness and scale between them.

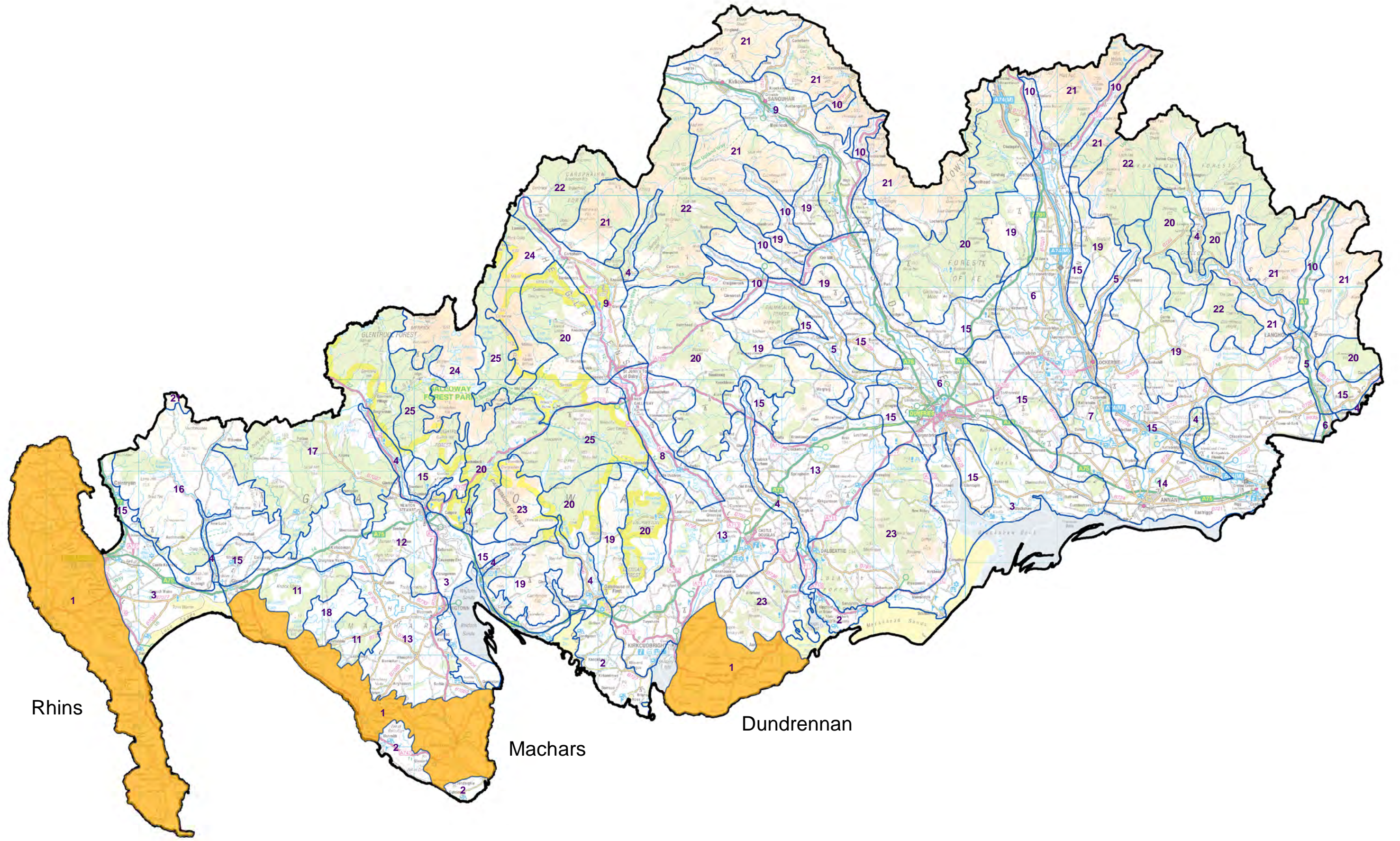
5.1.1 *Operational/consented wind farms*

The operational North Rhins wind farm is located in the *Rhins* area. This development comprises 11 turbines, 100m high to blade tip. A number of small wind turbines between 12m and 30m high have been erected on farmland within the *Rhins* and *Machars* areas. Many of these comprise small Proven wind turbines, some of which are defunct.

5.1.2 *Cultural heritage overview*

This Assessment Unit is characterised by post-improvement (19th – 20th century) fields and farming, with a number of designed landscapes as well as relict pre-improvement (pre-19th century) land-use evidence with their remains of buildings and distinct field shapes north of Portpatrick (*Rhins*), around Mochrum Fell (*Machars*) and Townhead (*Dundrennan*). In addition, there are some discrete areas of pre-medieval land-use surviving particularly in the *Rhins*. As well as the ASA of Changue Fell there are numerous archaeological sites of outstanding significance, some of which are promoted to the public.

Assessment Unit Key Map - 1. Peninsulas



Rhins

Machars

Dundrennan

5.2 Rhins area

5.2.1 *Description*

The Rhins peninsula has a sheltered interior with the sea present nearby but not always easy to access due to the steepness of the coast. The diverse rugged landform and often strong sense of wildness associated with much of the coast increases sensitivity to all sizes of wind turbine. The rolling interior of the peninsula varies in its scale and degree of openness and although it is generally less sensitive than the coastal edge, the rolling landform, small fields and consistent pattern of compact farms and other small buildings, increases sensitivity to larger wind turbines. Some areas with a more upland character of open moorland are present although these are relatively limited in extent. The North Rhins wind farm occupies one of the more extensive upland areas while higher and more open hills to the south form part of the highly sensitive rugged and wild Mull of Galloway. Visibility from roads and settlement within this Assessment Unit is often restricted by the rolling landform but there are distant views to the Rhins from the Machars and from the settled coastal plain close to Stranraer. Much of the Rhins is covered by a RSA and the presence of cultural heritage and nature conservation designations and Inventory listed designed landscapes, together with the popularity of the coast for recreation, increases the value associated with this landscape.

5.2.2 *Cumulative issues*

The operational wind farm of North Rhins is located in a broader section of the Rhins peninsula at Broad Moor. This development has a limited effect on views from roads and settlement on the Rhins due to the rolling landform and occasional tree cover. It is highly visible in more distant views to the Rhins peninsula from the Machars and Stranraer Basin where it forms a prominent feature seen on the skyline. In general, sensitivity in relation to cumulative effects is reduced because of the length of the Rhins peninsula and the very limited extent of the skyline occupied by the operational North Rhins wind farm together with the generally restricted close views possible of this operational development. Cumulative effects would be more likely to occur however if turbine sizes were noticeably different between developments.

The operational wind farms of Barlockhart, Carscreugh, Artfield/Balmurrie Fell and Glenchamber are seen from the east coast of the Rhins and while these developments appear cluttered (forming a concentrated mass of turbines of different sizes in these views) they are generally seen at distance which reduces cumulative effects to some degree. The operational Arecleoch, Glen App and Stranoch wind farms are visible from the north-eastern part of the Rhins. Cumulative effects between these developments and any additional large turbines sited within the Rhins would be unlikely to be significant due to the degree of separation between the Assessment Units they are located in.

5.2.3 *Key constraints*

- The increasing narrowness of the peninsula to the south which increases sensitivity to larger turbines, reducing the space around developments necessary to ensure they do not dominate more settled smaller scale landscapes.

- The strong qualities of remoteness and naturalness associated with the northern, western and southern coasts of the Rhins peninsula, which are recognised in the RSA designation.
- The rugged landform and wider seascape context of the Mull of Galloway and dramatic views from elevated roads, footpaths and the coast to the Isle of Man.
- More complex areas of small-scale drumlins, policy woodlands and small fields.
- Archaeological features and distinctive small scale domestic buildings particularly prominent around the coast and in the south of the peninsula.
- Concentrations of smaller wind turbines in some limited parts of the Rhins which have resulted in cumulative impacts particularly where turbine designs vary.

5.3 Sensitivity and guidance

Sensitivity is concluded to be **High** for turbines >80m.

Smaller turbines <80m high would be more successfully accommodated in this sensitive landscape and guidance on this size of development is set out in the accompanying Assessment of Smaller Wind Turbines report.

Any extension to the operational North Rhins wind farm would need to be sited to ensure that the design integrity of the original wind farm layout was not significantly affected. Care should be taken to attain a compatibility of size between existing and proposed turbines from key views given the openness of wider views to the Rhins peninsula. Existing overhead lines and any new electricity connection should be buried to mitigate the existing clutter of vertical structures around this wind farm.

AU 1 – Rhins - Detailed sensitivity assessment for smaller wind turbines		
Topics and description	Assessment: Very Large Turbines (150m +)	Assessment: Large Turbines (80-150m)
<p>Scale</p> <p>The Rhins combines rolling low hills and ridges with small rounded, often interlocking hills generally below 100m elevation, and narrow valleys reducing landscape scale. Higher, broader hills between 160-182m occasionally occur and these have a larger scale and more open character. Landscape scale is reduced along the coast where the raised beaches, sea cliffs and rounded hill summits alternate with shallow valleys creating a more complex but small-scale landscape although the presence of the sea increases scale.</p>	<p>The Rhins wind farm already occupies one of the few broader and higher upland areas on the peninsula. There are no areas of a similar scale and degree of openness which could accommodate turbines >150m without dominating adjacent smaller scale landscape features including rolling ridges and rounded hills, the narrow interior and shallow coastal valleys, the vertical scale of the coastal landscapes and the narrow southern tip of the Rhins.</p> <p>Susceptibility rating: High</p>	<p>Large turbines (100m) are already sited on one of the broader and higher upland areas and while these relate to the scale and openness of their landscape setting, there are very few areas of a similar scale and openness which could accommodate a similar scale of development. This typology would dominate the small scale of rolling ridges and rounded hills, both the narrow interior and shallow coastal valleys, the vertical scale of the coastal landscapes and the narrow southern tip of the Rhins.</p> <p>Susceptibility rating: High</p>
<p>Landform</p> <p>The rolling landform includes areas of small drumlins but is interspersed with occasional higher and broader upland areas. Cliff faces and steep hill slopes contain the western and southern coasts, with long rocky shelves reaching into the sea on the northern coast. A ridge and dip slope separates the NW coast from the rolling interior of the peninsula. The southern end of the peninsula rises to form longer hills and ridges extending to the dramatic cliffs of the Mull of Galloway. Small sandy bays are cut into the west coast with more extensive sandy beaches edging the gradual slopes of the east coast.</p>	<p>The complex drumlin pattern would be highly sensitive to this typology given the small scale of hills. This typology would also dominate the narrow, elongated ridges of the southern Rhins and the rugged hills and cliffs along the south-western coast of the peninsula. It would detract from the diversity of coastal features, including the dramatic sculpted form of the Mull of Galloway. There are few, if any, more extensive undeveloped upland areas with a simple landform on this peninsula.</p> <p>Susceptibility rating: High</p>	<p>The complex drumlin pattern would be highly sensitive to this typology given the small scale of hills. This typology would also dominate the narrow, elongated ridges of the southern Rhins and the rugged hills and cliffs along the south-western coast of the peninsula. It would detract from the diversity of coastal features, including the dramatic sculpted form of the Mull of Galloway. There are few, if any, more extensive undeveloped upland areas with a simple landform on this peninsula.</p> <p>Susceptibility rating: High</p>
<p>Landcover</p> <p>This is a generally open landscape with woodland restricted to narrow valleys inland from the coast and the more extensive areas of policies such as Dunskey and Logan. Wind-sculpted trees indicate the exposure of this landscape. Small lochans and occasional wetlands sit between rolling hills of smooth pasture often enclosed by stone dykes. Less cultivated and often more exposed hills and headlands are dominated by rough pasture and scattered gorse. The Mull of Galloway and occasional woodlands are landmark features.</p>	<p>Turbines of this scale would dominate policy woodlands if sited too close to the edge of valleys. They would also conflict with the small-scale field pattern found in areas of lower hills and could adversely affect landmark features if located nearby. More open and elevated hill tops where enclosure pattern is absent or weak would be less sensitive although these areas are not extensive.</p> <p>Susceptibility rating: High-medium</p>	<p>Turbines of this scale would dominate policy woodlands if sited too close to the edge of valleys. They would also conflict with the small-scale field pattern found in areas of lower hills and could adversely affect landmark features if located nearby. More open and elevated hill tops where enclosure pattern is absent or weak would be less sensitive although these areas are not extensive.</p> <p>Susceptibility rating: High-medium</p>

<p>Built Environment</p> <p>This landscape is settled with dispersed farms and individual houses located along narrow roads (some elevated) but generally set back from more exposed coasts. Tight-knit settlements are located in bays along the coast, and lighthouses form landmark features. There are numerous archaeological features, such as forts around the coast, and other sites, such as standing stones and chapels, indicating the long history of occupation of this fertile peninsula. The operational North Rhins wind farm is located in the central northern part of the peninsula.</p>	<p>This typology would dominate the more extensively settled eastern coastal edge. It could also overwhelm small settlements and affect their setting as well as impact on the setting and prominence of archaeological and historic features. The well-settled nature of much of the Rhins increases sensitivity. Cumulative effects would occur with the operational North Rhins wind farm if turbines of this size were seen in relative proximity.</p> <p>Sensitivity rating: High</p>	<p>This typology would dominate the more extensively settled eastern coastal edge. It could also overwhelm small settlements and affect their setting as well as impact on the setting and prominence of archaeological and historic features. The well-settled nature of much of the Rhins increases sensitivity. Cumulative effects could occur with the operational North Rhins wind farm if turbines of this size were sited nearby and any differences in size were appreciable.</p> <p>Sensitivity rating: High-medium</p>
<p>Landscape context</p> <p>The Rhins peninsula is isolated from other Assessment Units although it forms part of the wider seascape where the Machars, Irish coast and Isle of Man also feature.</p>	<p>The isolation of the Rhins reduces sensitivity although these very large turbines sited on more prominent landform visible from the Machars and Luce Bay (in particular, the Mull of Galloway) could affect wider seascape character.</p> <p>Susceptibility rating: Medium</p>	<p>The isolation of the Rhins reduces sensitivity although large typologies sited on more prominent landform visible from the Machars and Luce Bay (in particular, the Mull of Galloway) could affect wider seascape character.</p> <p>Susceptibility rating: Medium-low</p>
<p>Perceptual qualities</p> <p>The northern, western and southern coastal edge of the Rhins has strongly elemental qualities with little development. Difficulties in accessing this coast increase the sense of remoteness experienced.</p>	<p>The sense of wildness would be significantly diminished by the introduction of large-scale turbines and ancillary features visible from the coastal edge and in wider views to the sea. The more settled and managed interior of the peninsula is of reduced sensitivity although turbines of this size sited in these areas may still detract from the perceptual qualities associated with the coast. Permanent aviation lighting would be likely to affect the dark skies and sense of wildness experienced in parts of this AU.</p> <p>Susceptibility rating: High</p>	<p>The sense of wildness would be significantly diminished by the introduction of large-scale turbines and ancillary features visible from the coastal edge and in wider views to the sea. The more settled and managed interior of the peninsula is of reduced sensitivity although turbines of this size sited in these areas may still detract from the perceptual qualities associated with the coast.</p> <p>Susceptibility rating: High-medium</p>
<p>Views and visibility</p> <p>Views from roads on the Rhins are often restricted by rolling landform. The east coast of the Rhins and Luce Bay are visible from settled coastal fringes and the A716. Views of the west coast are generally limited to occasional glimpsed views of the sea framed by shallow valleys. At the southern end of the peninsula elevated roads offer dramatic views of the coast and across the southern Rhins as well as to and from the Mull of Galloway and the wider</p>	<p>While the rolling landform of the interior of the peninsula offers opportunities to limit visibility of wind farm development, this typology would need to occupy extensive areas of open ground which generally coincides with more elevated and visible areas. This typology could significantly intrude on key views particularly to and from the Mull of Galloway and along the coast from localised viewpoints as well as on</p>	<p>While the rolling landform of the interior of the peninsula offers opportunities to limit visibility of wind farm development, this typology would need to occupy extensive areas of open ground which generally coincides with more elevated and visible areas. This typology could significantly intrude on key views particularly to and from the Mull of Galloway and along the coast from localised viewpoints as well as on</p>

<p>seascape to the Isle of Man. The coast of Northern Ireland features in open views from the west coast while the distinct conical form of Ailsa Craig provides a key focus in views from the north.</p> <p>In terms of views to this landscape area, The Rhins peninsula is seen as an elongated, generally low-lying gently undulating plateau in distant views from the Machars, the Stranraer area and from elevated roads within the <i>Plateau Moorland</i> (17). The North Rhins windfarm, while prominent in more distant views, is relatively limited in extent and does not dominate the distinctive long skyline of the Rhins.</p>	<p>open views of the wider seascape and distant land.</p> <p>In terms of views to this landscape, any further development would need to be carefully designed to avoid cumulative impacts with the existing North Rhins wind farm. This typology could affect the long low profile of the Rhins seen outside from east/north where tall turbines would be visible on the skyline and would contrast with the general horizontality of the peninsula.</p> <p>Susceptibility rating: High</p>	<p>open views of the wider seascape and distant land.</p> <p>In terms of views to this landscape, any further development would need to be carefully designed to avoid cumulative impacts with the existing North Rhins wind farm. This typology could affect the long low profile of the Rhins seen outside from east/north where tall turbines would be visible on the skyline and would contrast with the general horizontality of the peninsula.</p> <p>Susceptibility rating: High</p>
<p>Landscape value</p> <p>The Rhins Coast RSA comprises the rocky coastline from the Wig, the narrow southern peninsula and the Mull of Galloway. The Inventory listed designed landscapes of Logan Botanic Gardens, Logan House and Ardwell House and other non-inventory designed landscapes are located on the Rhins. Cultural heritage features and the value of the Rhins for recreation (including the Rhins Coastal Path project) additionally increase the value associated with parts of the Rhins landscape.</p>	<p>The RSA focuses on the coastal areas and southern tip of the peninsula. The description in Technical Paper 6 acknowledges the inaccessibility of the coastline and its limited visibility inland (excepting the Mull of Galloway). This typology could impact on the character of the RSA, on the setting of designed landscapes and on other values which are principally associated with the coast.</p> <p>Value rating: High-medium</p>	<p>The RSA focuses on the coastal areas and southern tip of the peninsula. The description in Technical Paper 6 acknowledges the inaccessibility of the coastline and its limited visibility inland (excepting the Mull of Galloway). This typology could impact on the character of the RSA, on the setting of designed landscapes and on other values which are principally associated with the coast.</p> <p>Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

5.4 Machars area

5.4.1 Description

The Machars area has a predominantly gently undulating landform and open character. It is settled and largely farmed and this, together with the lack of geographically extensive areas with a large scale and absence of landscape pattern, results in a predominantly small to medium landscape scale. More complex coastal landscapes and their immediate hinterland, the presence of extensive policy woodlands and the frequent occurrence of archaeological features and historic landscapes also increase sensitivity. The openness of this landscape allows wide views from roads and settlements apart from sections of the west coast where the raised beach restricts views inland. Distant views to the Machars are possible from across Wigtown and Luce Bays.

The southern part of this landscape has a close visual relationship to the adjacent *Peninsula with Gorsey Knolls* (2) while inter-visibility with the *Moss and Forest Lowland* (11) and *Plateau Moorland with Lochs* (18) Assessment Units occurs in the north-west.

5.4.2 Cumulative issues

The operational Barlockhart wind farm is located close to the north-western boundary of this area. The operational Artfield Fell, Balmurrie Fell, Carscreugh and Glenchamber wind farms, sited in other close-by Assessment Units, are also visible from the north-western part of the *Machars Peninsula* (1) and in combination these developments present a visually confusing image in views from roads and settlement because of their different siting, layout and turbine sizes.

Key potential cumulative effects that could arise include:

- Additional wind energy developments located in the north-western part of this landscape would be likely to exacerbate the visual clutter already associated with operational wind farms sited in adjacent landscapes and experienced from the A75, A747, settlement, footpaths and views from key hill summits such as nearby Knock Hill.
- Contrasts of scale between larger wind turbines and the smaller farm-based wind turbines already present in parts of this landscape.
- Potential cumulative impacts could arise in association with any offshore development. These could affect key views from coastal roads, paths and settlements but also affect the character of the wider seascape and contrast between land and sea.
- Sequential visual impacts experienced when travelling on coast roads or coastal paths.

5.4.3 Key constraints

- More complex areas of rolling landform, rugged coast and key hills which form a backdrop to the raised beach of the west coast of this unit.
- The long profile and narrow width of the raised beach along the west coast of this unit, which is sensitive to all wind turbines.
- The presence of designed landscapes with extensive wooded policies at Glasserton, Galloway House and Monreith.

- The setting of historic settlements such as Whithorn and Garlieston and archaeological and historic features, and cultural sensitivities associated with St Ninian and the 'Whithorn Peninsula'.
- The historic landscapes around Elrig and Mochrum, including the tiny field patterns and extensive areas of multi-layered archaeological interest, within the Archaeologically Sensitive Area of Changue Fell.
- The proximity and close visual relationship of this landscape with the adjacent *Peninsula with Gorsey Knolls* (2) Assessment Unit increasing sensitivity to larger turbines which could dominate the intimate scale and rugged wildland coastal character of this landscape.
- The proximity of this landscape to the small scale, more complex topography associated with the *Drumlin Pastures* (13) Assessment Unit to the north.
- Potential effects on the setting of landmark features such as Knock Fell and the Mochrum Lochs within adjacent Assessment Units of (11) and (18).
- The perceptual qualities associated with more remote coastal areas such as Sinniness Bluff and St Ninian's Cave area.
- Cumulative effects with the visually confusing array of large turbines within wind farms sited to the north-west of this landscape.

5.5 Sensitivity and guidance

The landscape of the Machars has a **High** sensitivity to turbines >80m high.

Smaller turbines <80m high would be more successfully accommodated in this sensitive landscape and guidance on this size of development is set out in the accompanying Assessment of Smaller Wind Turbines report.

AU 1: Peninsula – Machars area – Detailed sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150m +)	Assessment: Large turbines (80-150m)
<p>Landscape scale The <i>Machars</i> has a gently undulating landform with rounded low hills rising to around 90m are interspersed with areas of flatter moorland. Higher hills rising to 138m and areas of elevated moorland back the west coast of this unit. While forestry plantations provide some enclosure, tree cover is generally sparse and the landscape has an open character, especially towards the south and east. Much of this landscape is however well-settled and farmed and thus has a smaller scale.</p>	<p>This size of turbine would dominate the scale of settled and farmed areas. Occasional larger scale areas of moorland and lowland moorland are not geographically extensive limiting the number of turbines that could be accommodated without impacting on adjacent smaller scale areas. The scale of the hills and other landform features including raised beach cliffs, would be overwhelmed by turbines of this size. Susceptibility rating: High</p>	<p>This size of turbine would dominate the scale of settled and farmed areas. Occasional larger scale areas of moorland and lowland moorland are not geographically extensive limiting the number of turbines that could be accommodated without impacting on adjacent smaller scale areas. The scale of the hills and other landform features including raised beach cliffs, would be overwhelmed by turbines of this size. Susceptibility rating: High</p>
<p>Landform The predominantly undulating landform of low, elongated ridges and occasional flatter moorland/forest and moorland areas has a simple character although more complex rolling hills occur against the west coast. The coastal edge is also very diverse with the strongly contained raised beach of the western coastal edge and bold rugged cliffs and hills between Stairhaven and the Mull of Sannis contrasting with the rocky bays and subtle promontories of the generally more gently sloping eastern coastal edge.</p>	<p>While turbines could relate to the predominant simplicity of the landform, they would detract from the more diverse and rugged coastal edges if sited close-by. This typology would also detract from the distinctive form of the more pronounced hills which provide a backdrop to the western coastal edge. Susceptibility rating: High-medium</p>	<p>While turbines could relate to the predominant simplicity of the landform, they would detract from the more diverse and rugged coastal edges if sited close-by. This typology would also detract from the distinctive form of the more pronounced hills which provide a backdrop to the western coastal edge. Susceptibility rating: High-medium</p>
<p>Landcover This is a generally open landscape with occasional geometric coniferous plantations planted on lowland moorland, and long shelterbelts. Policy woodlands associated with the Glasserton, Monreith and Galloway House estates are landmark features. Fields are often large and in places are enclosed by distinctive 'white' stone walls, although smaller rolling pastures occur close to the west coast, especially, for example, near Elrig and Mochrum. Areas of scrub-fringed lowland moorland are diverse, contrasting with surrounding pastures.</p>	<p>Diverse policy woodlands would be highly sensitive to this typology. Development sited on areas of lowland moorland would diminish the contrast these areas provide with farmland, although plantation forestry would be less sensitive. The integrity of distinctive field enclosure patterns and the setting of landmark features could be affected by this large typology. Susceptibility rating: High-medium</p>	<p>Diverse policy woodlands would be highly sensitive to this typology. Development sited on areas of lowland moorland would diminish the contrast these areas provide with farmland, although plantation forestry would be less sensitive. The integrity of distinctive field enclosure patterns and the setting of landmark features could be affected by this large typology. Susceptibility rating: High-medium</p>

<p>Built environment</p> <p>This landscape is settled with dispersed farms and the settlements of Whithorn sited inland and Port William and Garlieston on the coast. There are numerous archaeological features and more extensive historic landscapes, such as at Elrig. Many of the roads are narrow and sinuous, especially in the west. Existing small single turbines are associated with farmland in the southern part of the peninsula.</p>	<p>The well-settled character of the Machars and the presence of cultural heritage features increases sensitivity. There is some potential for cumulative effects to occur with existing smaller wind turbines.</p> <p>Susceptibility rating: High</p>	<p>The well-settled character of the Machars and the presence of cultural heritage features increases sensitivity. There is some potential for cumulative effects to occur with existing smaller wind turbines.</p> <p>Susceptibility rating: High</p>
<p>Landscape context</p> <p>This landscape is closely related to Assessment Unit 2 which produces a particularly rugged coastal edge to the south and west. There is a gradual transition between the north-western part of this type and the <i>Plateau Moorland with Lochs</i> (18), <i>Moss and Forest Lowland</i> (11) around Gargrie Moor and Knock Fell and the <i>Drumlin Pastures</i> (13). Landmark hills on the west coast, such as Mochrum Fell are important in forming a backdrop to AU18.</p>	<p>Turbines of this size could impact on the adjacent small-scale <i>Peninsulas with Gorse Knolls</i> (2). They could also impact on landmark features such as the Mochrum lochs within adjacent Assessment Units if sited on moorland or landmark hills backing the west coast of this AU.</p> <p>Susceptibility rating: High</p>	<p>Turbines of this size could impact on the adjacent small-scale <i>Peninsulas with Gorse Knolls</i> (2). They could also impact on landmark features such as the Mochrum lochs within adjacent Assessment Units if sited on moorland or landmark hills backing the west coast of this AU.</p> <p>Susceptibility rating: High</p>
<p>Perceptual qualities</p> <p>There are few 'wildland' qualities associated with the farmed interior of this landscape although a distinct sense of seclusion and naturalness can be experienced along the coast, for example at Sinniness Bluff, Cruggleton Point and St Ninian's Cave. Some lowland moorlands have a semi-natural character. Cultural associations with St Ninian give a strong sense of history.</p>	<p>Large turbines and associated infrastructure could impact on coastal areas and moorlands with a wilder character although there is some scope to avoid these. Permanent aviation lighting could affect the experience of dark skies and the character of the more secluded sections of coast.</p> <p>Susceptibility rating: High</p>	<p>Large turbines and associated infrastructure could impact on coastal areas and moorlands with a wilder character although there is some scope to avoid these.</p> <p>Susceptibility rating: High-medium</p>
<p>Views and visibility</p> <p>The southern and eastern parts of the Machars peninsula are open and widely visible from roads and settlement. The east coast and Wigtown Bay are visible from the B7063, with Cairnmore of Fleet and Cairnharrow Hill providing a distant focus. Long views occur along the western coast from the A747 and coastal settlement, contained by the scarp slope and backdrop of hills. There is strong inter-visibility between moorland in the north-west of this unit</p>	<p>Turbines of this size would be highly visible due to the openness of this landscape and its well-settled character. They could significantly detract from key foci and the setting of settlements and archaeological features if sited close-by. Turbines of this size would be seen in wider views from the Rhins and upland/coastal landscapes to the north-east and east where they would be visible on the skyline of the low Machars peninsula.</p> <p>Susceptibility rating: High</p>	<p>Turbines of this size would be highly visible due to the openness of this landscape and its well-settled character. They could significantly detract from key foci and the setting of settlements and archaeological features if sited close-by. This typology would be seen in wider views from the Rhins and upland/coastal landscapes to the north-east and east where they would be visible on the skyline of the low Machars peninsula.</p> <p>Susceptibility rating: High</p>

<p>with the adjacent Knock Fell and Gargrie Moor and lochs in adjacent Assessment Units. Low hills and ridges often form the visual backdrop/setting to villages and historic features of interest, while occasional landmark hills or more intricate and scenic stretches of coastline form visual foci in the wider landscape. The Machars peninsula is visible from the Rhins, uplands and coastal peninsulas to the east.</p>		
<p>Landscape values The Machars Coast RSA recognises the scenic qualities of the rocky coast which lies in this Assessment Unit and the adjacent <i>Peninsula with Gorse Knolls (2)</i>. Inventory and Non-Inventory designed landscapes and ASAs increase sensitivity in some parts of this landscape. The coastal areas of this Assessment Unit are well-used for recreation with popular beaches and coast paths. The special heritage of the Whithorn area, with its associations with St Ninian and the Vikings, additionally attracts visitors.</p>	<p>Very Large turbines could impact on the rugged coast which forms the focus of the RSA and on other coasts popular for recreation and tourism. Sensitivity would be reduced in the interior part of this landscape although designed landscapes and ASAs and their setting would be sensitive to turbines of this size if sited close-by. Value rating: High-medium</p>	<p>Large turbines could impact on the rugged coast which forms the focus of the RSA and on other coasts popular for recreation and tourism. Sensitivity would be reduced in the interior part of this landscape although designed landscapes and ASAs and their setting may be sensitive to turbines of this size if sited close-by. Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

5.6 Dundrennan area

5.6.1 *Description*

This landscape comprises rolling coastal hills with areas of more complex knolly landform occurring around the Buckland Burn. More open, simple and expansive hill slopes occur inland at the transition with the *Coastal Granite Uplands* (23). The coastal edge is predominantly rugged with cliffs and small bays and the sheltered gently sloping western and eastern coasts of the peninsula feature wooded policies and contribute to the scenic composition of Kirkcudbright and Auchencairn Bays. MOD built infrastructure is present in the western part of this landscape. Although views to this landscape from the surrounding area are not widespread, hill paths in the adjacent *Coastal Granite Uplands* (23) (particularly the Bengairn area) offer elevated views. The rolling landform tends to limit views from roads and settlement within this Assessment Unit.

5.6.2 *Cumulative issues*

There are no wind farms within the Dundrennan peninsula. The relative isolation of this peninsula and containment of widespread views by the adjacent *Coastal Granite Uplands* (23) are factors likely to limit widespread cumulative impacts with other onshore wind energy developments. Potential cumulative impacts could arise in association with the existing offshore Robin Rigg windfarm within the Solway Firth which is clearly seen from footpaths along the coastal edge and from occasional open and usually more elevated views inland.

Key potential cumulative effects that could arise include:

- Views from popular coastal footpaths where developments, visible both on land and sea, could have significant impacts on character and views, and on the experience of walking along this coast which has elemental qualities and a strong sense of naturalness and seclusion.
- Variations in the type and scale of wind turbines.
- Sequential visual impacts experienced when travelling on the A711 where there are some open views to Robin Rigg offshore wind farm.

5.6.3 *Key constraints*

- More complex and intimately scaled areas of knolly landform around the valley of the Buckland Burn.
- The sheltered gently sloping western and eastern coasts of the peninsula which feature wooded policies and contribute to the scenic composition of Kirkcudbright and Auchencairn Bays.
- The rugged and remote coast and its backdrop of distinct conical hills ringed by crags and gorse giving them a ruggedness belying their relatively low height (around 100m). These hills often feature hill forts and other archaeology which further increase sensitivity.
- Newlaw Hill with its long knolly ridge, prominent location and rich archaeology.
- The settled nature of this area where buildings, and also hill-top trees and woodlands, provide ready scale indicators.

- Settlement tucked in between rounded hills, which could easily become overwhelmed by turbines located within their immediate setting.
- Existing offshore development within the Solway Firth which could contribute to cumulative effects experienced from roads and coastal footpaths and settlement.

5.7 Sensitivity and guidance

The landscape of the Dundrennan peninsula has a **High** sensitivity to turbines >80m high.

Smaller turbines <80m high would be more successfully accommodated in some parts of this sensitive landscape and guidance on this size of development is set out in the accompanying Assessment of Smaller Wind Turbines report.

AU 1: Peninsula – Dundrennan area – Detailed sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale The interlocking coastal hills, which rise to around 162m, have a medium scale which is reduced within valleys, particularly where these are well wooded. The complex knolly landform in and around the valley of the Buckland Burn has an intimate scale. There are few expansive open areas of larger scale in this landscape; these occurring mainly inland toward Barcloy Hill at the transition with Assessment Unit (23) The <i>Coastal Granite Uplands</i>.</p>	<p>There are no extensive areas of open land which could relate to multiple turbines of this size. The higher hills have confined rounded tops or form narrow ridges limiting the number of turbines that could be accommodated. Turbines >150m would overwhelm the relief of hills if sited on or near them. They would also dominate the scale of sea cliffs if sited close to the coast. Susceptibility rating: High</p>	<p>There are very few areas of open land with a larger scale which could relate to this large typology. The higher hills have confined rounded tops or form narrow ridges limiting the number of turbines that could be accommodated. Turbines of 80-150m height would dominate the low relief of hills if sited on or near them. They would also dominate the scale of sea cliffs if sited close to the coast. Susceptibility rating: High</p>
<p>Landform A coastal promontory bounded by the deeply indented inlets, rocky peninsulas and islands within the Auchencairn and Kirkcudbright Bays. A generally rolling landform of often well-defined hills cut by narrow valleys but with a broader upland 'platform' towards the transition with <i>Coastal Granite Uplands</i> (23). The valley of the Buckland Burn is deeply incised and complex with small scale knolls and dips. The rocky coastal edge falls steeply and features cliffs and raised beaches. The rugged coastal edge, distinctive conical coastal hills and Newlaw Hill, with its long undulating knolly ridge form landmark features.</p>	<p>This typology would detract from the diversity of the more dramatic landforms of the coast, the well-defined conically shaped coastal hills and the complex landform associated with the Buckland Burn. While areas of simpler landform occur to the north-east and east, these are relatively limited in extent. Susceptibility rating: High-Medium</p>	<p>This typology would detract from the diversity of the more dramatic landforms of the coast, the well-defined conically shaped coastal hills and the complex landform associated with the Buckland Burn. While areas of simpler landform occur to the north-east and east, these are relatively limited in extent. Susceptibility rating: High-Medium</p>
<p>Landcover This landscape is often well-wooded with parkland and policy plantings characteristic of the sheltered inlets of Kirkcudbright and Auchencairn Bays. Hill tops are often marked by mature tree clumps.</p>	<p>This typology would detract from the diverse pattern of policy plantings including distinctive hill-top woodlands. Susceptibility rating: High-medium</p>	<p>This typology would detract from the diverse pattern of policy plantings including distinctive hill-top woodlands. Susceptibility rating: High-medium</p>
<p>Built environment This landscape is settled with dispersed farms and small settlements sited within contained valleys. Iron Age fort sites are located on prominent hill tops close to the coast and inlets and there are a number of landmark features, such as</p>	<p>The settled character of this landscape and the presence of archaeological features increases sensitivity. This typology could exacerbate the clutter of built elements which are detractive features in this landscape. Susceptibility rating: High</p>	<p>The settled character of this landscape and the presence of archaeological features increases sensitivity. This typology could exacerbate the clutter of built elements which are detractive features in this landscape. Susceptibility rating: High</p>

<p>the abbey at Dundrennan, as well as with more widespread archaeological interests around key hills such as Newlaw and at Dromore. This landscape and the coast forms the setting to Kirkcudbright and Auchencairn settlement. MOD installations, including masts sited on hill tops, are a prominent feature within the south-western hills of this area which abut the coast.</p>		
<p>Landscape context The Dundrennan promontory is backed by the steep slopes of Barcloy Hill within Assessment Unit (23). It also forms an edge to Auchencairn Bay to the east and Kirkcudbright Bay to the west.</p>	<p>Very large turbines would diminish the scale of the adjacent <i>Coastal Granite Uplands</i> which although rugged in form are relatively low in height. They would also dominate the intricate and scenic pattern of islands, peninsulas and inlets of Kirkcudbright and Auchencairn Bays. Susceptibility rating: High</p>	<p>Large turbines would diminish the scale of the adjacent <i>Coastal Granite Uplands</i> which although rugged in form are relatively low in height. They would also dominate the intricate and scenic pattern of islands, peninsulas and inlets of Kirkcudbright and Auchencairn Bays. Susceptibility rating: High</p>
<p>Perceptual qualities The rugged coast away from the more settled inlets of Kirkcudbright and Auchencairn Bays has a strong sense of seclusion and naturalness. The MOD presence affects tranquillity to the west to some degree.</p>	<p>This typology could adversely affect the perceived wildland character of the more remote coastal edge although inland areas are generally less sensitive. Permanent aviation lighting could affect the sense of wildness associated with parts of the coast. Susceptibility rating: High-medium</p>	<p>This typology could adversely affect the perceived wildland character of the more remote coastal edge although inland areas are generally less sensitive. Susceptibility rating: Medium</p>
<p>Views and visibility The A711 offers occasional elevated views across this landscape although the rolling landform and woodland restricts views to the coast. Visibility from the coast is limited by steep slopes and cliffs although elevated views are possible from coastal hill tops. The northern part of this unit is seen from the B727. The elongated knolly ridge of Newlaw hill forms a focus seen from the A711. MOD installations are also highly visible from this road. Views from settlements such as Dundrennan are contained by tight-knit hills. Views from the gentle wooded slopes at the eastern and western ends of this peninsula focus on the highly scenic seascapes of promontories, islands and tidal inlets of Auchencairn and Kirkcudbright Bays. Views <u>to</u> this area are limited by its relative isolation and the screening</p>	<p>This typology would be highly visible from the A711 if sited on the gentler western and eastern coastal edge and on coastal hills. This very large typology would be likely to significantly impact on views from popularly access summits such as Bengairn Hills, the monument at Barstobrick and from the B727. Susceptibility rating: High</p>	<p>This typology would be highly visible from the A711 if sited on the gentler western and eastern coastal edge and on coastal hills. There is scope to minimise views from within this landscape if turbines towards the lower height band of this typology were sited at the transition with the <i>Coastal Granite Uplands</i> as these hills would provide a degree of shielding from the wider area. However, this size of turbines would still be likely to significantly impact on views from popularly access summits such as Bengairn Hills, the monument at Barstobrick and from the B727. Susceptibility rating: High</p>

<p>provided by the <i>Coastal Granite Uplands</i> (23). There are elevated views over this area from Bengairn Hill and from the monument at Barstobrick, although the landform of the <i>Drumlin Pastures</i> (13) provides some intermediate screening from settlement and roads to the north.</p>		
<p>Landscape values The Solway Coast RSA covers the rocky shore, coastal hills and more settled wooded edges to Kirkcudbright and Auchencairn Bays. Both these bays are popular for recreation with a number of promoted walks along the coast including those to Airds and Balcary Points and St Mary's Isle. The Stewartry NSA covers a small part of this Assessment Unit adjacent to Auchencairn Bay.</p>	<p>Large typologies sited in the coastal area could impact on the noted diverse and attractive coastal edge of the RSA which features cliffs, raised beaches and isolated coves and on walking routes and other areas used for recreation. They could also impact on the intimate scale and highly scenic composition and setting of the diverse Auchencairn Bay which is a key special quality of the Stewartry NSA. Value rating: High-medium</p>	<p>Large typologies sited in the coastal area could impact on the noted diverse and attractive coastal edge of the RSA which features cliffs, raised beaches and isolated coves and on walking routes and other areas used for recreation. They could also impact on the intimate scale and highly scenic composition and setting of the diverse Auchencairn Bay which is a key special quality of the Stewartry NSA. Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

6 ASSESSMENT UNIT 2: PENINSULA WITH GORSEY KNOLLS

6.1 Introduction

This Assessment Unit is found in the following four coastal locations:

- *Monreith*
- *Burrowhead*
- *Borgue*
- *Rockcliffe*

There is a strong similarity of character across these areas and the Assessment Unit is therefore considered in a single sensitivity assessment.

6.1.1 *Operational/consented wind farms*

An existing single small wind turbine is located at Rainton Farm within the *Borgue* landscape area. Onshore wind farm developments in other Assessment Units have little influence on the *Peninsula with Gorse Knolls (2)* although the offshore Robin Rigg wind farm is clearly visible from the *Rockcliffe* area.

6.1.2 *Cultural heritage overview*

This Assessment Unit is characterised by post-improvement (c19th-20th century) fields and farming with a few designed landscapes. There are numerous archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit, particularly in relation to the Isle of Whithorn.

6.2 Description

This Assessment Unit has an exposed coastal character and a predominantly small scale and complex landform of linear low rocky ridges, dips and knolls. The coarse texture of exposed rock is accentuated by scrubby vegetation and stunted wind-sculpted trees. Wooded policies are present in more sheltered locations, for example at Glasserton. There is a distinctive pattern of small walled pastures in places and small buildings are often traditional in character and appear hunkered down in this exposed coastal landscape. The coastal edge is diverse and rugged with an undeveloped character and a sense of wildness is associated with much of the coast. Visibility from roads and settlement is generally restricted by the rolling landform although even small elevations allow more extensive views over the relatively low ridges and knolls of this landscape.

6.2.1 *Cumulative issues*

There are some single wind turbines <50m high located in this landscape. Potential cumulative landscape and visual impacts could arise with the operational Robin Rigg offshore wind farm and any onshore development located within the *Rockcliffe* area, potentially affecting views from coastal footpaths and the strong sense of naturalness and seclusion associated with the coast.

Variations in the type and scale of wind turbines, including obvious contrasts of scale between larger and smaller wind turbines, could result in cumulative landscape and visual impacts.

6.2.2 *Key constraints*

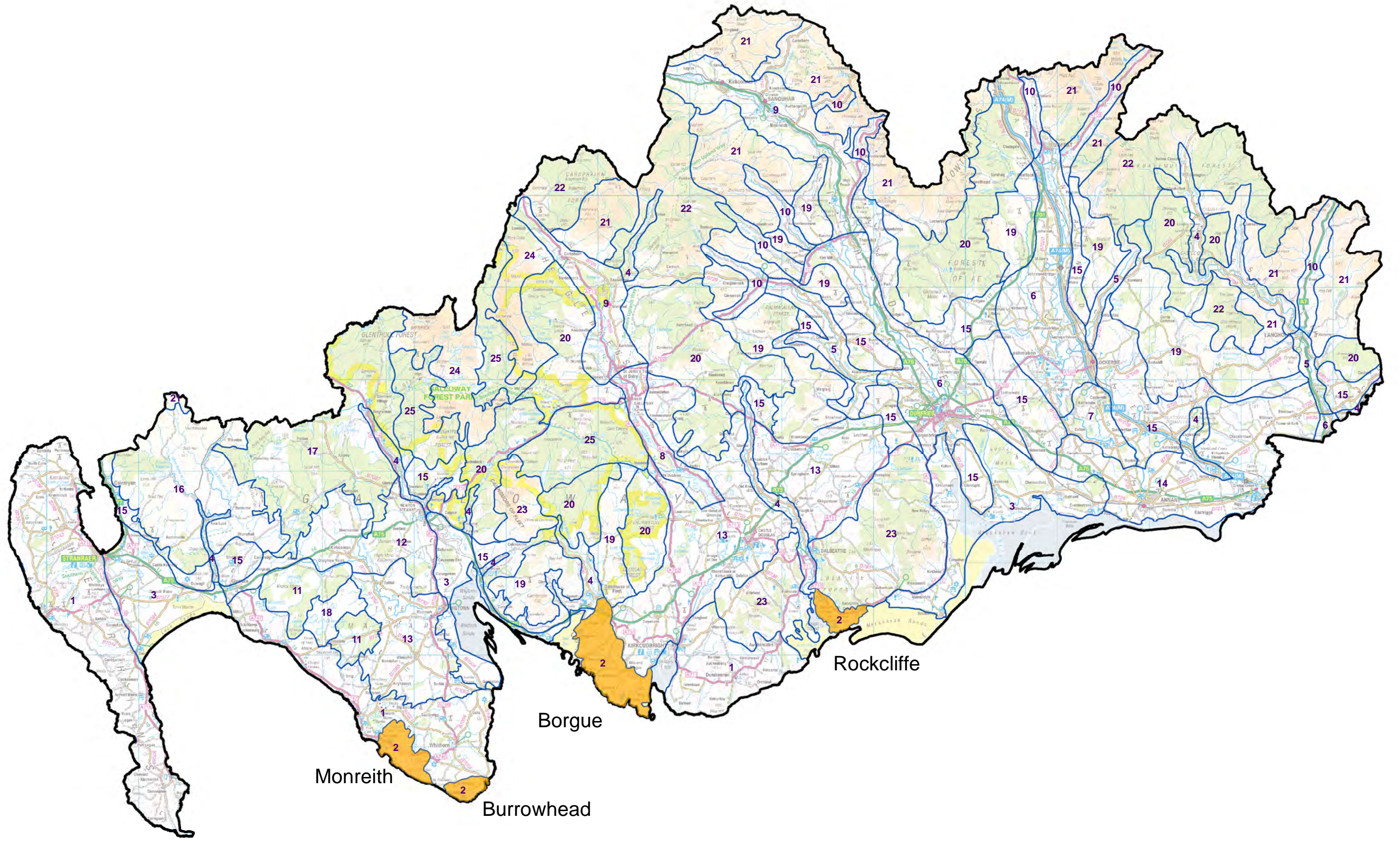
- The very complex landform of linear rocky ridges and dips and knolls which together with scrubby vegetation and occasional wind-sculpted trees creates an intimate scale and highly distinctive character.
- The rugged elemental qualities and the lack of development of the *Burrowhead* and *Monreith* sections of the coast, which contribute to the strong qualities of wildness associated with these seascapes.
- The rocky fragmented coasts of the *Borgue* and *Rockcliffe* areas and their role in the wider scenic composition of the seascapes of the Fleet and Rough Firth estuaries. Both these estuaries are designated NSAs.
- The areas of relatively regular, sometimes linear, field pattern, particularly in the *Monreith* area, have an integrity which makes a particular contribution to the Sense of Place.
- Archaeological and historic features, including those which are particularly prominent around the coast, and small-scale wooded policy landscapes, for example at Glasserton.

6.3 **Sensitivity and guidance**

There is a **High** sensitivity to wind turbines >80m in this landscape.

Smaller turbines <80m high would be more successfully accommodated in this sensitive landscape and guidance on this size of development is set out in the accompanying Sensitivity Assessment of Smaller Wind Turbines Report.

Assessment Unit Key Map - 2. Peninsulas with Gorse Knolls



AU 2: Peninsula with Gorsey Knolls – Detailed sensitivity assessment of larger turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale Although this landscape is open and exposed particularly close to the coast, the complex landform comprising rocky knolls, ridges and dips provide strong containment and create an intimate scale in many places. This landscape is relatively well-settled with small buildings providing ready scale indicators.</p>	<p>This typology would dominate the low relief of complex small hills, concavities and intricate coastal features. Susceptibility rating: High</p>	<p>This typology would dominate the low relief of complex small hills, concavities and intricate coastal features. Susceptibility rating: High</p>
<p>Landform Rocky knolls, ridges and dips, some of these accommodating small lochans, have a distinctive ruggedness and the coastal edge often forms dramatic cliffs cut by inlets and raised beaches, particularly in the <i>Monreith</i> area. A fragmented shoreline of rocky promontories and islands is a feature close to Fleet Bay. The landform is less craggy and complex in the south-east part of the <i>Borgue</i> area at the transition with AU 13 where broader smoother ridges occur.</p>	<p>The complex rocky landform of this Assessment Unit is sensitive to construction of roads and footings for multiple turbines. This typology would detract from the small-scale complexity of landform features and the ruggedness and intricate form of the coast. Susceptibility rating: High</p>	<p>The complex rocky landform of this Assessment Unit is sensitive to construction of roads and footings for multiple turbines. This typology would detract from the small-scale complexity of landform features and the ruggedness and intricate form of the coast. Susceptibility rating: High</p>
<p>Landcover A repeated and highly distinctive coarse textured pattern of rocky outcrops with stone walls (enclosing small often linear pastures) appearing to merge with each other. Policy woodlands and clumps of stunted trees and gorse pattern and punctuate the landscape. Islands, distinct coastal hills, for example Meikle Ross at the entrance to Kirkcudbright Bay, White Hill near Rockcliffe or the Fell of Barhullion near Monreith, rare sandy bays at Graplin and Carrick and dramatic cliffs at Burrowhead and Monreith form landmark features.</p>	<p>This typology would disrupt the distinctive and consistent pattern of this landscape. It would dominate small pastures and the often pronounced enclosure pattern and small woodlands. Large typologies would additionally detract from landmark features such as rare sandy bays and coastal hills if sited on/close to them. Susceptibility rating: High</p>	<p>This typology would disrupt the distinctive and consistent pattern of this landscape. It would dominate small pastures and the often pronounced enclosure pattern and small woodlands. Large typologies would additionally detract from landmark features such as rare sandy bays and coastal hills if sited on/close to them. Susceptibility rating: High</p>
<p>Built environment Compact farms are often sited on knolls or ridges. The settlements of Rockcliffe and Isle of Whithorn, occasional caravan parks and golf</p>	<p>This typology would dominate the small scale of existing buildings and could affect the setting of small tightly clustered settlements. The</p>	<p>This typology would dominate the small scale of existing buildings and could affect the setting of small tightly clustered settlements. The</p>

<p>courses are sited close to the coast. Archaeological and historic features occur across this landscape with some present on more pronounced hills. There is little large-scale built infrastructure.</p>	<p>setting of archaeological and historic features could also be affected. Susceptibility rating: High</p>	<p>setting of archaeological and historic features could also be affected. Susceptibility rating: High</p>
<p>Landscape context The <i>Burrowhead</i> and <i>Monreith</i> areas abut the <i>Machars</i> peninsula (1) with strong inter-visibility occurring between the two. The <i>Borgue</i> unit merges gradually with the <i>Drumlin Pastures</i> type (13) while the <i>Rockcliffe</i> area is strongly contained by the steeper slopes of the <i>Coastal Granite Uplands</i> (23).</p>	<p>This typology sited in the <i>Burrowhead</i> and <i>Monreith</i> areas could impact on sensitive landmark hills such as the Fell of Barhullion which forms a backdrop to AU 1. This typology would overwhelm the scale of AU13 and AU1 which lie close to this landscape. Development sited within the <i>Rockcliffe</i> area could impact on highly scenic views to and from the <i>Coastal Granite Uplands</i> Susceptibility rating: High</p>	<p>This typology sited in the <i>Burrowhead</i> and <i>Monreith</i> areas could impact on sensitive landmark hills such as the Fell of Barhullion which forms a backdrop to AU 1. This typology would overwhelm the scale of AU1 and AU13 which lie close to this landscape. Development sited within the <i>Rockcliffe</i> area could impact on highly scenic views to and from the <i>Coastal Granite Uplands</i> Susceptibility rating: High</p>
<p>Perceptual qualities The coastal edge of <i>Burrowhead</i> and <i>Monreith</i> areas have a strong sense of wildness. Other areas are less remote and more populated although all instil the same perception of naturalness, accentuated by the distinct ruggedness of the coastline.</p>	<p>The geographically small extent of the <i>Monreith</i>, <i>Burrowhead</i> and <i>Rockcliffe</i> areas severely limits scope to site this typology without incurring impacts on the qualities of wildness associated with the coast. Permanent aviation lighting would accentuate these effects. Susceptibility rating: High</p>	<p>The geographically small extent of the <i>Monreith</i>, <i>Burrowhead</i> and <i>Rockcliffe</i> areas severely limits scope to site this typology without incurring impacts on the sense of wildness associated with the coast. Susceptibility rating: High</p>
<p>Views and visibility The <i>Rockcliffe</i> area is small and relatively well-populated/visited thus increasing visual sensitivity. The Solway Firth is also popular for sailing. Visibility can be limited from roads and settlement within the <i>Borgue</i> area by landform although the coast is more open and views extend across the Fleet Bay and Solway. Castle Hill Point in the <i>Rockcliffe</i> area and Knockbrex Hill comprise promoted viewpoints. The A747 offers elevated views over the <i>Monreith</i> area although views are more restricted towards the less accessible coast of this and the <i>Burrowhead</i> area.</p>	<p>While small scale knolls would limit visibility in places, the presence of settlement and the high recreational use of these coastal areas increase visual sensitivity. This typology would be likely to be visible from sections of the A75 (<i>Borgue</i>) and from the A747 (<i>Monreith</i>) and the A710 (<i>Rockcliffe</i>). There would also be elevated views from hill summits in the adjoining <i>Coastal Granite Uplands</i> (23). Susceptibility rating: High</p>	<p>While small scale knolls would limit visibility in places, the presence of settlement and the high recreational use of these coastal areas increase visual sensitivity. This typology would be likely to be visible from sections of the A75 (<i>Borgue</i>) and from the A747 (<i>Monreith</i>) and the A710 (<i>Rockcliffe</i>). There would also be elevated views from hill summits in the adjoining <i>Coastal Granite Uplands</i> (23). Susceptibility rating: High</p>

<p>Landscape value</p> <p>The Stewartry Coast NSA covers the majority of the <i>Rockcliffe</i> area. The special qualities of this NSA include the complex coastline with rocky coasts and cliffs and rich texture of gorsey knolls.</p> <p>The Solway Coast RSA also covers the <i>Rockcliffe</i> area and the majority of the <i>Borgue</i> area. The Machars Coast RSA covers the <i>Monreith</i> and <i>Burrowhead</i> areas. This Assessment Unit contributes to the '<i>diverse and attractive</i>' coast of the Solway and Machars Coast RSAs. The <i>inaccessibility</i> of the Machars coast is specifically noted in the citation. This coastal landscape is well used for recreation with many promoted walks, cycle routes and beaches. There are also many cultural heritage features including the Inventory Designed Landscape of Cally Park.</p>	<p>The national and local landscape designations which cover much of this landscape, and the attraction of these coastal areas for recreation, increases sensitivity to larger wind turbines.</p> <p>Value rating: High</p>	<p>The national and local landscape designations which cover much of this landscape, and the attraction of these coastal areas for recreation, increases sensitivity to larger wind turbines.</p> <p>Value rating: High</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

7 ASSESSMENT UNIT 3: COASTAL FLATS

7.1 Introduction

This Assessment Unit lies adjacent to estuaries and between Luce Bay and Loch Ryan. The following areas are defined:

- *Stranraer Basin*
- *Wigtown*
- *Cree/Fleet Fringe*
- *Nith Coastal Fringe*

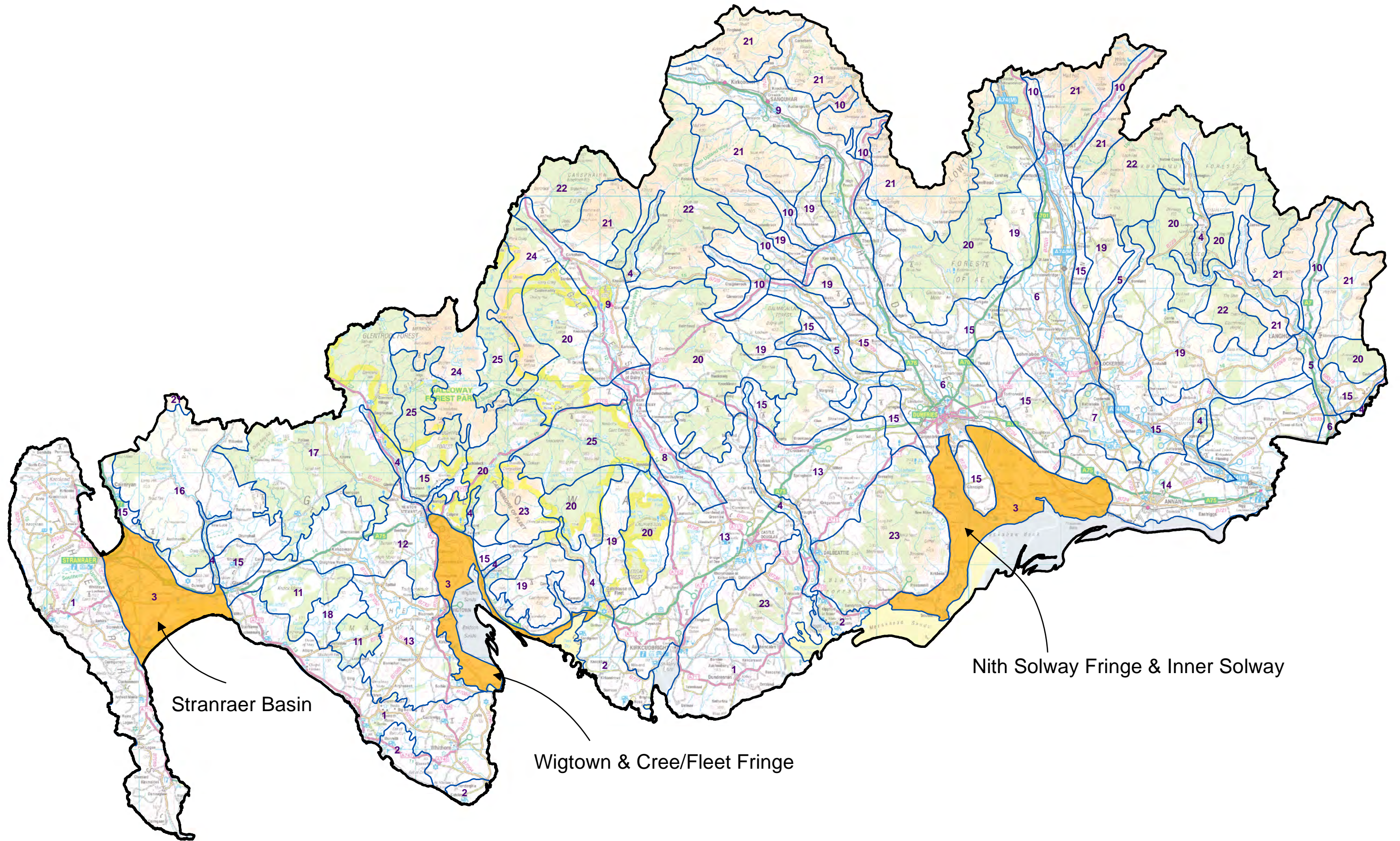
The *Wigtown*, *Cree/Fleet Fringe*, *the Nith Coastal Fringe* and *Inner Solway* are considered together in the sensitivity assessment with the *Stranraer Basin* area assessed separately.

7.1.1 *Cultural heritage overview*

This Assessment Unit is characterised by post-improvement (c19th-20th) fields and farming as well as small 20th century farms, with a number of designed landscapes, patches of forestry/woodland and rough grazing, as well as a scatter of relict land-uses. Some parts retain evidence of pre-medieval land-use as well as areas of pre-improvement remains, particularly in the *Stranraer Basin* (part of which is an Archaeologically Sensitive Area), north of Garlieston (*Wigtown*) and south-east of Dumfries (*Inner Solway*). The *Stranraer Basin* and *Inner Solway* areas have a number of outstandingly significant and distinctive archaeological sites, a few of which are promoted for public benefit.

7.1.2 *Operational and consented wind energy development*

There is no operational wind farm development in this Assessment Unit. The operational offshore Robin Rigg windfarm is sited within the Solway Firth adjacent to the *Nith Coastal Fringe*.



Stranraer Basin

Wigtown & Cree/Fleet Fringe

Nith Solway Fringe & Inner Solway

7.2 Wigtown, Cree/Fleet Fringe, Nith Coastal Fringe and Inner Solway

7.2.1 Description

The narrowness of these coastal margins, the distinctly natural qualities of the merse, tidal mudflats and estuarine wetlands, the rich pattern of historic features and settlements and the proximity to landmark hills and ridges increase sensitivity to all development typologies. These open coastal areas are highly visible from roads and settlement which are often elevated above them.

7.2.2 Cumulative issues

There are no wind energy developments located in these areas. The operational offshore Robin Rigg wind farm influences character and views in the *Nith Coastal Fringe* although other areas are largely unaffected by wind farm development sited in adjacent Assessment Units. Cumulative effects are most likely to occur between the Robin Rigg wind farm and any larger turbines located in the *Nith Coastal Fringe* affecting views and the sense of naturalness experienced from coastal paths, beaches and roads.

7.2.3 Key constraints

- The steep-sided landmark hills of Criffel, Cairnharrow and Cairnsmore of Fleet, which provide a distinctive backdrop to these coastal flats and contribute to the highly scenic contrast of landform and the diverse composition of sea, coast and uplands.
- The Torthorwald and Ward Law Ridges which back the inland moorlands of the *Nith/Solway Fringes* which would be sensitive to larger turbines that may dominate their scale and perceived prominence.
- The narrowness of these *Coastal Flats* where the scale of largerturbines would dominate their extent.
- The natural and diverse character of areas of wetlands and their interface with dynamic tidal estuaries, mudflats and/or extensive sandy beaches.
- The small size and wind pruned shape of trees, as well as low buildings in the most exposed areas, which make the landscape appear sparse and uncluttered with a strong Sense of Place.
- The openness and high visibility of these areas from settlements and roads and their popularity for recreation which increases visual sensitivity.
- Focal views from the coastal flats across to the Solway Firth National Landscape and the Cumbrian Fells National Park.
- The setting of key archaeological features and historic settlements including those which are particularly prominent around the coast.

7.3 Sensitivity and guidance

There is a **High** sensitivity to wind turbines >80m.

Smaller wind turbines <80m high would be more successfully accommodated in this landscape but only within less sensitive areas with a simple and less natural landcover pattern which are set well back from the coast. The accompanying Sensitivity Assessment of Smaller Wind Turbines report provides guidance on the siting of smaller turbines.

AU 3: Coastal Flats – Wigtown, Cree/Fleet, Nith and Inner Solway – Detailed sensitivity assessment of larger wind turbines

Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale These coastal flats form a relatively narrow strip of land often strongly contained inland by steep hill slopes which limits their scale although the presence of the Solway Firth increases openness in a wider context to the south. They are particularly open in areas where extensive flat unenclosed pastures and marsh occur although a more undulating landform, woodland and field enclosure reduce scale and openness further inland and particularly to the west of the Nith Estuary.</p>	<p>Turbines of this size would dominate the scale of these coastal flats which are narrow and often strongly contained by steep hill slopes. Susceptibility rating: High</p>	<p>Turbines of this size would dominate the scale of these coastal flats which are narrow and often strongly contained by steep hill slopes. Susceptibility rating: High</p>
<p>Landform Marsh and estuarine sands along the coastal edge are interspersed with more undulating landform, for example near New Abbey and west of Cummertrees. The coastal edge comprises a combination of broad sandy beaches and ragged-edged muddy flats and inlets.</p>	<p>This typology could relate to the simple flat landform of pastures, mosses and marsh although built infrastructure of this scale could incur significant ground disturbance on the more fragile coastal habitats and would conflict with the more intricate coastal edge. Susceptibility rating: High-medium</p>	<p>This typology could relate to the simple flat landform of pastures, mosses and marsh although built infrastructure of this scale could incur significant ground disturbance on the more fragile coastal habitats and would conflict with the more intricate coastal edge. Susceptibility rating: High-medium</p>
<p>Landcover There is a simple pattern of large fields and few trees in the Southernness area. A more diverse pattern of woodlands, field trees and walls is associated with the sheltered Nith estuary which also features a number of designed landscapes. Salt marsh and estuarine sands are highly natural and often have a complex pattern, texture and colour. Some areas of coniferous forest occur, these planted on inland mosses although removal of forestry and peatland restoration has occurred at Lochar Mosses. Clumps of wind-stunted trees often mark farmsteads.</p>	<p>Although turbines could relate to the simple pattern of large, fenced pastures and occasional coniferous plantations (planted on mosses) which occur in some parts of this landscape, they would disrupt the integrity of more natural land cover such as marsh and the more distinct pattern and rich diversity of woodlands, policies and field enclosures characteristic of the more sheltered estuaries. This typology would overwhelm the scale of wind-stunted trees in more exposed areas. Susceptibility rating: High-medium</p>	<p>Although turbines could relate to the simple pattern of large, fenced pastures and occasional coniferous plantations (planted on mosses) which occur in some parts of this landscape, they would disrupt the integrity of more natural land cover such as marsh and the more distinct pattern and rich diversity of woodlands, policies and field enclosures characteristic of the more sheltered estuaries. This typology would overwhelm the scale of wind-stunted trees in more exposed areas. Susceptibility rating: High-medium</p>
<p>Built environment Dispersed farms are located away from the marshy coastal edge. Inland forested former mosses are less settled. There are a range of archaeological sites and areas with</p>	<p>This typology would dominate the scale of small settlements and dispersed houses/farms which are a key characteristic of this landscape. It could also impact on the setting of archaeological and historic sites and</p>	<p>This typology would dominate the scale of small settlements and dispersed houses/farms which are a key characteristic of this landscape. It could also impact on the setting of archaeological and historic sites and</p>

<p>the historic settlements of New Abbey and Wigtown and Caerlaverock Castle comprising key features. The offshore Robin Rigg wind farm is visible from parts of these <i>Coastal Flats</i> although other large-scale infrastructure is not present in this Assessment Unit.</p>	<p>areas as well as notable historic settlements and landmark buildings. Cumulative effects could occur on the appreciation of the character of the coast where seen with Robin Rigg wind farm. Susceptibility rating: High</p>	<p>areas as well as notable historic settlements and landmark buildings. Cumulative effects could occur on the appreciation of the character of the coast where seen with Robin Rigg wind farm. Susceptibility rating: High</p>
<p>Landscape context The steep-sided hills of Criffel, Cairnharrow and Cairnsmore of Fleet, provide a distinctive backdrop to these <i>Coastal Flats</i> and contribute to the often highly scenic wider landscape composition. The Solway Firth also forms part of the wider seascape character. The Ward Law and Torthorwald Ridges which lie within the <i>Upland Fringe</i> (15) also contain and contrast with the inland mosses to the south-east of Dumfries.</p>	<p>The scenic contrast and drama provided by backdrop hills and containing ridges to the coastal flats would be diminished by these very large turbines. This typology would overwhelm the scale of lower hills and ridges, for example the Torthorwald Ridge, and could also interrupt the characteristic gradual merging of water and land with the adjacent Solway Firth if sited on the coastal fringes. Susceptibility rating: High</p>	<p>The scenic contrast and drama provided by backdrop hills and containing ridges to the coastal flats would be diminished by large turbines. This typology could also interrupt the characteristic gradual merging of water and land with the adjacent Solway Firth if sited on the coastal fringes. Susceptibility rating: High</p>
<p>Perceptual qualities The merse and estuarine sands of this coastal landscape (and wider seascape) instil a strong sense of naturalness, heightened by the transitional nature of tides and flocks of birds. These coastal areas are well-visited although a degree of seclusion can be experienced on more isolated beaches.</p>	<p>This typology would significantly detract from the strong sense of naturalness experienced within these largely unmodified coastal landscapes. While more modified areas, for example, former mosses planted with conifers are less sensitive, the proximity of some of these to more natural coastal areas (for example the Moss of Cree) and the greater visual influence of this scale of development increase susceptibility. Permanent aviation lighting would diminish the sense of wildness associated with the coast and could potentially impact on the Galloway Dark Sky Park (if sited in the <i>Wigtown and Cree Fringe</i>). Susceptibility rating: High</p>	<p>This typology would significantly detract from the strong sense of naturalness experienced within these largely unmodified coastal landscapes. While more modified areas, for example, former mosses planted with conifers are less sensitive, the proximity of some of these to more natural coastal areas (for example the Moss of Cree) and the visual influence of this scale of development increase susceptibility. Susceptibility rating: High</p>
<p>Views and visibility The openness of this landscape allows extensive views from settlement and a number of well-used roads, which tend to be elevated above the flat coastal edge. There are notably striking views over the coastal merse and sands from the B725 and the A710. The A75 and other roads on the Machars provide views across the Wigtown Flats. The coastal mosses south-east of Dumfries are also highly visible from the B724 and the A75. Elevated views are also possible from</p>	<p>This typology would be highly visible from many roads and from settlement which tends to be slightly elevated thus allowing extensive views across the flatter coastal areas. It could intrude on key foci such as long views across the Solway Firth to the Lake District Fells and on views to hills such as Criffel and Cairnharrow. Susceptibility rating: High</p>	<p>This typology would be highly visible from many roads and from settlement which tends to be slightly elevated thus allowing extensive views across the flatter coastal areas. It could intrude on key foci such as long views across the Solway Firth to the Lake District Fells and on views to hills such as Criffel and Cairnharrow. Susceptibility rating: High</p>

<p>hills such as Criffel which border these coastal flats. Long views across the <i>Nith Coastal Fringe</i> and <i>Inner Solway</i> focus on the Solway Firth and Cumbrian hills.</p>		
<p>Landscape value The Nith Estuary NSA covers much of the <i>Nith Coastal Fringe</i> and <i>Inner Solway</i> areas. The East Stewartry Coast NSA covers the western part of the <i>Nith Coastal Fringe</i>. The dynamism and diversity of the <i>Coastal Flats</i> lying within the two NSAs are cited as key special qualities as is their contrast with adjoining landscapes such as Criffel, New Abbey and the Ward Law ridge. Panoramic views across the Solway Firth to Cumbria are particularly noted in relation to this NSA. The Solway Coast RSA extends to cover all of the <i>Nith Coastal Fringe</i> and western part of the <i>Inner Solway</i>. The Galloway Hills RSA extends over part of the <i>Wigtown Coastal Flats</i>. Within the Solway Coast RSA it is noted that...<i>the uplands are dramatically juxtaposed with the flat, exposed landscapes of the coastal flats around the Nith Estuary</i>". The citation for the Galloway Hills RSA notes that the boundaries have been drawn to include ...<i>the contrasting flat landscapes of the upper Cree estuary...because of their scenic juxtaposition with the uplands</i>". There are Inventory listed designed landscapes at Arbigland and Kinmount and national nature conservation designations apply to parts of this landscape. The coast is well used for recreation.</p>	<p>This typology would be likely to have significant effects on the special qualities of the many NSAs and RSAs abutting this AU. Inventory listed designed landscapes could be affected if development intruded on their setting and the value associated with the recreational use of the coast could also be diminished. Value rating: High</p>	<p>This typology would have significant effects on these special qualities of the NSAs and RSAs if sited within or close-by them. Inventory listed designed landscapes could be affected if development intruded on their setting and the value associated with the recreational use of the coast could also be diminished. Value rating: High</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

7.4 Stranraer Basin

7.4.1 *Description*

This landscape forms a broad and low-lying isthmus contained by the ridge of the Rhins peninsula to the west and the plateau moorlands to the north-east. Landform is predominantly simple, comprising a flat to gently undulating coastal plain although some more complex rolling ground occurs in the north. While the southern part of this landscape comprises broad open farmland divided into large fields, a more diverse pattern of policy woodlands and lochans is found in the north. This is a relatively well-settled landscape accommodating the port town of Stranraer and a regular pattern of farms. Some MOD infrastructure is present in the immediate hinterland to Luce Bay. The *Stranraer Basin* is highly visible from roads and settlement which are often elevated above, although trees limit views in places.

7.4.2 *Cumulative issues*

The operational Barlockhart wind farm is located within 2.5km of the eastern boundary of this area. The operational Artfield Fell, Balmurrie Fell and Carscreugh wind farms, sited in other close-by Assessment Units are also visible from the *Stranraer Basin*. These developments present a visually confusing image because of their different siting, layout and turbine sizes in views from this area. The North Rhins wind farm is also visible on the skyline of the Rhins peninsula to the west of the *Stranraer Basin*.

Potential cumulative effects that could arise include:

- Exacerbation of the visual confusion and clutter which already exists between operational wind farm developments sited close-by this area if additional large scale wind turbines were also sited in the *Stranraer Basin*.
- A weakening of the generally established association of wind farms with correspondingly larger scale, less settled upland landscapes if larger wind turbines were sited within this farmed and settled lowland landscape.

7.4.3 *Key constraints*

- The extensive Inventory listed designed landscape of Castle Kennedy and policy features such as woodlands and shelterbelts in the north-east of this Assessment Unit.
- The rolling landform in the north-east of the basin and the small lochs which form occasional features within this generally farmed plain.
- The natural qualities of Luce Sands and the less modified hinterland of dunes and estuarine flats, which includes an Archaeologically Sensitive Area.
- The general openness and high visibility of this area close to settlements and major transport routes.
- The close proximity and visual prominence of The Rhins and the likely detractive effect and dwarfing of the vertical scale of this peninsula if large wind turbines were sited in the *Stranraer Basin*.
- Cumulative impacts with operational wind farm developments sited in nearby landscapes.

7.4.4 Opportunities

- Broader, flatter and more open areas of farmland and forestry and larger scale buildings where wind turbines towards the lower height band of the large typology could potentially be associated.

7.5 Sensitivity and guidance

Sensitivity would be **High** to wind turbines >150m high, **High-medium** to wind turbines 80-150m high.

Wind turbines around and less than <80m high are more likely to be successfully accommodated in this landscape on broader, flatter areas of ground with a simple land cover pattern (generally present in the southern part of this area). Guidance for smaller wind turbines is contained in the accompanying Sensitivity Assessment of Smaller Wind Turbines report. All wind turbines should be sited to avoid impacting on views to, and from, the designed landscape of Castle Kennedy and on the less modified and complex coastal features around Luce Sands, which is also an Archaeologically Sensitive Area. The introduction of additional overhead lines and the juxtaposition of turbines with existing telecommunication structures and overhead lines should also be avoided.

AU 3: Coastal Flats – Stranraer Basin – Detailed sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale These coastal flats extend from Loch Ryan to Luce Bay and form a relatively expansive plain which is generally more open to the south. Scale is reduced where a more undulating landform and woodland plantings provide containment in the north in the Castle Kennedy area.</p>	<p>Turbines of this size would dominate the relatively limited extent of this coastal plain and the many smaller scale landform, landcover and built features characteristic of the northern part of this landscape. Susceptibility rating: High</p>	<p>Although the more open character evident in the southern part of this landscape is less susceptible, turbines towards the upper height band of this typology would conflict with the scale of settlement, woodlands and other features and the smaller scale rolling and wooded landscape found in the north of this AU. Susceptibility rating: High-medium</p>
<p>Landform The <i>Stranraer Basin</i> forms a low-lying Isthmus between the Rhins and the Wigtownshire Moorlands. The landform is generally flat although becomes more rolling in the north towards Castle Kennedy and Stranraer with small knolls and dips occasionally filled with lochans. Low grassy dunes provide the hinterland to the expansive sandy beach and estuarine flats of Luce Bay.</p>	<p>This typology could relate to the predominant simple, flat to gently undulating landform of this landscape unit. Turbines and access tracks would physically damage and conflict with more fragile dynamic and complex coastal landforms such as dunes and estuarine sands backing Luce Bay and the more rolling landform characteristic in the north of this unit. Susceptibility rating: Medium</p>	<p>This typology could relate to the predominant simple, flat to gently undulating landform of this landscape unit. Turbines and access tracks would physically damage and conflict with more fragile dynamic and complex coastal landforms such as dunes and estuarine sands backing Luce Bay and the more rolling landform characteristic in the north of this unit. Susceptibility rating: Medium</p>
<p>Landcover Large fields cover the southern part of the <i>Stranraer Basin</i> and these are bounded by wire fences and intermittent hedges dominated by gorse. Airfields, conifer plantations and gravel workings interrupt this field pattern in the south in places. A strong pattern of shelterbelts and policy plantings occurs to the north and occasional lochs also feature in this area; these tucked between rounded hills and often fringed by woodland. The policy woodlands, parkland plantings and boundary walls of Castle Kennedy are landmark features in the north-east.</p>	<p>This typology could relate to the less strongly patterned southern parts of this landscape although the number of turbines would need to be limited to fit with the existing field and woodland pattern. It would conflict with the strong pattern of shelterbelts, lochs and designed landscape features found to the north. Susceptibility rating: High-medium</p>	<p>This typology could relate to the less strongly patterned southern parts of this landscape although the number of turbines would need to be limited to fit with the existing field and woodland pattern. It would conflict with the strong pattern of shelterbelts, lochs and designed landscape features found to the north. Susceptibility rating: High-medium</p>
<p>Built environment Small settlements are located on the slightly elevated fringes of the basin. Farms are dispersed across the plain and many feature large sheds. Stranraer is partially located within this Assessment Unit. Key features</p>	<p>This typology would dominate the scale of settlements and farmsteads. Further development of large-scale structures could also add to the clutter of disparate built elements in this landscape and result in cumulative effects with wind farms in adjacent</p>	<p>This typology would dominate the scale of settlements and farmsteads. Further development of large-scale structures could also add to the clutter of disparate built elements in this landscape and result in cumulative effects with wind farms in adjacent</p>

<p>include the MOD installations and gravel workings close to Luce Bay. There is a range of archaeological features, as well as historic sites associated with Castle Kennedy. Operational wind farms in adjacent Assessment Units are clearly visible from this AU.</p>	<p>landscapes. While wind turbines sited close-by existing large-scale buildings would concentrate rather than disperse large-scale built development thus reducing effects on the integrity of farmland, turbines would still be significantly larger than existing MOD structures. This typology could significantly impact on archaeology and designed landscape features and cumulative effects could occur with existing wind farms. Susceptibility rating: High</p>	<p>landscapes. While wind turbines sited close-by existing large-scale buildings would concentrate rather than disperse large-scale built development thus reducing effects on the integrity of farmland, turbines would still be significantly larger than existing MOD structures. This typology could significantly impact on archaeology and designed landscape features and cumulative effects could occur with existing wind farms. Susceptibility rating: High</p>
<p>Landscape context This Assessment Unit is contained by the steeply rising ground of the <i>Upland Fringe</i> (15) and <i>Plateau Moorland</i> (16) to the north and the <i>Rhins Peninsula</i> (1) to the south-west. The edges of the Upland Fringe and the Rhins are steep and pronounced but not high (220m to 182m at their highest points).</p>	<p>These very tall turbines would dominate the vertical scale of the nearby <i>upland fringe</i> and <i>Rhins Peninsula</i> and would also visually intrude on views from parts of the eastern coast of the <i>Rhins Peninsula</i>. This typology would also detract from smaller scale woodland, field pattern, settlements and archaeological features on the <i>Upland Fringe</i> (15) if located close to the edges of the <i>Coastal Flats</i>. Susceptibility rating: High</p>	<p>Turbines towards the upper height of this typology would dominate the vertical scale of the nearby <i>Upland Fringe</i> and <i>Rhins Peninsula</i>. They could also detract from smaller scale woodland, field pattern, settlements and archaeological features on the <i>Upland Fringe</i> (15) if located close to the edges of the <i>Coastal Plain</i> and affect views from these landscapes. Susceptibility rating: High-medium</p>
<p>Perceptual qualities The expansive tidal sands and dunes of Luce Bay have a strong sense of naturalness and can also feel secluded although MOD structures, caravan sites, forestry and quarrying diminish these perceptual qualities in the east. The majority of this area is intensively farmed and settled.</p>	<p>This typology would significantly detract from the strong sense of naturalness experienced within the more unmodified coast of Luce Bay although susceptibility is reduced across much of the area. Susceptibility rating: Medium</p>	<p>This typology would significantly detract from the strong sense of naturalness experienced within the more unmodified coast of Luce Bay although susceptibility is reduced across much of the area. Susceptibility rating: Medium</p>
<p>Views and visibility The openness and low-lying nature of this landscape enables extensive views only curtailed by woodlands in the north-east. Luce Sands are well-used for recreation and the <i>Coastal Flats</i> are also bordered and crossed by a number of key roads including the A75 and the railway. Settlement located on the eastern edge of the Rhins has elevated views over the Stranraer Basin.</p>	<p>This typology would be highly visible from many major roads and from settlement which tends to be slightly elevated thus allowing extensive views across the flatter coastal areas. Turbines could intrude on views to Luce Bay and Loch Ryan. This typology would extend above woodland in the north-east of this landscape and could impact on views from within the designed landscape of Castle Kennedy or from Soulseat Loch if sited in the northern part of the Basin. Susceptibility rating: High</p>	<p>This typology would be highly visible from many major roads and from settlement which tends to be slightly elevated thus allowing extensive views across the flatter coastal areas. Turbines could intrude on views to Luce Bay and Loch Ryan. This typology would extend above woodland in the north-east of this landscape and could impact on views from within the designed landscape of Castle Kennedy or from Soulseat Loch if sited in the northern part of the Basin. Susceptibility rating: High</p>
<p>Landscape value No scenic landscape designations are associated with this landscape. The</p>	<p>Sensitivity is generally reduced in relation to landscape value although</p>	<p>Sensitivity is generally reduced in relation to landscape value although</p>

<p>Inventory listed designed landscape of Castle Kennedy occupies the north-eastern part of this landscape area. This designed landscape is rated outstanding against all criteria in the Inventory. Policy woodlands limit views to and from the designed landscape and the wider landscape. Some beaches on the fringes of Luce Bay (outside the MOD controlled area) are popular for recreation.</p>	<p>the setting of Castle Kennedy GDL is sensitive. <i>Value rating: Medium</i></p>	<p>the setting of Castle Kennedy GDL is sensitive. <i>Value rating: Medium</i></p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

8 ASSESSMENT UNIT 6: LOWER/MIDDLE DALES

8.1 Introduction

This Assessment Unit includes both the *Lower Dales* and the *Middle Dales* Landscape Character Types identified in the Landscape Character Assessment. The *Lower Dales* are generally wide undulating plains straddled between the *Upland Fringe* (15) in Dumfriesshire. The *Middle Dales* are also generally located between the *Upland Fringe* in Dumfriesshire, although their upper reaches are contained by the *Foothills* Assessment Unit.

8.1.1 *Cultural heritage overview*

The *Lower Dales* are characterised by post-improvement (c19th-20th century) fields and farming as well as small 20thc farms, with a few small, designed landscapes and a scatter of relict land-uses. The HLA records discrete areas with evidence for pre-medieval land-use and some pre-improvement remains. There are also archaeological sites of outstanding significance and distinctiveness, a number of which are promoted for public benefit. The *Middle Dales* are characterised by post-improvement (c19th-20th century) fields and farming with some small, designed landscapes but little evidence for relict land-uses. There are archaeological sites of outstanding significance and distinctiveness in all of the landscape areas.

8.1.2 *Operational and consented wind energy development*

No operational wind farms are located within these lower/middle dales although occasional single smaller wind turbines are located on farmland. The operational wind farms of Harestanes, Minnygap, Dalswinton and Minsca, located in the *Foothills* Assessment Units (19 +20) landscapes, lie close to Nithsdale and Annandale.

8.2 Description

The *Lower* and *Middle Dales* vary in width and are contained by the low ridges of the *Upland Fringe* and *Foothills* Assessment Units. The gently undulating or flat topography is occasionally punctuated by more complex landform of interlocking low knolls formed by glacial deposits, especially at the edges of the dales. There are also extensive and more open floodplains where widely meandering rivers are occasionally contained by river terraces and embankments. Generally open in character, especially where there are large fields extending over gentle undulations, the landscape is one of medium scale. Diverse policy woodlands and field trees are a key feature in many parts of these dales. These landscapes are well settled, with an extensive network of roads linking the numerous farms, villages and major towns. RSA designations cover the northern parts of Mid Annandale and Mid Nithsdale.

8.2.1 *Cumulative issues*

The operational Dalswinton wind farm development, located within the Ae area of the *Foothills with Forest* (20), is widely visible across Nithsdale due to its prominent position on the outer edge of these foothills. The operational Harestanes wind farm is also located in the Ae *Foothills with Forest* (20) although it has very limited visibility from Nithsdale and is only seen intermittently from Annandale, largely because of its location set well back into the interior of these foothills.

The operational Minsca wind farm sited in the *Annandale Foothills* (19) is seen extensively over *Lower Annandale* and the operational Solwaybank wind farm, also located in these foothills, is visible from parts of *Lower Annandale*.

Any development of the larger turbines sited within the *Lower* and *Middle Dales* would be likely to be inter-visible with turbines located within the nearby *Foothills* (19+20) and potential cumulative effects are one of the key sensitivities inhibiting this scale of development in these dales. Potential inter-visibility with operational/consented development in adjoining AUs should be carefully considered, particularly if wind turbines were to be located on the outer, more elevated edges of the dales and would therefore lie closer to wind farms in the foothills and other adjacent upland landscapes.

Key cumulative effects are likely to include:

- Sequential effects on views from roads, including the M74, in the *Annandale* area where the Minsca, Solwaybank, and to a lesser degree the Harestanes and Minnygap, wind farms are seen with the extensive Clyde wind farm in South Lanarkshire. While these effects are minimised due to the wide spacing between developments and key routes, additional larger wind turbines sited in this Assessment Unit could significantly contribute to cumulative effects.
- Potential blurring of the distinct association of larger wind turbines/wind farms with more expansively scaled and less densely settled upland landscapes.

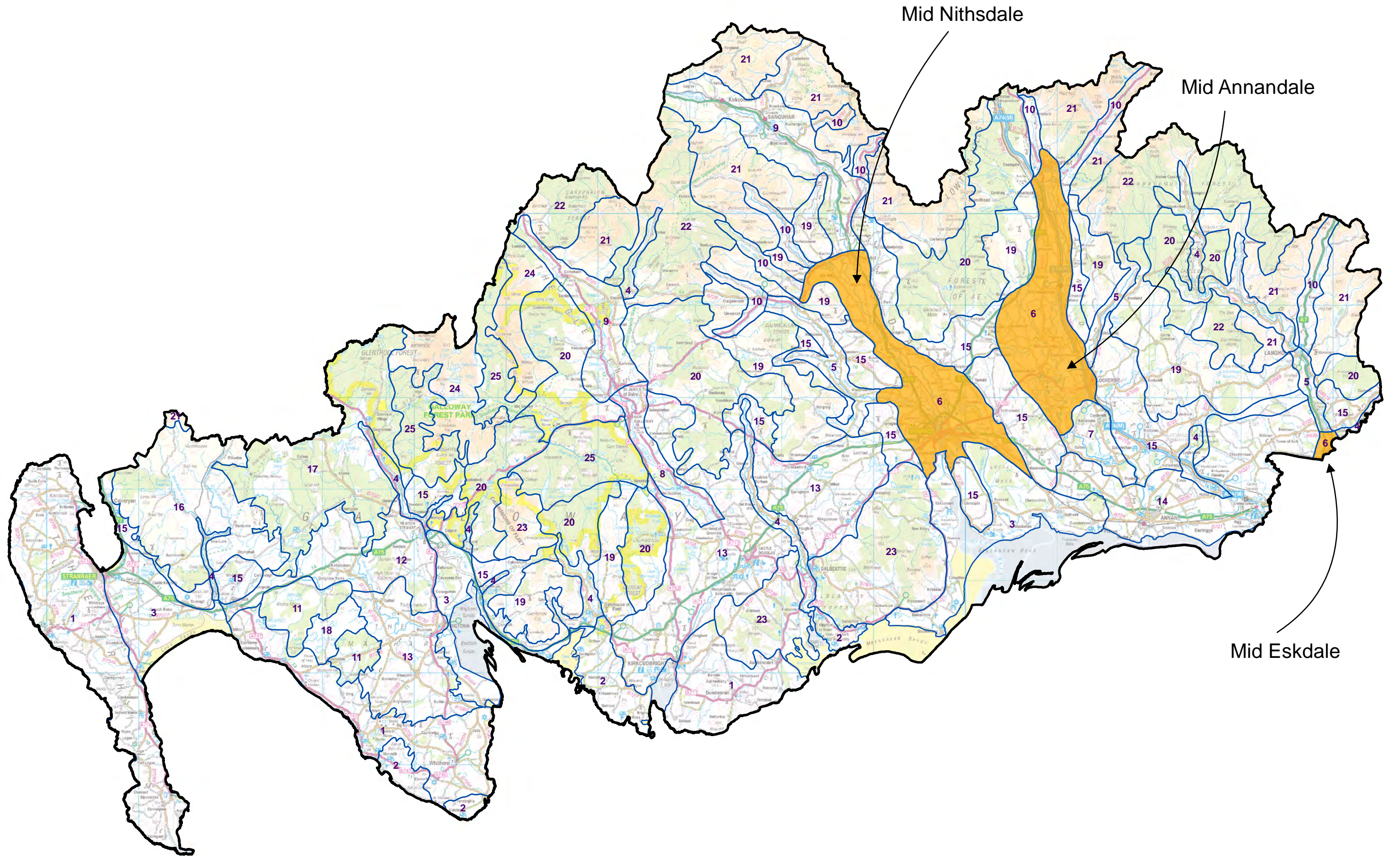
8.2.2 Key Constraints

- The more complex areas of landform, especially along the sides of the dales or where this forms notable 'pinch-points' within the dales and where river terraces form a striking feature.
- The edges of the dales, where there is generally more complex landform, often higher viewpoints and the potential to impact on adjacent, sensitive landscape types especially the *Upland Fringe* (15).
- Key landscape features, including lochs and lochans as well as designed landscapes, mature field trees and the meanders of the rivers.
- Archaeological features and broader historic landscapes, particularly those or pre-19th century date.
- The strong pattern of hedgerows and woodlands associated with Mid Nithsdale which lies within the Thornhill Uplands RSA.
- The high visibility of these dales, which are criss-crossed by a dense network of roads and well settled.
- The potential inter-visibility between any turbines sited within the dales and operational/consented wind farms located within nearby *Foothills* (19+20).
- The landscape setting these dales and the adjacent *Upland Fringe* (15) provides to settlements and associated recreational routes and the density of dispersed buildings providing ready scale references.

8.3 Sensitivity and guidance

These dales have a **High** sensitivity to turbines >80m. Smaller wind turbines would be more successfully accommodated in these well-settled sensitive dales. Guidance is provided on the siting of smaller wind turbines in the accompanying Sensitivity Assessment of Smaller Wind Turbines report.

Assessment Unit Key Map - 6. Lower and Middle Dales



AU 6: Lower/Middle Dale – Detailed sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale Broad, low-lying dales contained by higher character types which form a distinct 'rim' clearly defining the edges. Although gently undulating, these dales are expansive and relatively open, even more so along the wide floodplains and where large fields emphasise openness. Smaller scale landforms at the edge of the dales, where they meet the adjacent higher character types, and some more wooded areas increase enclosure and containment in places.</p>	<p>This typology would dominate the scale of these dales, which although generally broad along floodplains also feature many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures. Susceptibility rating: High</p>	<p>This typology would dominate the scale of these dales, which although generally broad along floodplains also feature many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures. Susceptibility rating: High</p>
<p>Landform The dales have generally flat or undulating relief, with some more irregular and complex landforms associated with glacial deposits where they can create 'pinch-points', for example at Auldgirth in Nithsdale. Floodplains, at times very wide, are flat and sometimes contained by river terraces and embankments. Smaller, more complex landform and broad terraces are often associated with the edges of the dales.</p>	<p>While flatter ground would be less sensitive, more complex landforms associated with glacial deposits and at the edges of the dales and the simple lines of the river terraces would be highly sensitive to this typology sited both within it and close-by as it would disrupt and detract from the integrity of the landform. Susceptibility rating: Medium</p>	<p>While flatter ground would be less sensitive, more complex landforms associated with glacial deposits and at the edges of the dales and the simple lines of the river terraces would be highly sensitive to this typology sited both within it and close-by as it would disrupt and detract from the integrity of the landform. Susceptibility rating: Medium</p>
<p>Landcover The field pattern is emphasised by both arable and improved grassland crops extending across the floodplains, undulations and along well drained slopes. The dales are relatively well wooded, except along the floodplains and the occasional more open expanse of larger fields. Extensive bands of broadleaves, conifer woods, small woodlands and lines of single trees reinforce the field and settlement pattern. There are also occasional policy woodland and features associated with individual estates. Features include small lochs and the wide meanders of the rivers.</p>	<p>The small size of individual features – from single, landmark trees to small woodlands and lochs – would be dominated by this typology. Turbines of this height would detract from landmark features but also from the diverse patterns of woodland, pastures and policies. Susceptibility rating: High</p>	<p>The small size of individual features – from single, landmark trees to small woodlands and lochs – would be dominated by this typology. Turbines of this height would detract from landmark features but also from the diverse patterns of woodland, pastures and policies. Susceptibility rating: High</p>
<p>Built environment Well settled, with numerous farms and individual houses as well as villages and small towns and archaeological sites.</p>	<p>This typology would dominate and detract from the numerous small farms, individual houses and small settlements, archaeological and historic features, affecting their setting</p>	<p>This typology would dominate and detract from the numerous small farms, individual houses and small settlements, archaeological and historic features, affecting their setting</p>

<p>In addition, larger towns, including Dumfries and Lockerbie and their associated industrial estates, lie within the dales. Criss-crossed by an extensive network of minor and B-class roads, these dales are also traversed by A roads linking the main towns. Existing wind farm development is visible and is associated with the adjacent <i>Foothills</i> AUs.</p>	<p>and the scale of the built development, including larger industrial buildings, across these well-settled dales. Cumulative effects could occur with operational wind farm development sited on the nearby <i>Foothill</i> landscapes. Susceptibility rating: High</p>	<p>and the scale of the built development, including larger industrial buildings, across these well-settled dales. Cumulative effects could occur with operational wind farm development sited on the nearby <i>Foothill</i> landscapes. Susceptibility rating: High</p>
<p>Landscape context These relatively wide and open dales permit extensive views to the <i>Upland Fringe</i> (15) and where present, the <i>Foothills</i> (19 and 20) which often form the containing ridges. In addition, there are some views to the <i>Southern Uplands</i> (21) which lie beyond the <i>Upland Fringe</i> (15). The dales are widely visible from higher roads and settlement in surrounding types, especially from the <i>Upland Fringe</i> (15).</p>	<p>The relatively low profile and small/medium scale and often diverse character of parts of the <i>Upland Fringe</i> (15) creates a setting which limits scope for this typology, especially along the edges of the dales. Susceptibility rating: High</p>	<p>The relatively low profile and small/medium scale and often diverse character of parts of the <i>Upland Fringe</i> (15) creates a setting which limits scope for this typology, especially along the edges of the dales. Susceptibility rating: High</p>
<p>Perceptual qualities These dales are well settled, easily accessible and relatively busy. Therefore they are neither remote nor secluded.</p>	<p>While there would be some impact on rural character, this typology would not affect the appreciation of wildland qualities. Susceptibility rating: Medium-low</p>	<p>While there would be some impact on rural character, this typology would not affect the appreciation of wildland qualities. Susceptibility rating: Medium-low</p>
<p>Views and visibility The area is highly visible from the extensive road and rail network and from settlement although views can be interrupted by the undulating landform and woodland.</p>	<p>The well-settled nature of the dales, their accessibility and openness in places means that this typology would be readily visible over a wide area. Turbines located within the open floodplain would intrude on open views across the dales from roads and settlement. Turbines could also interrupt views to the often highly scenic <i>Upland Fringe</i> (15) for example the Terregles Ridge seen from Nithsdale or the Torthorwald Ridge seen from Annandale. Susceptibility rating: High</p>	<p>The well-settled nature of the dales, their accessibility and openness in places means that this typology would be readily visible over a wide area. Turbines located within the open floodplain would intrude on open views across the dales from roads and settlement. Turbines could also interrupt views to the often highly scenic <i>Upland Fringe</i> (15) for example the Terregles Ridge seen from Nithsdale or the Torthorwald Ridge seen from Annandale. Susceptibility rating: High</p>

<p>Landscape value</p> <p>The <i>Mid Nithsdale</i> area is covered by the Thornhill Uplands RSA. The wide scenic pastoral valley centred on Thornhill with its hedgerows and woodlands is noted.</p> <p>The far northern tip of 'Mid Annandale' is included in the Moffat Hills RSA. Its importance is in providing the setting to the unspoilt borders town of Moffat where it nestles at the junction of the upper glens of Annan and Moffat. There are many cultural heritage features and recreational routes, including the Annandale Way, in these dales.</p>	<p>This typology would distract from the strong pattern of hedgerows and woodlands in the Thornhill area if sited in or close-by the RSA. It would also adversely affect the setting of Moffat if poorly sited.</p> <p>The prominence and landscape setting of the Torthorwald Ridge would be adversely affected by turbines of this size sited close-by.</p> <p>Value rating: High-medium</p>	<p>This typology would distract from the strong pattern of hedgerows and woodlands in the Thornhill area if sited in or close-by the RSA. It would also adversely affect the setting of Moffat if poorly sited.</p> <p>The prominence and landscape setting of the Torthorwald Ridge would be adversely affected by turbines of this size sited close-by.</p> <p>Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

9 ASSESSMENT UNIT 9: UPPER DALES

9.1 Introduction

The *Upper Dales* Assessment Unit comprises the upper valleys of the Rivers Nith and Ken. The *Upper Nithsdale* and the *Upper Glenkens* areas are considered separately in the assessment because of differences in their geographic context and the nature and degree of influence of recent wind farm development.

9.1.1 *Cultural heritage overview*

Site-specific record indicates that this landscape may be one with significant historic environment constraints. At a site-specific level, there are numerous archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit. In addition, there is the largest designed landscape in the region, Drumlanrig Castle in Nithsdale, as well as three Archaeologically Sensitive Areas in the Ken valley.

9.2 Upper Nithsdale

9.2.1 *Description*

The upper dale of Nithsdale comprises a predominantly broad valley contained by much higher hills, including the Southern Uplands and other upland character types. The gently undulating valley floor gives way to either uneven, but gently graded side slopes, or to more steep-sided and strongly enclosing slopes within the narrower gorge-like valley of the Nith in the south-east of the character unit. Outcrop hills form key pinch-points within the valley, marking the change between the narrower south-eastern extent of the valley and the broader and more open valley in the Sanquhar and Kirkconnel area. Enclosed pastures extend up to higher, more open rough grazing and bracken covered slopes in the broader section of the dale although the more confined southern area is densely wooded and features some semi-natural woodland and the policies of Drumlanrig Castle designed landscape. While the floor of the dale is well settled and linked by major roads, the upper slopes and side valleys are more sparsely settled. Former mining activity is evident in disturbed/reclaimed ground and coniferous plantations on lower hill slopes in the Sanquhar and Kirkconnel area.

Operational wind farms and large wind turbines already influence character to the west of Menock and this will significantly increase due to the number of consented developments located in this landscape unit, the adjacent *Southern Uplands – Nithsdale* (21) Assessment Unit and within neighbouring East Ayrshire.

9.2.2 *Operational/consented wind farms and cumulative issues*

The operational Sunnyside wind turbines and the Sandyknowe wind farm sited partially in this Assessment Unit are closely inter-visible with other operational and consented wind farm development located within the adjacent *Nithsdale* area of the *Southern Uplands* (21), the *Ken* area of the *Southern Uplands with Forest* (22) and in neighbouring East Ayrshire. Significant cumulative effects are likely to occur on views from roads, settlement and footpaths within the north-western part of *Upper Nithsdale* with wind turbines sited on more prominent hills and ridgelines lying closer to this settled upper dale making the greatest contribution to cumulative effects.

The operational Sandyknowe wind farm is contrary to the established pattern of wind farms associated with more extensively scaled upland landscapes because of its location on the lower hill slopes within the Nith valley. This development has a greater influence on landscape character and on views within the *Upper Nithsdale* are west of Menock. The consented Glenmuckloch wind farm is likely to significantly contribute to cumulative effects in this area.

Further development of large turbines in *Upper Nithsdale* would be likely to incur the following cumulative effects:

- Increasing domination on views from settlement and on the setting provided by farmed and wooded slopes to settlements such as Kirkconnel and Sanquhar.
- Sustained simultaneous and sequential views of large turbines either side of the A76 (and extending into East Ayrshire) potentially creating an overwhelming effect for travellers.
- An accentuation of the negative aspects of landscape character associated with disturbed land in former mining areas, increasing visual clutter and further diminishing the perception of a rural landscape.

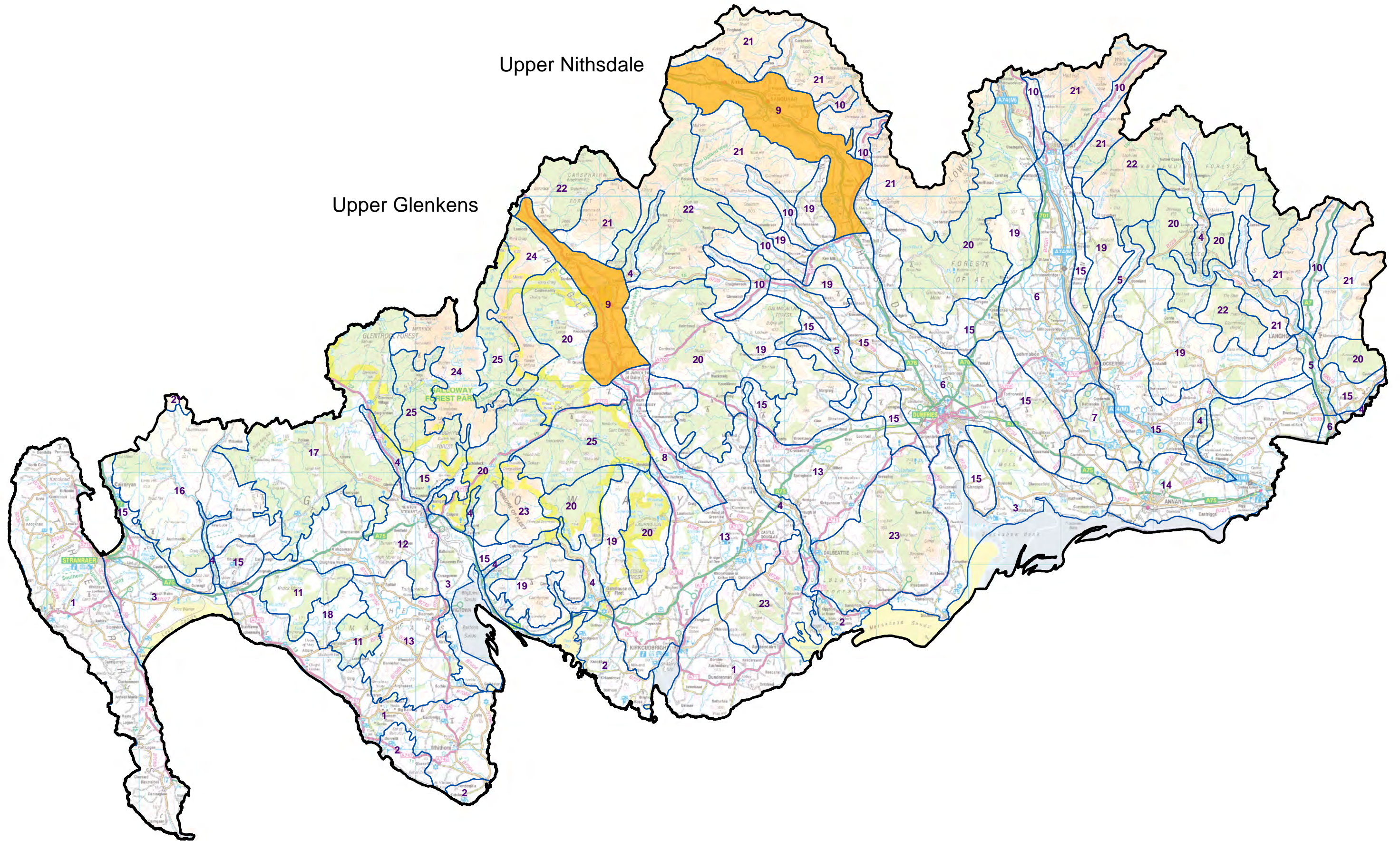
9.2.3 Key constraints

- The narrower south-eastern section of this upper dale, especially where enclosure is emphasised by steeper slopes and woodland, where larger wind turbines would dominate the reduced scale of the landscape.
- The outcrop hills, for example north of Crairiepark Farm in Nithsdale and more complex knolly landform often found within the floors and lower slopes of these Upper Dales.
- Key landscape features, including the River Nith and the extensive woodlands and parkland associated with Drumlanrig Castle.
- The high visibility of Nithsdale from the A76, the railway and from settlement.
- The density, extent and inter-visibility of large wind farms and wind turbines sited both in this Assessment Unit and within the nearby *Southern Uplands* (21) in Dumfries and Galloway and neighbouring East Ayrshire.
- The RSA designation and the nationally important Drumlanrig designed landscape which increases the value associated with the south-eastern part of this landscape.
- The high recreational use of parts of this landscape with well-used facilities within the Drumlanrig Castle estate, the SUW and riverside Core Paths.

9.3 Sensitivity and guidance

The *Upper Nithsdale* landscape area has a **high** sensitivity to turbines >80m.

Smaller wind turbines would be more successfully accommodated in this landscape. Guidance on the siting of smaller wind turbines is contained in the accompanying Sensitivity Assessment for Smaller Wind Turbines report.



AU 9: Upper Dales – Nithsdale area – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very large turbines (150 – 250m)	Assessment: Large turbines (80-150m)
<p>Scale These broad valleys are contained by upland hills and are generally enclosed by sweeping but rounded, gentle slopes, which steepen in places to create more enclosure. There are also narrow ‘pinch-points’ reinforced by outcrop hills. At their most broad, and especially where more loosely contained by gently graded side slopes, these dales are open and of medium scale, but where they are more contained, enclosed by steeper slopes and where the valley floor is narrow, they are less open and more confined. This type also includes a small number of side valleys, which are more enclosed.</p>	<p>This typology would dominate the scale of these dales, which although broad in some sections, also feature many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures. Steep slopes and more confined sections of these dales and their side valleys would physically inhibit this typology. Susceptibility rating: High</p>	<p>This typology would dominate the scale of these dales, which although broad in some sections, also feature many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures. Steep slopes and more confined sections of these dales and their side valleys would physically inhibit this typology. Susceptibility rating: High</p>
<p>Landform The often relatively undulating valley floors extend to either gentle slopes with a rounded profile sometimes interrupted by broad terraces or more even steeply rising side slopes (usually, one side of the valley is steep, the other more gentle). Prominent outcrop hills sit part way up the dale. Smaller, more complex landforms, low ridges and knolls associated with glacial deposits, or narrower side valleys occur along the edges of Upper Nithsdale.</p>	<p>This typology would have significant impacts on more dramatic and complex landform including steep slopes within confined valleys, hummocky terrain and prominent outcrop hills although it could relate to smoother, gentler upper side slopes at the transition with the adjacent <i>Southern Uplands</i> (21). Susceptibility rating: High-medium</p>	<p>This typology would have significant impacts on more dramatic and complex landform including steep slopes within confined valleys, hummocky terrain and prominent outcrop hills although it could relate to smoother, gentler upper side slopes at the transition with the adjacent <i>Southern Uplands</i> (21). Susceptibility rating: High-medium</p>
<p>Landcover A generally diverse landscape with fields of grazed improved pasture, wet grassland, more open rough grazing and bracken covered slopes. Both hedges and dykes feature, with the upper margin of the fields varying in elevation along the length of the dales. Woodland cover further emphasises this diversity, with single field trees to parkland and policies. Semi-natural woodlands are a key feature of the more confined south-eastern section of the valley as well as extensive policy woodlands associated with the Drumlanrig estate. Open cast coal mining and</p>	<p>This typology would significantly affect the diverse and intricate pattern of woodlands, designed landscape features and field enclosures. While it could relate to the simple land cover of rough grazing and forestry on upper side slopes at the transition with the <i>Southern Uplands</i> (21), these areas are not extensive and development would impact on adjacent areas with a more complex land cover pattern. Susceptibility rating: High-medium</p>	<p>This typology would significantly affect the diverse and intricate pattern of woodlands, designed landscape features and field enclosures. While it could relate to the simple land cover of rough grazing and forestry on upper side slopes at the transition with the <i>Southern Uplands</i> (21), these areas are not extensive and development would impact on adjacent areas with a more complex land cover pattern. Susceptibility rating: High-medium</p>

<p>reclaimed land features are evident in the Sanquhar and Kirkconnel area.</p>		
<p>Built environment Settlement too is variable with sparsely settled upper slopes contrasting with the more developed lower dale, where large villages are located along the valley floor adjacent to roads, while there is a range of archaeological and historic features across both the upper and lower slopes of this landscape type. Major A roads extend through the floor of the dale, while more narrow minor roads are elevated on the upper slopes. Industrial features associated with former coal mining are present in the north-western part of Nithsdale. The Sandyknowe wind farm is a key characteristic in the NW area and wind turbines located in adjacent uplands also influence the character of the upper reaches of the dale.</p>	<p>This typology would readily overwhelm the small farms, individual houses, settlements and archaeological sites and areas characteristic of these dales, affecting their setting and the scale of the built development. Cumulative effects would be likely to occur with the Sandyknowe wind farm and with extensive operational and consented wind farm developments on adjacent uplands. Susceptibility rating: High</p>	<p>This typology would readily overwhelm the small farms, individual houses, settlements and archaeological sites and areas characteristic of these dales, affecting their setting and the scale of the built development. Cumulative effects would be likely to occur with the Sandyknowe wind farm and with extensive operational and consented wind farm developments on adjacent uplands. Susceptibility rating: High</p>
<p>Landscape context <i>Upper Nithsdale</i> lies between the <i>Southern Uplands</i> (21) and is strongly contained by these hills. There is often a seamless topographical transition between the more open upper slopes of the dale and this upland character type in the north-west. There is clear inter-visibility between the dale and these surrounding hills, and where the uplands are gently sloped, they provide a large-scale context and visual backdrop to the upper dale. The <i>Southern Uplands</i> (21) are more steeply sloping and dramatic to the south-east.</p>	<p>The visual containment of this landscape unit limits potential widespread effects on other AUs. Large wind turbines sited within this landscape could impact on the more pronounced and dramatic hills of the <i>Southern Uplands</i> (21) which generally lie in the SE of this unit. While the expansiveness of the adjacent less sensitive parts of the <i>Southern Uplands</i> creates a wider setting for accommodating this typology, the presence of operational and consented wind farms in these upland areas increases susceptibility. Susceptibility rating: Medium</p>	<p>The visual containment of this landscape unit limits potential widespread effects on other AUs. Large wind turbines sited within this landscape could impact on the more pronounced and dramatic hills of the <i>Southern Uplands</i> (19) which generally lie in the SE of this unit. While the expansiveness of the adjacent less sensitive parts of the <i>Southern Uplands</i> creates a wider setting for accommodating this typology, the presence of operational and consented wind farms in these upland areas increases susceptibility. Susceptibility rating: Medium</p>
<p>Perceptual qualities Upper Nithsdale is well settled and easily accessible with a sense of seclusion only experienced within some of the smaller side valleys.</p>	<p>While there would be further erosion of the perception of rural character, this typology would not affect the appreciation of wildness which is diminished in the NW where wind farm development and mining influence character. The SE part of this landscape is more susceptible however due to the more naturalistic character which is influenced by the confined gorge-like valley and extensive broadleaved woodland. Susceptibility rating: Medium</p>	<p>While there would be further erosion of the perception of rural character, this typology would not affect the appreciation of wildness which is diminished in the NW where wind farm development and mining influence character. The SE part of this landscape is more susceptible however due to the more naturalistic character which is influenced by the confined gorge-like valley and extensive broadleaved woodland. Susceptibility rating: Medium</p>

<p>Views and visibility The area is highly visible from the A76 and from settlements and individual farms and houses often located at a relatively high level along the side slopes. Views can be interrupted by localised undulating landform and woodland and very confined within the narrower stretches of the valley. Key views extend along the valleys, and towards side valleys, the outcrop hills and the backdrop provided by the <i>Southern Uplands</i> (21).</p>	<p>The relative accessibility and openness of this AU means that tall structures associated with this typology have the potential to be readily visible over a wide area. Turbines located within the floor and lower slopes of the dales would intrude on presently open views across the dale from roads and settlement. Cumulative visual effects with operational and consented wind energy developments are a key sensitivity. Susceptibility rating: High</p>	<p>The relative accessibility and openness of this AU means that tall structures associated with this typology have the potential to be readily visible over a wide area. Turbines located within the floor and lower slopes of the dales would intrude on presently open views across the dale from roads and settlement. Cumulative visual effects with operational and consented wind energy developments are a key sensitivity. Susceptibility rating: High</p>
<p>Landscape value The south-eastern part of the <i>Upper Nithsdale</i> AU falls within the Thornhill Uplands RSA. Technical Paper 6 defines the steep-sided narrow Drumlanrig Gorge and the interlocking pattern of policy woodlands as key special qualities. The Inventory listed designed landscape of Drumlanrig Castle is of national importance and also accommodates well-used recreational facilities. There are many archaeological and historic features in <i>Upper Nithsdale</i>.</p>	<p>This typology would have a significant impact on the sensitive interlocking pattern of policy woodlands in the Drumlanrig area if sited within or close-by this part of the RSA. It could also detract from the strong containment and drama of the narrow gorge south of Mennock if visible on the skyline of containing hills. The setting of Drumlanrig Castle GDL could be compromised by turbines sited in the SE of this area. Value rating: High to Medium</p>	<p>This typology would have a significant impact on the sensitive interlocking pattern of policy woodlands in the Drumlanrig area if sited within or close-by this part of the RSA. It could also detract from the strong containment and drama of the narrow gorge south of Mennock if visible on the skyline of containing hills. The setting of Drumlanrig Castle GDL could be compromised by turbines sited in the SE of this area. Value rating: High to Medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

9.4 Upper Glenkens

9.4.1 *Description*

The *Upper Glenkens* forms a broad valley, contained by high hills, including the distinctive landmark hill of Cairnsmore of Carsphairn which lies in the *Southern Uplands* (21) Assessment Unit. The gently undulating to flat valley floor gives way to either uneven, but gently graded side slopes, or to more steep-sided and enclosing slopes. While the valleys are generally wide and open, occasional outcrop hills create ‘pinch points’ along the floor and lower side slopes. Enclosed pastures extend up to higher, more open rough grazing and bracken covered slopes. Woodlands are a key feature of the *Upper Glenkens* and these include semi-natural woodlands and the policies of designed landscapes. While the floor of the dale is well settled and linked by major roads, the upper slopes and side valleys are more sparsely settled. The *Foothills with Forest* Assessment Unit forms generally low upland ridges above the eastern and western sides of this upper dale. The high Rhinns of Kells ridge, which lies in the *Rugged Granite Uplands* (24) Assessment Unit forms a dramatic rugged skyline seen above forested slopes to the west. The striking massif of sculptural summits and smooth slopes of Cairnsmore of Carsphairn is an arresting feature seen to the north-east from *Upper Glenkens*.

9.4.2 *Operational/consented wind farms and cumulative issues*

There are no operational wind farms or larger wind turbines sited in the *Upper Glenkens* Landscape Area. The operational wind farms of Torrs Hill and Blackcraig, sited in the adjacent *Foothills with Forest* (20) Assessment Unit, and the Benbrack wind farm located in the *Southern Uplands with Forest* (22) are visible from the *Upper Glenkens* but do not generally have a strong influence on character and views. The consented Shepherd’s Rig wind farm will however be highly visible from this Landscape Area because of its open location at the foot of the eye-catching landmark hill of Cairnsmore of Carsphairn seen at the head of the *Upper Glenkens*. The consented wind farms of Margree and Glenshimmeroch will also be visible from the *Upper Glenkens* but will be generally less intrusive due to their less prominent location where they are seen on simple dipped ridgelines and also because of the partial screening provided by landform.

If larger wind turbines were sited within the *Upper Glenkens*, they could be inter-visible with wind farms located on adjacent, surrounding hills. Cumulative effects may particularly affect elevated and more open views, from hills such as Cairnsmore of Carphairn and the Rhinns of Kells and sequential views from the A713.

9.4.3 *Key constraints*

- The narrower sections of the *Upper Glenkens*, especially where enclosure is emphasised by steeper slopes and woodland and the scale of the landscape is consequently smaller.
- The outcrop hills, including Dundeugh Hill, and the more complex knolly landform often found within the floors and lower slopes of the *Upper Glenkens*.
- Key landscape features, including water bodies and often extensive designed landscapes such as Garroch.

- The Archaeologically Sensitive Areas in the *Upper Glenkens*.
- The high visibility of these dales, which are well settled along the valley floors as well as being highly visible from roads, from more elevated residential properties and from recreational routes such as the SUW and promoted heritage trails.
- The potential inter-visibility of development within the *Upper Glenkens* with larger wind turbines sited in the nearby *Southern Uplands (21)* and *Foothills with Forest (20)* which increases susceptibility in relation to potential cumulative landscape and visual effects.
- Key views to the landmark hills of Cairnsmore of Carsphairn and the high, rugged Rhinns of Kells ridge.
- The Galloway Hills RSA which covers much of this landscape - a key special quality of the designation is the scenic juxtaposition of the pastoral and settled *Upper Glenkens* with the surrounding uplands.
- cumulative effects with wind farms sited in adjacent upland areas may reduce opportunities in some of these areas.

9.5 Sensitivity and guidance

There is a **high** sensitivity to turbines >80m high.

Smaller wind turbines <80m would be more successfully accommodated in this upper dale. The accompanying Sensitivity Assessment of Smaller Wind Turbines report provides guidance on the siting and design of smaller wind turbines.

AU 9: Upper Dales – Glenkens area – Sensitivity assessment for larger wind turbines

Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale This broad dale is generally enclosed by the sweeping but rounded, gentle slopes of the <i>Foothills</i> (19) and the <i>Southern Uplands</i> (21), which steepen in places to create more enclosure. There are also narrow 'pinch-points' reinforced by outcrop hills. The key hills immediately containing this dale are relatively low with their relief ranging from 100-200m from key viewpoints close to the dale floor. At its most broad, and especially where more loosely contained by gently graded side slopes, this dale is open and of medium scale, but where more contained, enclosed by steeper slopes and where the valley floor is narrow, it is less open and more confined. This type also includes a small number of side valleys, which are more enclosed and smaller scale.</p>	<p>This typology would dominate the scale of this dale, which although broad in some sections, also features many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures. Turbines of this size would overwhelm the vertical scale of the small hills which immediately contain this upper dale (perceived from key routes on lower slopes and valley floor) Susceptibility rating: High</p>	<p>This typology would dominate the scale of this dale, which although broad in some sections, also features many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures. Turbines of this size would overwhelm the vertical scale of the small hills which immediately contain this upper dale (perceived from key routes on lower slopes and valley floor) Susceptibility rating: High</p>
<p>Landform The often relatively undulating valley floors extend to either gentle slopes with a rounded profile sometimes interrupted by broad terraces or more even steeply rising side slopes (usually, one side of the valley is steep, the other more gentle). Prominent outcrop hills sit part way up both dales, splitting them into two narrower valleys which then converge either side of the hills. Smaller, more complex landforms, low ridges and knolls associated with glacial deposits, or narrower side valleys occur along the edges of these upper dales.</p>	<p>This typology would have significant impacts on more dramatic and complex landform including steep slopes within confined valleys, hummocky terrain and prominent outcrop hills although it could relate to smoother, gentler upper side slopes at the transition with adjacent <i>Foothills</i> (19) and <i>Southern Uplands</i> (21). Susceptibility rating: High-medium</p>	<p>This typology would have significant impacts on more dramatic and complex landform including steep slopes within confined valleys, hummocky terrain and prominent outcrop hills although it could relate to smoother, gentler upper side slopes at the transition with adjacent <i>Foothills</i> (19) and <i>Southern Uplands</i> (21). Susceptibility rating: High-medium</p>
<p>Landcover A diverse land cover with fields of grazed improved pasture, wet grassland, more open rough grazing and bracken covered slopes. Both hedges and dykes feature, with the upper margin of the fields varying in elevation along the length of the</p>	<p>This typology would significantly affect the diverse and intricate pattern of woodlands, designed landscape features and field enclosures. It would detract from landmark features such as the lochs in the Glenkens. While it could relate to the simple land cover of rough</p>	<p>This typology would significantly affect the diverse and intricate pattern of woodlands, designed landscape features and field enclosures. It would detract from landmark features such as the lochs in the Glenkens. While it could relate to the simple land cover of rough</p>

<p>dale. Woodland cover further emphasises this diversity and individual field trees. There are extensive areas of semi-natural woodland, often associated with waterbodies or within the side valleys, as well as conifer woodland with some of this recently planted between Carsphairn and Dundough Hill. Additional features include the impounded lochs associated with hydro schemes in the Glenkens and planted features and policy woodlands associated with individual estates and designed landscapes.</p>	<p>grazing and forestry on upper side slopes at the transition with AUs 20 + 21, these areas are not extensive and development would impact on adjacent areas with a more complex land cover pattern. Susceptibility rating: High-medium</p>	<p>grazing and forestry on upper side slopes at the transition with AUs 20 + 21, these areas are not extensive and development would impact on adjacent areas with a more complex land cover pattern. Susceptibility rating: High-medium</p>
<p>Built environment Sparsely settled upper slopes contrast with more developed lower dales, where small settlements are tucked along the valley floor adjacent to roads, while there is a range of archaeological and historic features across both the upper and lower slopes of this AU. Major A roads extend through the floor of the dale, while more narrow minor roads are elevated on the upper slopes. Operational and consented wind farms are/will be prominent in views from the head and eastern upper slopes of the <i>Upper Glenkens</i>.</p>	<p>This typology would overwhelm the small farms, individual houses small settlements and archaeological features. Less settled upper side slopes would be less susceptible, but these very large turbines would be likely to exert a strong influence on more settled lower slopes. The head and eastern upper slopes of the <i>Upper Glenkens</i> are of increased susceptibility in terms of potential cumulative effects with consented wind farms. Susceptibility rating: High</p>	<p>This typology would overwhelm the small farms, individual houses small settlements and archaeological features if sited where they can dominate their visual setting. Less settled upper side slopes would be less susceptible. The head and eastern upper slopes of the <i>Upper Glenkens</i> are of increased susceptibility in terms of potential cumulative effects with consented wind farms. Susceptibility rating: High</p>
<p>Landscape context The <i>Upper Glenkens</i> lie between the <i>Southern Uplands</i>, the <i>Rugged Granite Uplands with Forest</i> and <i>Foothills with Forest</i>. These AUs strongly contain this upper dale and there is often a seamless topographical transition between the more open upper slopes of the <i>Upper Glenkens</i> and these more upland landscapes. There is clear inter-visibility between the upper dale and these surrounding hills, and where the uplands are gently sloped, they provide a large-scale context and visual backdrop. The distinctive hill of Cairnsmore of Carsphairn and the Rhins of Kells form key landmark features seen from the <i>Upper Glenkens</i>.</p>	<p>While the expansiveness of adjacent upland AUs creates a wider setting for accommodating turbines of this size, the strong inter-visibility between these landscapes and the more extensive upland AUs 21 and 20 increases susceptibility as they would be likely to significantly intrude on the setting of the landmark hills of the Rhinns of Kells and Cairnsmore of Carsphairn. Susceptibility rating: High</p>	<p>While the expansiveness of adjacent upland AUs creates a wider setting for accommodating turbines of this size, the strong inter-visibility between these landscapes and the more extensive upland AUs 21 and 20 increases susceptibility as they would be likely to significantly intrude on the setting of the landmark hills of the Rhinns of Kells and Cairnsmore of Carsphairn. Susceptibility rating: High</p>
<p>Perceptual qualities</p>	<p>Although there is no distinct sense of wildness associated with this</p>	<p>Although there is no distinct sense of wildness associated with this</p>

<p>This landscape is well-settled and easily accessible and is therefore not perceived as being remote or secluded. Some of the side valleys are more secluded and contrast with the main valley.</p>	<p>landscape, very large wind turbines would diminish the perception of the rural character of this landscape. Susceptibility rating: Medium</p>	<p>landscape, large wind turbines would diminish the perception of the rural character of this landscape. Susceptibility rating: Medium</p>
<p>Views and visibility The area is highly visible from the A713, a designated Tourist Route, and from settlements and individual farms and houses often located at a relatively high level along the side slopes. Views can be interrupted by localised undulating landform and woodland and very confined within narrow valleys and passes. Key views extend along the valleys, especially along the waterbodies in Glenkens, and towards side valleys or the outcrop hills.</p>	<p>The relative accessibility and openness of this landscape type means that this size of turbine would be readily visible over a wide area. Turbines located within the floor and lower slopes of the dales would intrude on presently open views across the dale from roads and settlement. This typology could also intrude on views to and from the dramatic hills of the Rhinns of Kells and Cairnsmore of Carsphairn. Susceptibility rating: High</p>	<p>The relative accessibility and openness of this landscape type means that this size of turbine would be readily visible over a wide area. Turbines located within the floor and lower slopes of the dales would intrude on presently open views across the dale from roads and settlement. This typology could also intrude on views to and from the dramatic hills of the Rhinns of Kells and Cairnsmore of Carsphairn. Susceptibility rating: High</p>
<p>Landscape value The majority of this landscape is covered by the Galloway Hills RSA. The citation notes the importance of views to the <i>Rugged Granite Uplands</i> (24) of the Rhinns of Kells and to Cairnsmore of Carsphairn from the Glenkens valley. There are some cultural heritage features and promoted recreational routes including the SUW and Heritage Trails.</p>	<p>This typology could intrude on the wider setting and views to the Rhinns of Kells and Cairnsmore of Carsphairn if sited either on upper western slopes or in front of views from elevated roads aligned on the eastern slopes of the dale. Value rating: High-medium</p>	<p>This typology could intrude on the wider setting and views to the Rhinns of Kells and Cairnsmore of Carsphairn if sited either on upper western slopes or in front of views from elevated roads aligned on the eastern slopes of the dale. Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

10 ASSESSMENT UNIT 11: MOSS AND FOREST LOWLAND

10.1 Introduction

The *Moss and Forest Lowland* Assessment Unit occurs in two locations within the north-west Machars peninsula. Both these areas are considered in a single sensitivity assessment.

10.1.1 *Cultural heritage overview*

This landscape is characterised as moorland/rough grazing and forestry, with areas of relict land-uses of pre-improvement (pre-19th century) remains and pre-medieval land-use. The latter are the focus of an Archaeologically Sensitive Area and are highlighted as a key characteristic in the Landscape Assessment. This Assessment Unit also has archaeological sites of outstanding significance and distinctiveness.

10.1.2 *Operational/consented wind farm development*

No wind farm development is located in this Assessment Unit although it is influenced by wind farm development in adjacent landscapes. The operational Artfield Fell, Balmurrie Fell, Carscreugh and Glenchamber wind farms located within the adjacent *Plateau Moorland* (16) and the operational Carscreugh and Barlockhart wind farms located in the *Camrie* area of the *Upland Fringe* (15) are widely visible from this landscape.

10.2 Description

The key characteristics of the *Moss and Forest Lowland* comprise a gently undulating but generally low-lying landform and a simple land-cover of medium and small coniferous forestry plantations interspersed with areas of open moorland, remnant mosses and occasional areas of improved and enclosed pasture. The area is sparsely settled with small farms located on its fringes. While some of these characteristics present potential opportunities to accommodate larger typologies, the wildland character of open moorland/mosses together with the rich archaeology and distinctive pattern of domed pastures, which make a strong contribution to landscape diversity, constrain such development. This landscape also lies in close proximity to highly sensitive designated landscapes and more settled and often smaller scale, lowland landscapes, which present further constraints. Although this landscape is sparsely settled and forestry restricts close views, it lies close to more settled areas, particularly to the south and east and major transport routes.

10.2.1 *Cumulative issues*

This Assessment Unit forms a transitional landscape between the sparsely settled and generally simple *Plateau Moorland* (16 and 17) and the more complex and well-settled lowlands of the Machars. Operational wind farms sited in the Plateau Moorlands (AUs 16 and 17) lying to the north and west of this landscape are particularly visible from the northern area of the *Moss and Forest Lowland*.

Key cumulative effects that could occur between developments sited in this landscape and those sited in nearby landscapes include:

- Effects on views from the A75 which may include sequential effects but also wind farms appearing to form a dominant corridor effect either side of this key tourist route.

- Domination and perceived encirclement of the landmark hill of Knock Fell.
- The extension of wind farm development seen on skylines around more settled landscapes.
- Exacerbation of the visual confusion which already occurs where the Barlockhart, Artfield Fell, Balmuirrie Fell, Carsecreugh and Glenchamber wind farms (which comprise a variety of turbines sizes and design/layouts) are seen together from coastal areas, hill tops and from the A75.

10.2.2 *Key constraints*

- Open moorland and mosses which often increase landscape diversity and have a natural and secluded character.
- The striking pattern of small, isolated domed bright green pastures lying within extensive moorland.
- The landmark hill of Knock Fell with its Iron Age Fort (SAM) and the associated Archaeologically Sensitive Area.
- Settlement and archaeological features on the fringes of forestry where larger typologies could dominate scale and affect setting.
- The proximity of the diverse and intimate *Plateau Moorland with Lochs* (18) and Mochrum Lochs RSA, which would be highly sensitive to turbines visible above containing landform and woodlands.
- Potential cumulative effects with operational wind farms which are sited to the north and west of this landscape.
- Potential effects on adjacent smaller scale and more complex landscapes such as the Elrig area within the *Machars* area of the *Peninsula* (1) Assessment Unit.
- Views over the landscape from the A75 and from vantage points such as Knock Fell.

10.2.3 *Opportunities*

- The generally simple landform and medium to large scale of this landscape together with the presence of less sensitive commercial coniferous forestry.
- An absence of landscape designations over the majority of this Assessment Unit.

10.3 **Guidance on development**

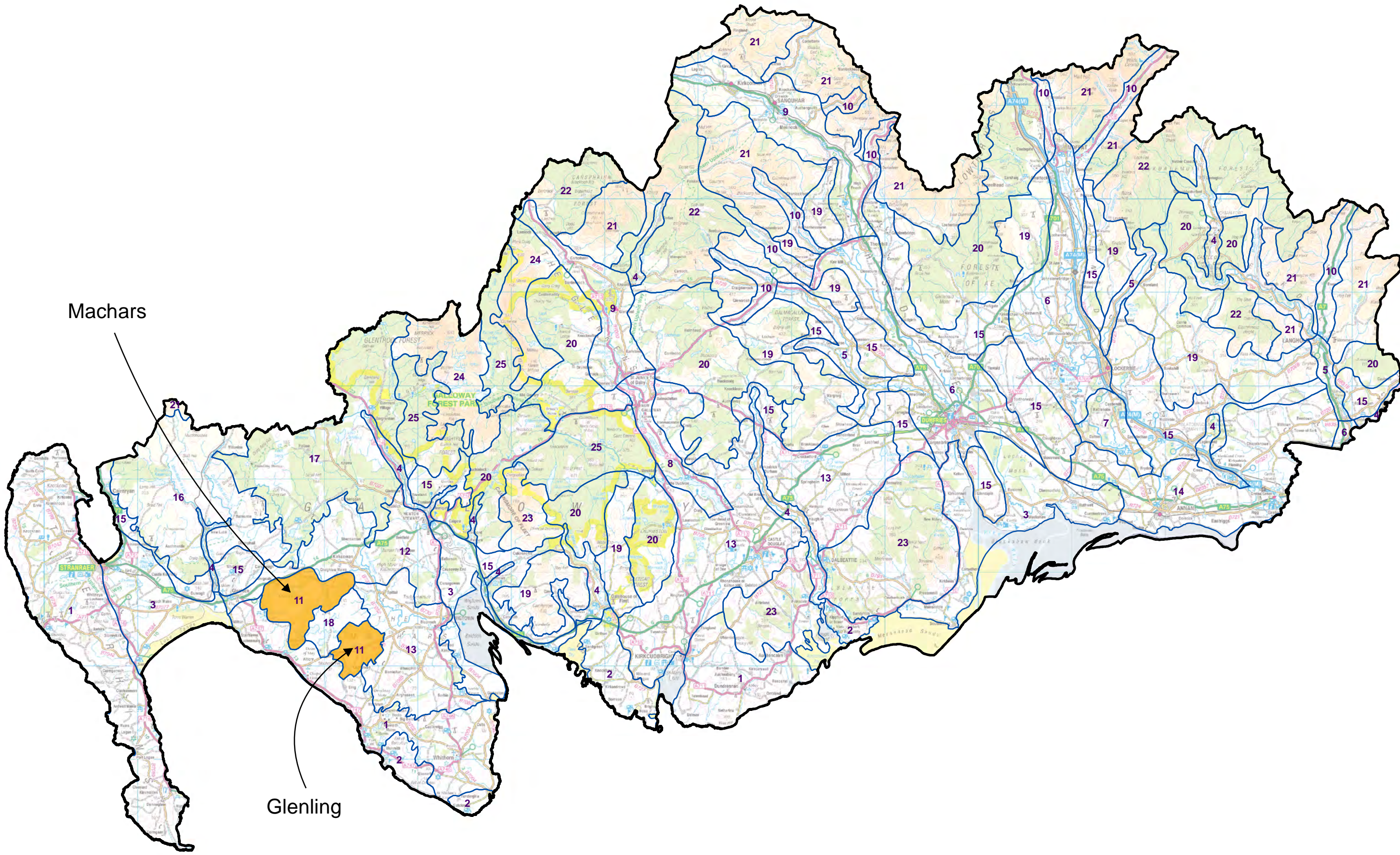
The *Moss and Forest Lowland* Assessment Unit has a **High** sensitivity to wind turbines 150-250m high and a **High-medium** sensitivity to wind turbines 80-150m.

The proximity of the highly sensitive *Plateau Moorland with Lochs* (18), the potential for cumulative effects to occur with other wind farms and the setting of the landmark Knock Fell (and its associated ASA) are key constraints to siting larger wind turbines in this landscape. Smaller wind turbines <80m high would be likely to be more successfully accommodated due to their reduced height but also because they are more likely to comprise single and small groups of turbines which would minimise impacts on settlement, on the character of moorland and mosses, cumulative effects with operational wind farms and on adjacent sensitive landscapes.

All wind turbines should be sited to minimise impact on archaeological features and their settings (including the landmark hill and SAM/ASA of Knock Fell) and on the small domed and walled pastures isolated within moorland which are particularly evident in

the northern area. They should also be sited to avoid impacting on views from the adjoining highly sensitive landscapes of the *Plateau Moorland with Lochs* (18) and the richly diverse small scale Elrig area of the *Peninsula* (1) Assessment Units, including the landmark hill of Mochrum Fell which forms an important backdrop to these landscapes.

Assessment Unit Key Map - 11. Moss and Forest Lowland



AU 11: Moss and Forest Lowland – Detailed sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale This landscape has a medium to large scale due to its simple low-lying plateau landform. Coniferous woodland reduces the sense of openness experienced in places. Occasional isolated small hills such as Knock Fell rise dramatically from lower-lying moorland.</p>	<p>This typology could relate to the scale of the broader open areas of moorland and forestry although these areas are not extensive and would be quickly dominated by multiple turbines of this size and spacing. These very large turbines would dominate the scale of isolated hills. Susceptibility rating: High</p>	<p>This typology could relate to the scale of the broader open areas of moorland and forestry although it would dominate the scale of isolated hills such as Knock Fell. Susceptibility rating: High-medium</p>
<p>Landform A simple, gently undulating low-lying plateau generally lying below 100m, punctuated by low, domed, well drained mounds or hills formed by glacial deposits. The distinctive conical shaped Knock Fell rises abruptly from flat moorland.</p>	<p>This typology could relate to the flat to very gentle hill slopes and low-lying basins but would detract from the subtle flattened domed hills which are a feature within moorland. Turbines sited near the distinctive Knock Hill would reduce the dominance of its pronounced shape, and its relationship with surrounding low-lying land. Susceptibility rating: High-medium</p>	<p>This typology could relate to the flat to very gently gentle hill slopes and low-lying basins but would detract from the subtle flattened domed hills which are a feature within moorland. Turbines sited on or close to the distinctive Knock Hill would reduce the dominance of its pronounced shape, and its relationship with surrounding low-lying land. Susceptibility rating: Medium</p>
<p>Landcover Land cover mainly comprises angular coniferous forestry plantations of different sizes, many of these planted on raised mounds, and wet moorland. Isolated and often rounded bright green walled improved pastures occur on slightly domed areas of higher, better drained ground. These are surrounded by expansive moorland and give a very distinctive vegetation pattern across parts of this landscape. Small lochs and burns also feature. More extensive walled pastures occur close to the Tarf valley, Elrig and Derry Hill.</p>	<p>While this typology could fit with the simple pattern of forestry, if sited within open moorland patterned with isolated pastures, it would diminish the integrity of this striking vegetation pattern. The creation of the infrastructure and regularity of the roading and structures associated with developing this typology would fragment and severely impact on the intricate pattern of interlocking vegetation types. Susceptibility rating: High-medium</p>	<p>While this typology could fit with the simple pattern of forestry, if sited within open moorland patterned with isolated pastures, it would diminish the integrity of this striking vegetation pattern. The creation of the infrastructure and regularity of the roading and structures associated with developing this typology would fragment and severely impact on the intricate pattern of interlocking vegetation types. Susceptibility rating: High-medium</p>
<p>Built environment This area is sparsely settled with widely dispersed farms and small dwellings located on the fringes of forestry next to public roads. The northern part of this landscape is less settled with farms largely associated with the Tarf Water. Archaeological and relict landuse features often have a strong presence within open</p>	<p>This typology would impact on the setting of the Knock Fell hill fort (SAM) and the associated ASA if located in the north-west and would dominate the scale of small buildings if located in the less extensive southern landscape unit. Susceptibility rating: High</p>	<p>This typology would impact on the setting of the Knock Fell hill fort (SAM) and the associated ASA if located in the north-west and would dominate the scale of small buildings if located in the less extensive southern area of this AU. Susceptibility rating: High</p>

<p>moorland and fringe farmland and include the landmark Iron Age Fort on Knock Fell.</p>		
<p>Landscape context This area is fairly extensive and relatively low-lying and does not make a strong contribution to the wider landscape composition. However, this type sits within a lowland context, and is surrounded by landscapes which are more settled, have a more complex pattern and which are often of a smaller scale. Knock Fell is visible from adjacent landscape character types and conifer woodlands sited in this landscape form the backdrop to the intimately scaled and notably diverse <i>Plateau Moorland with Lochs</i> (18). The south-western edge of this AU sits above the coastal area of the <i>Machars Peninsula</i> (1)</p>	<p>This typology would be likely to impact on the sensitive landscape of the <i>Plateau Moorland with Lochs</i> 18. It could also impact on the landmark hill of Mochrum Fell which provides a backdrop seen from parts of 18 and on the small scale, richly diverse Elrig area within the <i>Machars Peninsula</i> (1). Turbines of this size would be likely to be visible on containing skylines seen from the coastal areas of the <i>Machars Peninsula</i> (1) and could dominate localised areas of small scale, interlocking drumlins in adjacent AUs 12 and 13. Susceptibility rating: High</p>	<p>This typology would be likely to impact on the sensitive landscape of the <i>Plateau Moorland with Lochs</i> 18. It could also impact on the landmark hill of Mochrum Fell which provides a backdrop seen from parts of 18 and on the small scale, richly diverse Elrig area within the <i>Machars Peninsula</i> (1). This typology could be visible on containing skylines from the coastal areas of the <i>Machars Peninsula</i> (1) and could dominate localised areas of small scale, interlocking drumlins in adjacent AUs 12 and 13. Susceptibility rating: High</p>
<p>Perceptual qualities While commercially managed coniferous forestry limits the sense of naturalness in much of this landscape, open moorland and mosses are more natural and the absence of roads as well as settlement particularly in the northern unit instils a sense of seclusion. Archaeological features on open moorland give an impression of this being a 'timeless' landscape.</p>	<p>Turbines sited within the more extensive areas of open and undeveloped moorland would affect the sense of remoteness and naturalness. While more modified forested areas are of reduced susceptibility, the presence of very large turbines sited within forestry close to areas of open moorland could adversely affect these perceptual qualities. Dark skies of the Machars could be affected by permanently lit wind turbines. Susceptibility rating: High-Medium</p>	<p>Turbines sited within the more extensive areas of open and undeveloped moorland would affect the sense of remoteness and naturalness. While more modified forested areas are of reduced susceptibility, the presence of large turbines sited within forestry close to areas of open moorland could adversely affect these perceptual qualities. Susceptibility rating: High-Medium</p>
<p>Views and visibility This landscape is sparsely settled, particularly within the more extensive moorland and forest to the north. Minor roads traverse the edge of this landscape and forestry often restricts views from within this AU. Elevated and extensive views are possible from Knock Fell and from sections of the B7005. There are views to this landscape from the A75 (where Knock Fell is a focus) to the north, part of the A747 to the north-west, the B7052 and minor roads and settlement within the <i>Drumlin Pastures</i> (13) to the south and east,</p>	<p>The low relief of this AU and the surrounding area means that this typology would be highly visible from the A75 and A747 if located in the northern area and highly visible from more settled parts of the Machars if located in the southern area. Susceptibility is likely to be reduced in the less settled interior of the northern area although views to and from Knock Fell would be affected by turbines of this size. Very large turbines may be visible above forestry and future felling may also</p>	<p>The low relief of this AU and the surrounding area means that this typology would be highly visible from the A75 and A747 if located in the northern unit and highly visible from more settled areas if located in the southern unit. Visual impact could be reduced if this typology were located in the less settled interior of the northern area although views to and from Knock Fell may be affected. Larger wind turbines may be seen above forestry and future felling may also increase visibility from settlement, roads and</p>

<p>although the rolling landform of the drumlins can restrict views in places. This landscape is not readily visible from the adjacent <i>Plateau Moorland with Lochs</i> 18 (Mochrum Lochs) area due to screening by forestry, although future felling has potential to increase visibility. There are long views to the Machars across Luce Bay,</p>	<p>increase visibility from settlement, roads and from the highly sensitive Mochrum Lochs area. Susceptibility rating: High</p>	<p>the highly sensitive Mochrum Lochs area. Susceptibility rating: High-medium</p>
<p>Landscape value No landscape designations apply to the majority of this AU although the <i>Mochrum Lochs</i> RSA covers Craignarget Hill in the south-western corner of the northern landscape area. There are important cultural heritage features and some recreational routes in this landscape.</p>	<p>Development located within and close to the Mochrum Lochs RSA could affect the containment and sense of remoteness which are special qualities of this sensitive landscape. Value rating: High-medium to Medium</p>	<p>Development located within and close to the Mochrum Lochs RSA could affect the containment and sense of remoteness which are special qualities of this sensitive landscape. Value rating: High-medium to Medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

11 ASSESSMENT UNIT 12: MOSS, MOOR AND DRUMLIN PASTURE

11.1 Introduction

The *Moss, Moor and Drumlin Pasture* occurs in a single area in Galloway. This landscape is easily recognisable by the relatively frequent occurrence of low mounded glacial deposits (drumlins) and more prominent, small hills set within low lying wetland and often rushy pasture. This Assessment Unit forms an extension of the related *Drumlin Pasture* (13) and is straddled between the low-lying *Moss and Forest Lowland* (11) and the more extensive sparsely settled *Plateau Moorland with Forest* (17).

11.1.1 Cultural heritage overview

This landscape is characterised as moorland/rough grazing to the west and post-improvement (c19th-20th century) fields, farming and a few small designed landscapes to the east, with areas of relict land-uses including pre-improvement (pre-19th century) land-use with their remains of buildings and distinct field shapes. However, it is the scattered prehistoric antiquities, including standing stones and cairns, that are highlighted as a key characteristic in the Landscape Assessment and which are recognised as being of outstanding significance and distinctiveness.

11.1.2 Operational/consented wind farm development

The operational wind farm of Barlockhart is partially located within the far western corner of this Assessment Unit. A group of closely associated operational wind farms, including the Artfield Fell, Balmurrie Fell, Carsecreugh, Aries and Glenchamber development, lie in close proximity to the northern boundary of this landscape.

11.2 Description

The *Moss, Moor and Drumlin Pasture* is characterised by the extensive and repeated pattern of small, rounded, elongated mounds and higher, more irregular shaped hills rising out of low-lying areas of flat wetland, moss and flood plain which in places has been afforested. Relatively easy to access, this landscape is both well-settled within the drumlin dominated areas, and less settled within areas associated with more extensive wetlands and higher hills. Smooth textured grazed fields extend up and over the drumlins, well defined by hedges and patterned with occasional small woods and clumps of trees. The higher hills offer a more upland character of open rough grazing fragmented by whin and scrub, while wetland is frequently fragmented by rushy pasture and scrubby willow. The low profile, intimate scale and complexity of the drumlins, as well as the diverse mosaic of the vegetation pattern, and in places relative semi-natural qualities, severely limits scope for larger wind farm typologies. This landscape is visible from the A75 although landform and vegetation result in views being intermittent.

11.2.1 Cumulative issues

This Assessment Unit forms a transitional landscape between the sparsely settled and generally simple *Plateau Moorlands* (16 and 17) and the more complex and well-settled lowland landscapes of the Machars. The operational wind farm of Barlockhart is partially located in the western part of this Assessment Unit. A number of operational wind farms The operational Artfield Fell, Balmurrie Fell, Carsecreugh and Glenchamber wind farms

lie close to the north-western boundary of this Assessment Unit. A prominent ridge of small hills limit visibility of these wind farms from the more settled southern and eastern parts of this landscape although the following cumulative effects could occur with wind energy developments located in this landscape:

- Sequential views from the A75 where development (and particularly larger turbines >50m) sited in this landscape would increase the density and extent of wind energy development seen from this well-used route.
- Larger turbines sited in this, and the adjacent *Moss and Forest Lowland* (11) AU, could combine with the operational and consented wind farms noted above to create a dominant cumulative effect on the settlement of Kirkcowan and contribute to a 'corridor-like' effect on the A75.

11.2.2 Key constraints

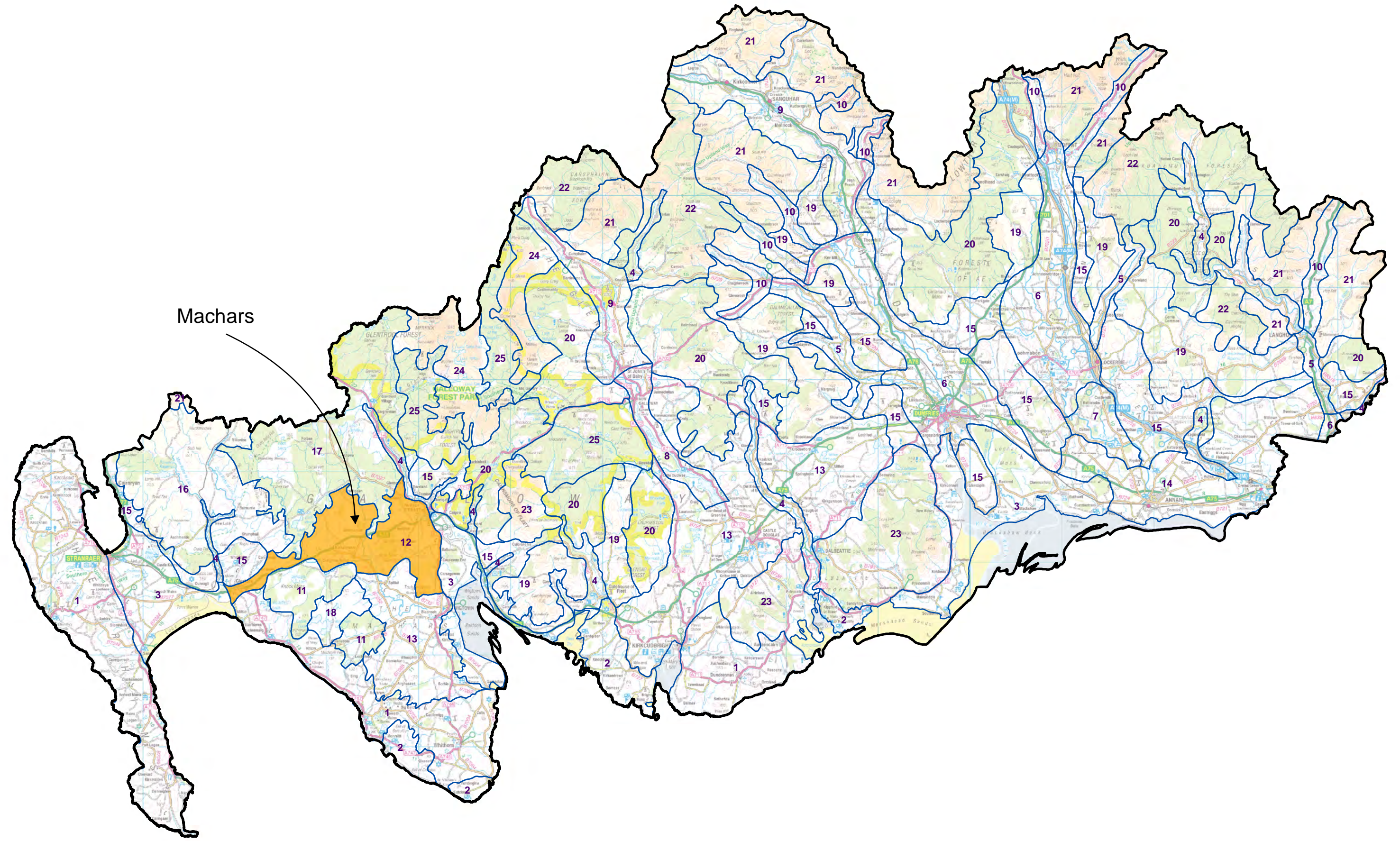
- The low relief, rounded profile, smooth texture and often complex and repeated pattern of the drumlins.
- The small hills which often have a rugged irregular landform and are prominent in views from the A75.
- The small settlements and farms, which are often tucked in around the drumlins and could be easily overwhelmed by tall structures sitting above them.
- Archaeological features, as well as historic point features, such as clumps of trees, which sit on top of the drumlins.
- The semi-natural quality of this landscape, formed by the wetland, moss and the rushy pastures with willow scrub, all of which also contrast with the smooth improved grassland of the drumlins to create a diverse vegetation pattern.
- Potential cumulative effects with turbines located in adjoining Assessment Units.

11.3 Sensitivity and guidance

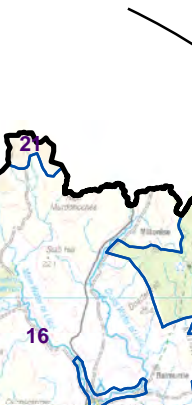
The *Moss, Moor and Drumlin Pasture* has a **High** sensitivity to turbines >80m high.

Smaller wind turbines <80m high would be more successfully accommodated in this landscape due to their reduced height but also because they are more likely to comprise single and small groups of turbines which would minimise impacts on the character of complex drumlins, mosses, distinctive rugged hills. The accompanying Sensitivity Assessment of Smaller Wind Turbines report provides guidance on siting and design for wind turbines <80m high.

Assessment Unit Key Map - 12. Moss, Moor and Drumlin Pasture



Machars



AU 12: Moss, Moor and Drumlin Pasture – Detailed sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale</p> <p>The consistent pattern of small drumlins and occasional medium sized hills (rising to just over 200m although the relief experienced from key lower-lying viewpoints is much less) is interspersed with wetland, rough grassland and extensive conifer woodland most of which extends over flatter, more poorly drained land. The drumlins and hills create a strong enclosure with varied degrees of intimacy depending on the height and complexity of the landform. The small scale of the low drumlins is easy to read due to the frequent presence of livestock, trees and hedges which create ready scale references.</p>	<p>This typology would form dominant features in this small to medium scale landscape, overwhelming the relief of both the small hills and the drumlins. Although broader forested mosses have a larger scale, these areas are not extensive and very large turbines would dominate smaller scale features, such as drumlins, lying nearby.</p> <p>Susceptibility rating: High</p>	<p>This typology would form dominant features in this small to medium scale landscape, overwhelming the relief of both the small hills and the drumlins if sited on or nearby these features. Although broader forested mosses have a larger scale, these areas are not extensive and very large turbines would dominate smaller scale features, such as drumlins, lying nearby.</p> <p>Susceptibility rating: High</p>
<p>Landform</p> <p>Frequent occurrence of low rounded and often elongated, smoothly convex mounds or drumlins interspersed with areas of flat wet land or moss. Less frequent, larger, more visually prominent and irregularly shaped craggy-topped small hills occur mainly in the NW with a distinct rugged ridge occurring between Fell End and Culvennan Fell. Drumlins frequently interlock to create more complex topography. The smoothness and rhythm of this topography is a key characteristic.</p>	<p>The smooth, rounded profile of the repeated drumlin pattern, particularly where it is at its most interlocking and complex, would be highly sensitive to this development typology. This typology would also detract from the distinctive band of higher craggy-topped irregular hills which occur in the north-west.</p> <p>Susceptibility rating: High</p>	<p>The smooth, rounded profile of the repeated drumlin pattern, particularly where it is at its most interlocking and complex, would be highly sensitive to this development typology. This typology would also detract from the distinctive band of higher craggy-topped irregular hills which occur in the north-west.</p> <p>Susceptibility rating: High</p>
<p>Landcover</p> <p>Extensive pattern of grassland fields, well defined by hedges emphasise the presence of the well-drained drumlins. Small clumps of trees are sometimes located on the tops of the drumlins and the higher more rugged hills feature patchy gorse, rock outcrops and rough grassland. Poorly drained wetland – sometimes extensive – scrub willow and rougher grassland extends between, and contrasts with, the smooth texture of the improved grassland on the</p>	<p>Turbines of this size would dominate the interlock of enclosed fields, small woodlands and mosaic of wetland habitats which create a visually diverse pattern across this landscape. They would also detract from the setting of occasional landmark features such as clumps of trees on the hill tops and strong field pattern. Areas with a simpler vegetation cover such as rough grassland and conifer woodland would be less susceptible.</p> <p>Susceptibility rating: High-medium</p>	<p>Turbines of this size would dominate the interlock of enclosed fields, small woodlands and mosaic of wetland habitats which create a visually diverse pattern across this landscape. They would also detract from the setting of occasional landmark features such as clumps of trees on the hill tops and strong field pattern. Areas with a simpler vegetation cover such as rough grassland and conifer woodland would be less susceptible.</p> <p>Susceptibility rating: High-medium</p>

<p>drumlins. Occasional more extensive conifer woodland occupies low land, associated with the flatter, wetter areas or low ridges. The diverse land use of this character type reinforces the small scale and adds to the richness of this landscape in places.</p>		
<p>Built environment The landscape alternates between extensive areas of less settled wetlands and hilly areas and more densely settled areas around drier, drumlin dominated landscapes, all of which include a range of archaeological and historic features. There are dispersed farms and individual houses and estates largely tucked in between the drumlins. The small settlement of Kirkcowan lies in the southern part of this landscape while the town of Newton Stewart is located on its eastern edge. Operational wind farm developments are located in part of this AU and in adjoining AUs, having greatest influence on character in the north-west and north.</p>	<p>This typology could dominate small settlements and would affect the setting of settlements sited at the foot of hills and individual buildings and archaeological features dispersed across this landscape. Cumulative effects could occur with operational wind farms lying to the NW of this AU. Susceptibility rating: High-medium</p>	<p>This typology could dominate small settlements and would affect the setting of settlements sited at the foot of hills and individual buildings and archaeological features dispersed across this landscape. Cumulative effects could occur with operational wind farms lying to the NW of this AU. Susceptibility rating: High-medium</p>
<p>Landscape context <i>Plateau Moorland with Forest</i> (17) extends along most of the northern edge of this AU, creating a higher, hillier upland edge which contains and provides a visual backdrop to this unit. To the south and west lie the lowland <i>Drumlin Pasture</i> (13) and <i>Moss and Forest Lowland</i> (11). To the west, a very narrow section of this AU is tightly framed between <i>Upland Fringe</i> (15) and the coastal <i>Peninsula</i> (1). This AU also abuts the <i>Coastal Flats</i> (2) and the Cree Valley to the east.</p>	<p>Large turbines sited in this not very extensive AU could be highly visible from surrounding AUs, although some of these are more sensitive than others. Particular impacts are likely to be on neighbouring small-scale drumlins to the south in AU 13, the <i>Coastal Flats</i> (2) and the Cree valley. The smaller landscape of lochs and policy features in the <i>Plateau Moorland with Lochs</i> (18) could additionally be adversely affected by development located in the NW of this AU. Susceptibility rating: High-medium</p>	<p>Large turbines sited in this not very extensive AU could be highly visible from surrounding AUs, although some of these are more sensitive than others. Particular impacts are likely to be on neighbouring small-scale drumlins to the south in AU 13, the sensitive <i>Coastal Flats</i> (2) and Cree valley (4). The smaller landscape of lochs and policy features in the <i>Plateau Moorland with Lochs</i> (18) could additionally be adversely affected by development located in the NW of this AU. Susceptibility rating: High-medium</p>
<p>Perceptual qualities The wetland, rush pasture, scrubby willow and rough grassland on the low-lying areas, and the more extensive areas of rough grazing on the higher hills creates a sense of semi-naturalness which contrasts with the improved pasture and more managed fields on the drumlins and with extensive commercial forestry in adjacent landscapes to the north.</p>	<p>Although there is not a pronounced sense of wildness associated with this landscape, the perception of semi-naturalness, and the way in which this contrasts with the improved pastures on the drumlins, could be adversely affected by the introduction of this typology. Susceptibility rating: Medium</p>	<p>Although there is not a pronounced sense of wildness associated with this landscape, the perception of semi-naturalness, and the way in which this contrasts with the improved pastures on the drumlins, could be adversely affected by the introduction of this typology. Susceptibility rating: Medium</p>

<p>This is further emphasised by the lack of settlement in the less settled areas. The busy A75 and urban fringes of Newton Stewart influences character close to its corridor.</p>		
<p>Views and visibility Visibility is often limited from minor roads and settlement by woodland and the enclosure created by interlocking drumlins. However, the A75 generally offers more extensive panoramas. Lower slopes and hills can form the visual backdrop/setting to villages and other features of interest. Side light, for example in the late afternoons, can highlight and dramatise the drumlin forms. Minor roads in this landscape are popular with cyclists. Longer views over this landscape occur from Cairnsmore of Fleet and from the eastern side of Wigtown Bay.</p>	<p>These very large turbines would dominate views from the A75 and from settlement. While there are some pockets of less visible lower-lying ground screened by higher ground and forest, these are limited in extent and turbines of this size would be likely to significantly impact on views from minor roads and from dispersed farms and houses. This typology could additionally detract from the visual focus of existing natural and historic features located on the tops of hills and could intrude on views across Wigtown Bay and Cairnsmore of Fleet. Susceptibility rating: High</p>	<p>This size of turbine sited on small hills or seen on prominent ridge-lines could dominate views from the A75 and from settlement. While there are some pockets of less visible lower-lying ground screened by higher ground and forest, turbines of this size would be likely to significantly impact on views from minor roads and from dispersed farms and houses. This typology could additionally detract from the visual focus of existing natural and historic features located on the tops of hills and could intrude on views across Wigtown Bay and Cairnsmore of Fleet. Susceptibility rating: High-medium</p>
<p>Landscape value No landscape designations cover this AU although the non-Inventory listed designed landscape of Shennanton lies in the eastern part of this landscape. This landscape does not attract large numbers of walkers but it does accommodate a number of archaeological features. This landscape is seen in close quarters from the A75, a key tourist route.</p>	<p>The Shennanton designed landscape is contained by woodland and while large turbines seen over the top of this woodland could affect its setting, The value associated with this landscape is relatively low throughout much of this landscape. Value rating: Medium</p>	<p>The Shennanton designed landscape is contained by woodland and while large turbines seen over the top of this woodland could affect its setting. The value associated with this landscape is relatively low throughout much of this landscape. Value rating: Medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

12 ASSESSMENT UNIT 13: DRUMLIN PASTURES

12.1 Introduction

The *Drumlin Pastures* are easily recognisable by the relatively frequent occurrence of low mounded glacial deposits or drumlins and larger, more prominent, small hills. This landscape occurs relatively extensively in Dumfriesshire, reaching across the width of a wide plain, straddled between lower hill ranges and foothills. The areas of *Milton*, *Deeside* and *Machars* are identified within the Assessment Unit. These areas have strong similarities and the Assessment Unit is therefore considered as whole in the sensitivity assessment.

12.1.1 *Cultural heritage overview*

This Assessment Unit is characterised by post-improvement (c19th-20th century) fields and farming, with a number of designed landscape areas, as well as relict pre-improvement (pre-19th c) land-use with their remains of buildings and distinct field shapes, and a number of areas of pre-medieval land-use. One of the prehistoric foci is an Archaeologically Sensitive Area and there are numbers of archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit.

12.1.2 *Operational/consented wind farm development*

There are no operational or consented wind farm developments in this Assessment Unit, although there are individual and small groups of farm-based small turbines. There are views of the operational Plascow turbines sited in the *Coastal Granite Uplands* (20) from the *Milton* area of this Assessment Unit.

12.2 Description

The *Drumlin Pastures* are characterised by the extensive and repeated pattern of small, rounded, elongated mounds which is occasionally interrupted by higher, more irregularly shaped hills and low-lying areas of flat drained land, wetland, flood plain or small lochs. They are easily accessible, well settled and farmed, with smooth textured grazed fields extending up and over the drumlins, well defined by hedges and occasional small woods and clumps of trees.

12.2.1 *Cumulative issues*

There is limited visibility of operational and consented wind farms sited in other Assessment Units from the *Drumlin Pastures* and cumulative effects are therefore most likely to be associated with multiple developments located in this landscape. Cumulative visual effects could arise from inter-visibility between the *Drumlin Pastures* and adjacent parts of the *Coastal Granite Uplands* (23) and the *Foothills with Forest* (20) Assessment Units, upland areas where larger turbines may be located in future.

12.2.2 *Key constraints*

- The low relief, rounded profile, smooth texture and often complex and repeated pattern of the drumlins.
- The hills, which although less sensitive than the drumlins, are still relatively small and would be dominated by larger typologies.

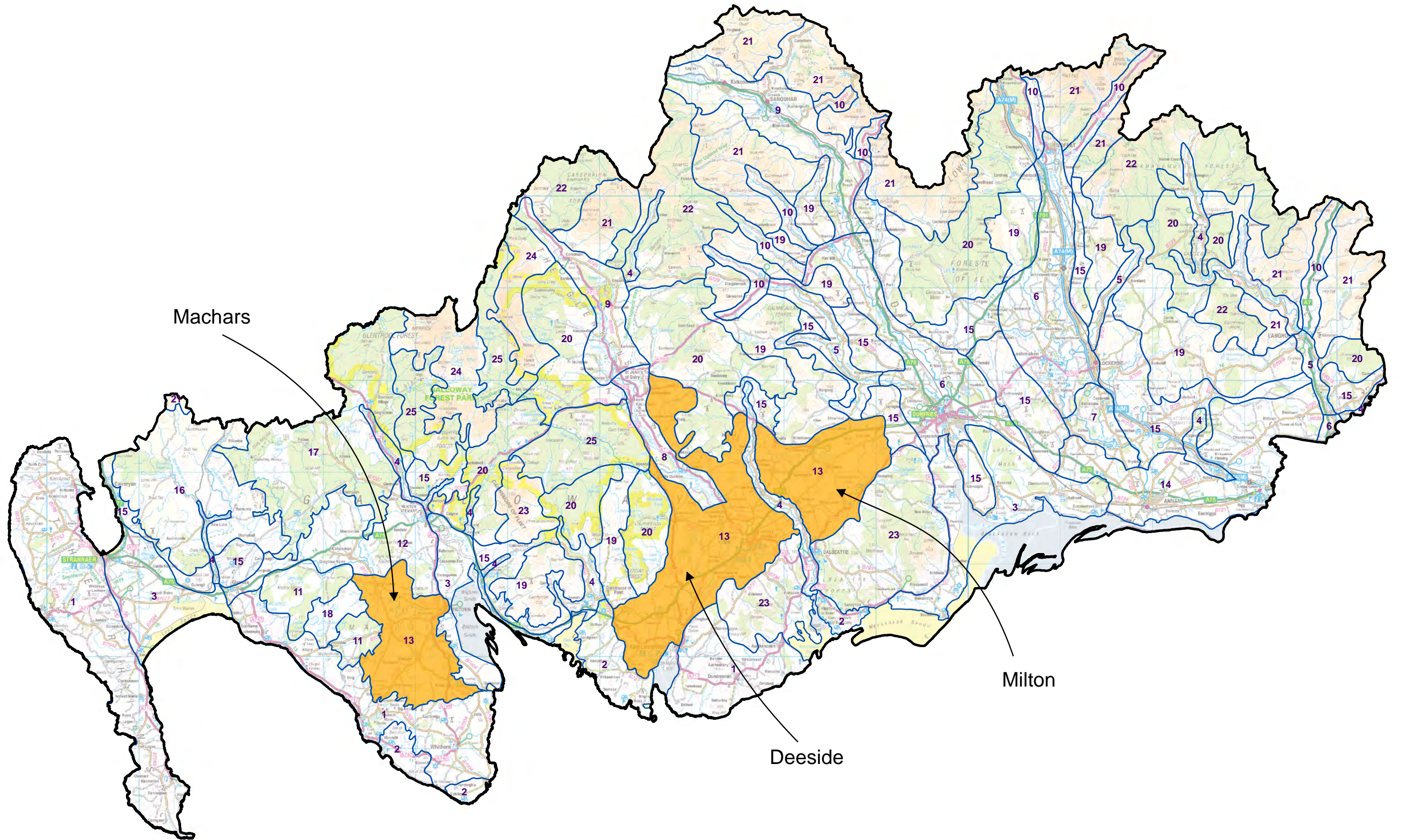
- Small settlements and farms, which are often tucked in around the drumlins or on side slopes and can be easily overwhelmed by tall structures sitting above them.
- Archaeological features and historic point features, such as clumps of trees, which sit on top of the drumlins.
- The visual backdrop to settlements and the wider setting of historic landscapes and individual archaeological features in valleys.
- Highly sensitive adjoining landscapes including the *Plateau with Lochs* (18), *Flooded Valley* (8) and the *Narrow Valleys* (4).
- Potential cumulative effects with turbines located in the *Coastal Granite Uplands* (23) and *Foothills with Forest* (20).
- Potential clutter created by the addition of individual small-medium and small turbines if associated with many land holdings across this well-settled landscape.

12.3 Sensitivity and guidance

Sensitivity would be **High** to wind turbines >80m.

Smaller wind turbines <80m high would be more successfully accommodated in this landscape due to their reduced height but also because they are more likely to comprise single and small groups of turbines which would minimise impacts on the character of complex small-scale drumlins and on settlement. The accompanying Sensitivity Assessment for Smaller Wind Turbines report provides guidance on the siting and design of this size of wind turbine.

Assessment Unit Key Map - 13. Drumlin Pastures



AU13: Drumlin Pastures – sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale The consistent pattern of small drumlins and occasional medium sized hills (rising to just under 200m) extends over an extensive area of low lying land. The landform creates a strong enclosure with varied degrees of intimacy depending on the height and complexity of the landform. The small scale of the low drumlins is easy to appreciate due to the frequent presence of livestock, trees and hedges which create ready scale reference points. Some broader low-lying areas occur between drumlins.</p>	<p>This typology would form dominant features in this small to medium scale landscape, overwhelming the height of both the small hills and the drumlins, whether sited on hill tops or in areas of flatter ground between them. Susceptibility rating: High</p>	<p>This typology would form dominant features in this small to medium scale landscape, overwhelming the height of both the small hills and the drumlins, whether sited on hill tops or in areas of flatter ground between them. Susceptibility rating: High</p>
<p>Landform Frequent occurrence of low rounded and often elongated, smoothly convex mounds or drumlins. Less frequent, larger, more visually prominent and irregularly shaped small hills interspersed with occasional areas of flat ground and loch basins. Drumlins frequently interlock to create more complex topography. The smoothness and rhythm of this topography is a key characteristic.</p>	<p>The smooth, rounded profile of the repeated drumlin pattern, particularly where it is at its most interlocking and complex, would be highly sensitive to this development typology. This typology would detract from the irregularly shaped larger hills that infrequently occur in this character type and from the flatter areas which contrast with the distinctive drumlin pattern. Susceptibility rating: High</p>	<p>The smooth, rounded profile of the repeated drumlin pattern, particularly where it is at its most interlocking and complex, would be highly sensitive to this development typology. This typology would detract from the irregularly shaped larger hills that infrequently occur in this character type and from the flatter areas which contrast with the distinctive drumlin pattern. Susceptibility rating: High</p>
<p>Landcover An extensive pattern of grassland fields, well defined by hedges and occasional woodland. Small clumps of trees are sometimes located on the tops of the drumlins and the higher more rugged hills feature patchy gorse and rough grassland. Occasional lochs and wetlands occupy the flat ground between drumlins. The diverse land use of this character type reinforces the small scale and adds to the richness of this landscape.</p>	<p>Turbines of this size would dominate the small-scale elements of woodlands and enclosed fields that create a strong pattern across this landscape. They would detract from the setting of occasional landmark features such as lochs and wetlands and clumps of trees on the hill tops. The construction of access tracks and installation of other associated infrastructure would interrupt the often smooth grassy cover of drumlins and low hills that complements their distinctive form, and could adversely affect the integrity of field enclosures. Susceptibility rating: High</p>	<p>Turbines of this size would dominate the small-scale elements of woodlands and enclosed fields that create a strong pattern across this landscape. They would detract from the setting of occasional landmark features such as lochs and wetlands and clumps of trees on the hill tops. The construction of access tracks and installation of other associated infrastructure would interrupt the often smooth grassy cover of drumlins and low hills that complements their distinctive form, and could adversely affect the integrity of field enclosures. Susceptibility rating: High</p>
<p>Built environment The landscape is often well settled with dispersed farms and individual houses, small settlements and estate</p>	<p>This typology would dominate and adversely affect the setting of settlements sited at the foot of hills and individual buildings and</p>	<p>This typology would dominate and adversely affect the setting of settlements sited at the foot of hills and individual buildings and</p>

<p>buildings largely tucked in between the drumlins. Roads are often small and relatively narrow, winding their way through the drumlins, although there are several larger A-class roads. There is a range of significant archaeological and sites and areas with prominent features such as forts, towers and crannogs in this landscape. In the <i>Machars</i> area in particular, there are numerous archaeological sites and areas of more expansive historic landscape.</p>	<p>archaeological features dispersed across this landscape. Susceptibility rating: High</p>	<p>archaeological features dispersed across this landscape. Susceptibility rating: High</p>
<p>Landscape context The <i>Milton</i> area of this AU abuts the small-scale <i>Narrow Valley (4)</i> of the Urr valley and forms the foreground and lowland setting for upland fringe, foothills and upland areas such as the <i>Coastal Granite Uplands (23)</i> and the <i>Terregles</i> area of the <i>Upland Fringe (15)</i>. The <i>Deeside</i> area lies adjacent to the <i>Flooded Valley (8)</i> of Loch Ken and the Kirkcudbright coast while the <i>Machars</i> unit is in close proximity to the highly sensitive <i>Plateau with Lochs (18)</i> AU.</p>	<p>Development sited on drumlins and ridges/hills which overlook highly sensitive small scale or notably diverse landscapes such as the <i>Narrow Valley (4)</i> of the Urr Water, the <i>Upland Fringe (15)</i> and the <i>Flooded Valley (8)</i> and the <i>Plateau with Lochs (18)</i> would impact on the character and visual amenity of these neighbouring AUs. The rhythm of the smooth drumlin pattern which contrasts with the more rugged upland character of the <i>Coastal Granite Uplands (23)</i>, notably seen in views from the <i>Machars</i> area, could also be affected by development. While the <i>Drumlin Pastures</i> are relatively extensive, this size of turbine has potential to impact on adjoining sensitive landscapes. Susceptibility rating: High-medium</p>	<p>Development sited on drumlins and ridges/hills which overlook highly sensitive small scale or notably diverse landscapes such as the <i>Narrow Valley (4)</i> of the Urr Water, the <i>Upland Fringe (15)</i> and the <i>Flooded Valley (8)</i> and the <i>Plateau with Lochs (18)</i> would impact on the character and visual amenity of these neighbouring AUs. The rhythm of the smooth drumlin pattern which contrasts with the more rugged upland character of the <i>Coastal Granite Uplands (23)</i>, notably seen in views from the <i>Machars</i> area, could also be affected by development. While the <i>Drumlin Pastures</i> are relatively extensive, this size of turbine has potential to impact on adjoining sensitive landscapes. Susceptibility rating: High-medium</p>
<p>Perceptual qualities While the farmed and settled nature of this landscape limits the sense of naturalness and remoteness experienced, it has a strongly rural character accentuated by areas of unimproved ground, scrub and woodland, small fields, largely intact enclosure pattern and traditional architecture of small, clustered villages and dispersed farmhouses.</p>	<p>Although this landscape does not have wildland characteristics, the perception of the strongly rural character of this landscape could be adversely affected by the introduction of this typology. Susceptibility rating: High-medium</p>	<p>Although this landscape does not have wildland characteristics, the perception of the strongly rural character of this landscape could be adversely affected by the introduction of this typology. Susceptibility rating: High-medium</p>
<p>Views and visibility Visibility is often limited from minor roads and from small settlements by the enclosure created by interlocking drumlins although farmsteads and other dispersed dwellings are often located on higher, more open ground. Elevated and expansive views occur</p>	<p>Large turbines located on hills within these landscapes are likely to be visually prominent from well-used roads and from more elevated properties and footpaths both within the AU and from surrounding more elevated areas. Turbines of this size would detract from the visual focus of</p>	<p>Large turbines located on hills within these landscapes are likely to be visually prominent from well-used roads and from more elevated properties and footpaths both within the AU and from surrounding more elevated areas. Turbines of this size would detract from the visual focus of</p>

<p>from the Old Military road (National Cycle Route 7) and the A75, A713 and A711 and these landscapes are also highly visible from roads and footpaths in surrounding upland areas. There are important views over this landscape from the Barstobrick Monument. Lower slopes and hills can form the visual backdrop/setting to villages and other features of interest. Side light, for example in the late afternoons, can highlight and dramatise the drumlin forms.</p>	<p>existing natural and historic features located on the tops of hills and summits and from the striking lighting effects which occasionally highlight the drumlin form. Susceptibility rating: High</p>	<p>existing natural and historic features located on the tops of hills and summits and from the striking lighting effects which occasionally highlight the drumlin form. Susceptibility rating: High</p>
<p>Landscape value No landscape designations cover the <i>Milton</i> or <i>Machars</i> areas of this AU. The Galloway Hills RSA applies to the northern part of the <i>Deeside</i> unit lying adjacent to Loch Ken. The citation indicates that land within the visual envelope of the unique and distinctive Loch Ken is included in the RSA. A number of designed landscapes are located in this AU with these being particularly concentrated in the <i>Deeside</i> area. The drumlin pastures are additionally a distinctive feature of the Dumfries and Galloway landscape and there are many archaeological features and recreational routes particularly around Castle Douglas and visitor destinations such as the RSPB reserve at Threave .</p>	<p>If sited within or close to the RSA, this typology would be likely to have significant effects on its special qualities although the extensiveness of the AU may allow scope to avoid impacts on designated landscapes. Inventory and non-Inventory designed landscapes and the distinctiveness of the drumlins increase sensitivity in relation to landscape value. Value rating: High-medium to Medium</p>	<p>If sited within or close to the RSA, this typology would be likely to have significant effects on its special qualities although the extensiveness of the AU may allow scope to avoid impacts on designated landscapes. Inventory and non-Inventory designed landscapes and the distinctiveness of the drumlins increase sensitivity in relation to landscape value. Value rating: High-medium to Medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

13 ASSESSMENT UNIT 14: COASTAL/FLOW PLATEAU

13.1 Introduction

This landscape comprises a gently undulating to flat coastal plain. It lies in the eastern part of Dumfries and Galloway, close to the inner Solway Firth.

13.1.1 *Cultural heritage overview*

This landscape is characterised by post-improvement (19th-20th century) fields and farming but with little evidence for relict land-uses. Nevertheless, there are a few archaeological sites of outstanding significance and distinctiveness present.

13.1.2 *Operational/consented wind farm development*

No operational or consented wind farms are located in this landscape. The operational offshore Robin Rigg wind farm is sited within the Solway Firth and is visible from the western parts of this Assessment Unit. The operational Minsca and Solwaybank wind farms, sited on the outer edges of the *Annandale* area of the *Foothills* (19), are widely visible across this open, gently undulating coastal plain. The operational Ewe Hill and nearby Crossdykes wind farms are also visible but less intrusive as they are set back more into the interior of the uplands.

13.2 Description

This gently undulating to flat coastal plain falls gradually to the Solway coast and the broad floodplain at the mouth of the River Esk. Farmland is interspersed with low-lying mosses which are often encircled by broadleaved woodland and scrub. This is a well-settled landscape with a number of settlements concentrated close to the Solway Firth. The field enclosure pattern becomes less distinct and settlement sparser in the north-east of this Assessment Unit at the transition with the *Upland Fringe* (15). These open coastal areas are highly visible from roads and settlement in the more elevated surrounding upland fringes and foothills.

13.2.1 *Cumulative issues*

While the operational Robin Rigg offshore windfarm may be inter-visible with any onshore development located in the western parts of this Assessment Unit, cumulative impacts are unlikely to be significant due to the distance and relatively limited extent that this wind farm occupies in coastal views.

Cumulative impacts could arise between any wind farm developments located in the northern part of this landscape with the operational Minsca and Solwaybank wind farms which are prominent on the skyline of the pronounced southern and south-western edges of the *Annandale* area of the *Foothills* (19). Larger typologies located close to the base of the narrow *Upland Fringe* (15) in the north-east of this Assessment Unit would be likely to have a greater cumulative effect in combination with these operational developments. Cumulative effects could also arise where any larger wind turbines sited in the southern parts of this Assessment Unit were seen simultaneously or sequentially with the Hallburn and Beck Burn operational wind farms near Longtown in Cumbria.

13.2.2 Key constraints

- The well-settled character of these landscapes and their openness which increases visibility from settlement, roads and footpaths.
- The clutter of transmission lines, masts and industrial buildings in parts of these landscapes which increases the potential for cumulative visual impacts.
- The operational Minsca and Solwaybank wind farms within the adjacent *Annandale* area of the *Foothills* (19) and operational wind farms between Gretna and Longtown in neighbouring Cumbria which also increases susceptibility in relation to potential cumulative landscape and visual impacts.
- Dispersed farmsteads, field trees and small woodlands which provide highly visible 'point' features patterning these landscapes and ready scale references.
- Views over the Solway Firth to the Cumbrian Fells National Park and also views across this open landscape which forms a threshold to Dumfries and Galloway and Scotland seen from the M74, A75 and A7 when travelling north and west.
- The natural character of the tidal estuary and its mudflats, remnant mosses and their associated scrub woodland and the occasional, deeply incised valleys which cut into the eastern parts of this plateau landscape.
- Occasional policy woodlands at Springkell, on the north-eastern edge of this landscape around Hoddam that abut the highly sensitive *Dale with Hills* (7) Assessment Unit and also within the adjacent *Pastoral Valley* (5) of the Esk.

13.2.3 Opportunities

- Broader ridges on the more elevated north-eastern parts of the area which have a more expansive scale, simple land cover of more extensive pasture and coniferous plantation and are less settled.

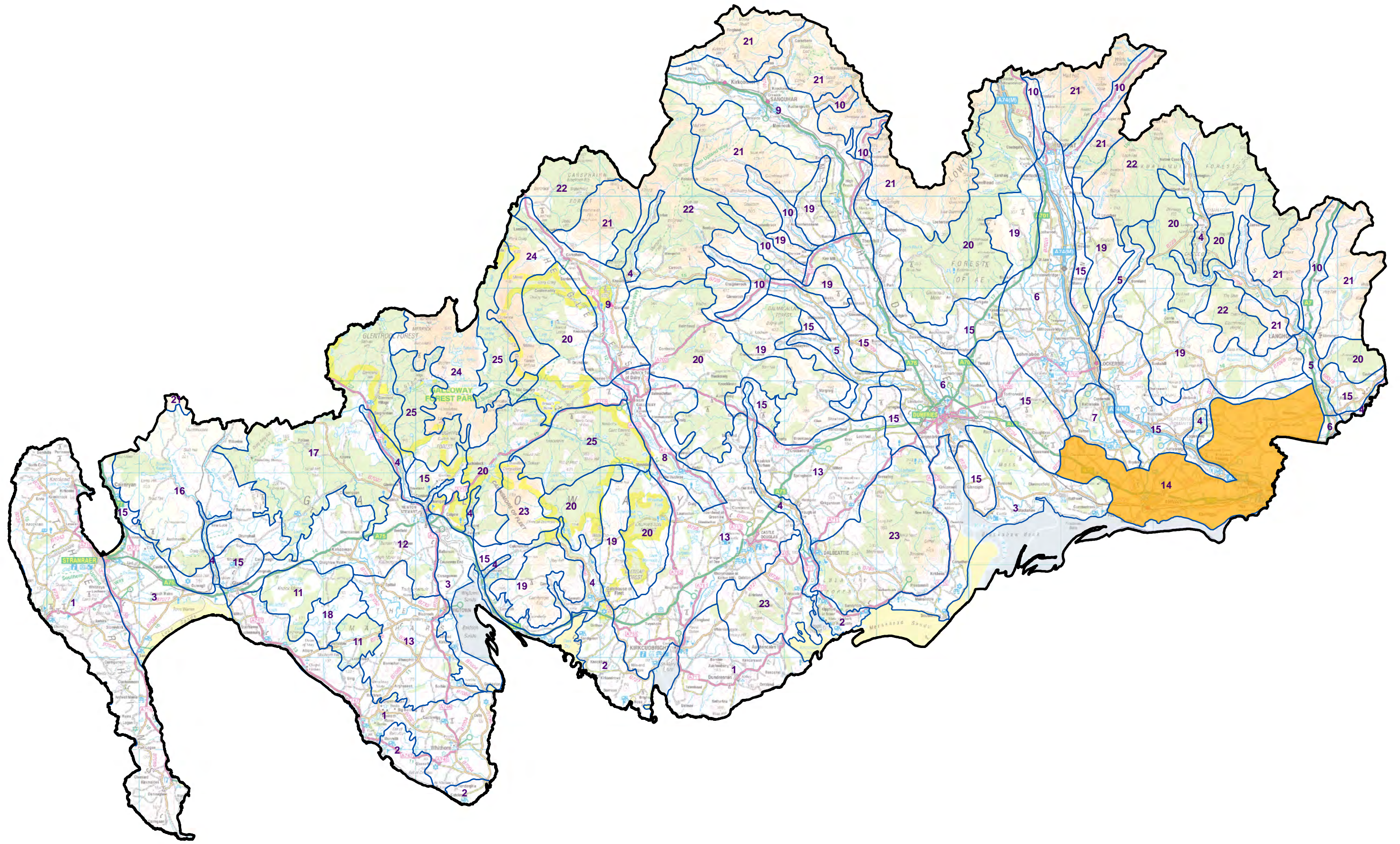
13.3 Sensitivity and guidance

There is a **High** sensitivity to wind turbines >150m high. Sensitivity would be **High-medium** to wind turbines 80-150m.

The broader ridges at the transition with the *Upland Fringe* (15) where the land cover pattern is simpler, are less susceptible to wind turbines 80-150m high. Care should be taken however to avoid significant cumulative impacts with operational and consented wind farms sited in the nearby *Annandale* area of the *Foothills* (19) Assessment Unit.

All wind turbines should be sited to avoid intrusion on key views from coastal footpaths, and into the backdrop and setting of settlements or archaeological features and landscapes of historic interest. They should be sited well away from the coastal edge and the more intact mosses which are highly sensitive to physical disturbance and intrusion from vertical structures such as wind turbines. Wind turbines should also not be sited close to notably incised and often well-wooded valleys. The introduction of additional overhead lines and the juxtaposition of turbines with existing masts and overhead lines should be avoided to reduce clutter in these characteristically open landscapes.

Assessment Unit Key Map - 14. Coastal/Flow Plateau



AU14: Coastal/Flow Plateau – Sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale The low-lying gently undulating to flat landform and field enclosure pattern with occasional trees and woodlands give these landscapes a medium scale and a generally open character. Scale and openness are reduced within the narrow valleys that cut into the generally higher plateau to the east and increases on broader ridges with more extensive pastures towards the <i>Upland Fringe</i> (15) in the north of this AU. While the Solway increases the sense of openness in coastal areas, the narrowness of the Firth and containment provided by the Cumbrian Fells limit scale.</p>	<p>This typology would dominate the scale of narrow valleys and the enclosed farmland, trees and woodlands in this landscape which provide ready scale references. Very large wind turbines would also dominate the scale of more open broader elevated ridges, hill slopes and mosses due to the limited relief and horizontal extent of these features. Susceptibility rating: High</p>	<p>This typology (and particularly turbines >100m) would dominate the scale of narrow valleys and the enclosed farmland, trees and woodlands in this landscape which provide ready scale references. It could relate to the increased scale of more open broader elevated ridges, hill slopes and mosses although these areas are limited in extent. Susceptibility rating: High-medium</p>
<p>Landform A gently undulating plateau, rising gradually from the flat coastal edge and broad floodplain of the Esk. The eastern part of this landscape is more elevated and features occasional narrow winding valleys cut into the plateau and contained by broad flattened ridges at the transition with the Upland Fringe and Foothills. Low-lying mosses occur across this landscape.</p>	<p>The gently undulating to flat landform characteristic of these landscapes could relate to wind farm development in general. More rolling landform at the transition with AU7 and the western parts of AU16 and incised valleys would be more sensitive. Susceptibility rating: Medium</p>	<p>The gently undulating to flat landform characteristic of these landscapes could relate to wind farm development in general. More rolling landform at the transition with (7a) and the western parts of (16) and incised valleys would be more sensitive. Susceptibility rating: Medium</p>
<p>Landcover There is a simple pattern of large fields enclosed by hedgerows. Field trees are locally distinctive, for example in the Chapelknowe area. Intact mosses are ringed by scrub woodland and these add interest and diversity to the landscape. Broadleaved woodlands trace winding valleys. Policy woodlands are present in the Springkell a and are associated with other non-Inventory designed landscapes such as Kinmount House. Blocky conifer plantations occur on higher ridges and are also planted on former mosses.</p>	<p>The simpler pattern of more extensive pasture and occasional coniferous plantations which occur in parts of this landscape would be less susceptible although this size of turbine would disrupt the integrity and detract from the character of more natural intact mosses and the distinctive pattern of field trees and policy woodlands elsewhere. Susceptibility rating: Medium</p>	<p>The simpler pattern of more extensive pasture and occasional coniferous plantations which occur in parts of this landscape would be less susceptible although this size of turbine would disrupt the integrity and detract from the character of more natural intact mosses and the distinctive pattern of field trees and policy woodlands elsewhere. Susceptibility rating: Medium</p>
<p>Built environment The settlements of Annan, Eastriggs and Gretna are located along the</p>	<p>This typology could affect the setting of settlements if located nearby. It would also dominate the</p>	<p>This typology could affect the setting of settlements if located nearby. It would also dominate the scale of</p>

<p>Solway, but set back from the coastal edge in the east. Smaller settlements and archaeological features occur elsewhere and large farms are dispersed fairly evenly across this landscape, apart from the mosses and the higher ground at the transition with the <i>Upland Fringe</i> (15) where settlement is sparse. Key landmark features comprise the Chapelcross power station (decommissioned) and the transmission lines which converge in this area. A number of major transport routes are aligned through this landscape. The area between Longtown and Dornock is noted for its industrial heritage related to munitions manufacturing. Operational wind farms are located on the foothills to the north and on mosses east of Gretna in Cumbria and are clearly visible from this AU.</p>	<p>scale of dispersed houses/farms and archaeological features in this relatively well-settled landscape. Turbines sited close to the Solway coast and its hinterland could visually interact with other tall built infrastructure to create a cluttered and fragmented landscape. Wind turbines of this size located in the northern parts of this AU could result in cumulative impacts on views and landscape character. Susceptibility rating: High</p>	<p>dispersed houses/farms and archaeological features in this relatively well-settled landscape. Turbines sited close to the Solway coast and its hinterland could visually interact with other tall built infrastructure to create a cluttered and fragmented landscape. Wind turbines of this size located in the northern parts of this AU could result in cumulative impacts on views and landscape character. Susceptibility rating: High</p>
<p>Landscape context The rolling hills adjacent to the River Annan and Water of Milk (AU7) and the Torthorwald Ridge (AU15) lie to the north-west of this AU. The lower Esk valley also borders the eastern edge of this AU. The Solway Firth is present to the south and forms a narrow inlet of tidal mudflats. The <i>Foothills</i> (19) are seen to the north as a distinct edge of higher ground above the <i>Coastal/Flow Plateau</i>.</p>	<p>This typology could significantly impact on the highly sensitive <i>Middle Dale with Hills</i> (7) and the Torthorwald ridge (15) if sited in the western part of this AU. The presence of the lower Esk valley also increases susceptibility. Very large wind turbines would diminish the sense of visual connection to the Solway Firth if sited along the coastal edge and its immediate hinterland. Susceptibility rating: High</p>	<p>This typology could significantly impact on the highly sensitive <i>Middle Dale with Hills</i> (7) and the Torthorwald ridge (15) if sited in the western part of this AU. The presence of the lower Esk valley also increases susceptibility. Very large wind turbines would also diminish the sense of visual connection to the Solway Firth if sited along the coastal edge and its immediate hinterland. Core parts of this relatively extensive plateau may be less susceptible to wind turbines of this size in terms of minimising effects on adjacent sensitive landscapes. Susceptibility rating: High-medium</p>
<p>Perceptual qualities While the tidal mudflats of the Solway and the remnant mosses have natural qualities, the presence of major transport routes, industry, settlement and intensively managed farmland reduces the sense of wildness overall in these landscapes.</p>	<p>Provided this typology were not located close to the coastal edge or within or close to semi-natural mosses there would be little effect on perceptual qualities relating to the sense of wildness. Susceptibility rating: Medium-low</p>	<p>Provided this typology were not located close to the coastal edge or within or close to semi-natural mosses there would be little effect on perceptual qualities relating to the sense of wildness. Susceptibility rating: Medium-low</p>
<p>Views and visibility The openness of this landscape allows extensive views from settlement and major transport routes which are aligned through it. There are notably striking views to the</p>	<p>This typology would be highly visible from major transport routes and from settlement across this generally open landscape. It could intrude on key foci such as the views across the Solway Firth to the</p>	<p>This typology would be highly visible from major transport routes and from settlement across this generally open landscape. It could intrude on key foci such as the views across the Solway Firth to the Cumbrian Fells and could</p>

<p>coastal edge from the B6357 east of Annan where the Cumbrian Fells are a key focus. The A75 and M74 are important routes with these landscapes forming the 'threshold' to both Scotland and Dumfries and Galloway from the south. Wider views over this landscape are a feature from the Repentance Tower and Burnswark Hill.</p>	<p>Cumbrian Fells and could increase the visual clutter of masts and transmission lines characteristic of the coastal area and wind farm development located east of Gretna. Susceptibility rating: High</p>	<p>increase the visual clutter of masts and transmission lines characteristic of the coastal area and wind farm development located east of Gretna. Susceptibility rating: High</p>
<p>Landscape value These landscapes are not covered by any landscape designations although the Torthorwald Ridge and Langholm Hills RSAs abut the boundaries of this AU. A number of designed landscapes are present in this AU. Promoted recreational routes are present at Hoddam which lies close to the NE edge of this AU.</p>	<p>The setting of the RSAs and designed landscapes would be sensitive to intrusion by very large wind turbines although there may be some limited scope to minimise impact. Value rating: Medium</p>	<p>The setting of the RSAs and designed landscapes would be sensitive to intrusion by large wind turbines although there may be some scope to minimise impact. Value rating: Medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

14 ASSESSMENT UNIT 15: UPLAND FRINGE

14.1 Introduction

Twelve landscape areas are identified within the *Upland Fringe* Assessment Unit. These units vary from 'stand-alone' highly distinctive ridges which outcrop within lowland areas (such as the Torthorwald Ridge) to areas which comprise often narrow fringes between lowland valleys/ dales and foothill/upland areas.

The landscape areas that essentially form hill slopes, and a gradual transition in character between lowland and upland landscapes, are considered together in the sensitivity assessment as the 'Hill Fringe' areas. These comprise the *Balker Moor, Cairn, Corsock, Camrie, Glentrool, Cairnharrow, Ae, Annandale* and *Liddesdale* areas. The 'Stand-alone' ridges of *Dunscore, Ward Law, Terregles* and *Torthorwald* are assessed together in a separate sensitivity assessment.

14.1.1 Cultural heritage overview

This landscape is characterised as a mix of post-improvement (c19th-20th century) fields, farming, woodland/forestry and rough grazing with a number of small, designed landscapes and areas of relict pre-improvement (pre-19th c) land-use with their remains of buildings and distinct field shapes as well as pre-medieval features. The relict landscape are concentrated in the west and east parts of *Camrie, Glentrool* and *Liddesdale*, with a broader scatter across the larger part of *Annandale* and south *Cairn* areas. Burnswark, a highly significant example of such fortifications (both native and Roman) is an Archaeologically Sensitive Area, as is Cairnholy, an equally significant prehistoric burial and ritual site. The other two Archaeologically Sensitive Areas in *Camrie* and *Glentrool* are more extensive, one extending into the neighbouring plateau moorland type. There are numerous archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit.

14.2 'Hill Fringe' areas

14.2.1 Description

The *Balker Moor, Camrie, Glentrool, Cairnharrow, Corsock, Cairn, Ae, Annandale* and *Liddesdale* areas of the *Upland Fringe* predominantly comprise a narrow band of hill slopes between valleys/dales or the coastal edge and the higher foothills/upland landscapes. Typical characteristics include a rolling and occasionally knolly landform and an often diverse cover of broadleaved woodlands, planted policy features and small enclosed pastures, particularly evident on lower slopes. These landscapes are settled and commonly feature a rich archaeological and historic heritage. They are also important in the wider landscape context in that they form highly visible 'edge' landscapes that often provide a scenic backdrop to adjacent dales, valleys and coasts.

14.2.2 Operational/consented wind farms and cumulative issues

This appraisal focusses on potential cumulative issues in the three landscape areas of *Camrie, Ae* and *Annandale* which are already influenced by wind farm development sited within and close by these hill fringes.

Camrie area: The operational Carscreugh wind farm is located in this area while the Barlockhart, Artfield/Balmurrie Fell, Aries, Glenchamber and Glen App wind farms lie close to the northern boundary of this landscape area. Significant cumulative effects already occur due to the proximity and diversity of wind turbines (size, layout and siting) within different developments in the eastern part of this area, leading to an intrusive cluttered appearance. These developments are highly visible from this landscape, from the A75 and from roads and settlements on the east Rhins and Stranraer Basin and north-western coast of the Machars.

Key cumulative effects that could occur if further wind energy development took place in the *Camrie* area of the *Upland Fringe* include:

- Significant cumulative effects on the A75, potentially contributing to a 'concentrated corridor' of wind farm development either side of this major tourist route, particularly if additional wind farm development were located in the adjacent *Moss and Forest Lowland* (11) and *Moss, Moor and Drumlin Pasture* (12) Assessment Units.

Ae area: The operational Dalswinton wind farm is sited within the *Foothills with Forest* (20) Assessment Unit, but close to the boundary of the *Ae Upland Fringe*. Its proximity to the edge of these foothills, together with the size of the turbines (120m), results in this wind farm being a prominent feature widely visible across Nithsdale. The operational Harestanes wind farm is set back within the broad forested plateau of the same area of the *Foothills with Forest* (20). This siting rationale, together with a degree of screening of wind turbine bases provided by landform, lessens its visual impact on adjacent well-settled lowland landscapes despite the greater scale of this development.

Key cumulative effects associated with the *Ae* area of the *Upland Fringe* are likely to include:

- Cumulative effects on views from Nithsdale, Dumfries and the A701 in combination with the Harestanes and Dalswinton wind farms and potentially also on the setting of designed landscapes and the character of the *Torthorwald* RSA.

Annandale area: The operational Minsca wind farm is located close to the south-eastern edge of this area. The broader extent of the *Upland Fringe* in this area reduces the apparent scale of these turbines seen from the well-settled parts of Annandale although the proximity of this development to the edge of the foothills results in it occupying a prominent skyline and it is highly visible from parts of the *Annandale* unit and from the *Coastal/Flow Plateau* (14) to the south. The operational Solwaybank wind farm has a similar effect on views because of its position close to the outer edge of the foothills.

Key cumulative effects associated with the *Annandale* area of the *Upland Fringe* include:

- Sequential effects from the M74 in combination with operational wind farms of Minsca, Solwaybank, Harestanes, Minnygap and Clyde.

14.2.3 Key constraints

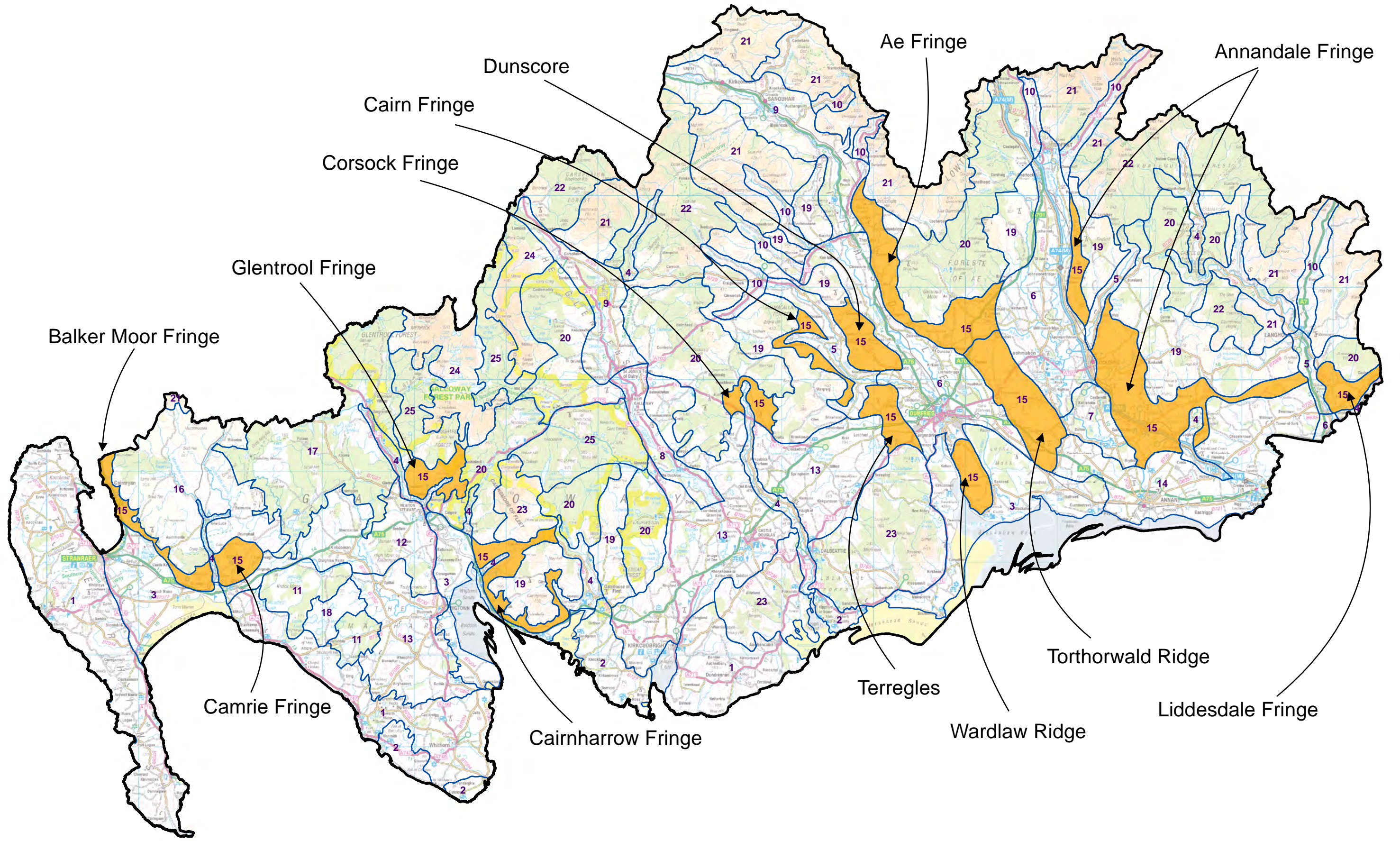
- The rolling and occasionally knolly landform, steep slopes and deeply incised narrow valleys which commonly characterise these upland fringe landscapes.
- A diverse land cover, including extensive broadleaved woodlands within the *Glentroot* and *Cairnharrow* units, small semi-improved pastures and distinctive field enclosure pattern of stone dykes, notably within the *Cairn Fringe* and *Cairnharrow* areas.
- The backdrop that these upland fringe landscapes provide to more populated valleys, dales and coastal areas and their high visual prominence from roads, ferry routes and settlement.
- The presence of policy landscapes, especially notable within the *Cairn Fringe*, *Camrie* and *Ae* units and the southern part of the *Annandale* unit where mature field trees, roundel and avenue plantings are commonly present.
- The settled nature of these hill fringes, particularly on lower hill slopes.
- A rich archaeological and historic heritage, including many landmark features, for example Burnswark hill fort and Cairn Holy chambered cairns which are the foci of two ASAs, as well as two much more extensive ASAs.
- The contribution these upland fringes provide to the wider setting of designed landscapes, for example Castle Kennedy, Springkell and Drumlanrig, and to settlements such as Lockerbie and Creetown.
- The foreground provided by some of these landscapes to landmark hills such as Cairnharrow or the Merrick group seen from across the *Glentroot* unit, or other natural features, for example the dramatic cleft of Glen App seen beyond the *Balker* unit from ferry routes within Loch Ryan.
- The proximity of the *Ae* and *Annandale* areas to operational and consented large scale wind farm developments in the adjacent *Foothills* Assessment Units which increases potential for cumulative landscape and visual impact.
- The intense cumulative effects of the operational Carscreugh wind farm located in the *Camrie* unit together with the very close-by operational Barlockhart, Artfield/Balmurrie Fell, Aries and Glenchamber wind farms which have resulted in a visually confusing array of different turbine sizes, layouts and siting elevations affecting key views from roads and settlements.
- The prominence of these *Upland Fringe* landscapes from settlement, roads and areas used for recreation in adjacent dales, valleys and coasts which increases susceptibility.

14.3 Sensitivity and guidance

This landscape has a **High** sensitivity to turbines >80m high.

Smaller wind turbines could be more successfully accommodated in these sensitive hill fringes. The accompanying Sensitivity Assessment for Smaller Wind Turbines report provided guidance on siting and design for wind turbines <80m high.

Assessment Unit Key Map - 15. Upland Fringe



AU 15: Upland Fringe – ‘Hill Fringes’ of Ae, Annandale, Balker Moor, Cairn, Camrie, Cairnharrow, Glentrool and Liddesdale – Detailed sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150m+)	Assessment: Large turbines (80-150m)
<p>Scale These landscapes predominantly comprise a narrow band of hill slopes between lowland valleys/dales and foothills/uplands. Landscape scale is generally medium to small depending on the extent of enclosure by rolling landform and woodlands with scale increasing, particularly where there is a more seamless merging with adjacent open <i>Plateau Moorland</i> (15), for example as occurs in the <i>Camrie</i> area.</p>	<p>This typology would overwhelm the scale and generally narrow extent of these upland fringes. This typology would dominate woodlands and field trees which often provide highly visible scale references even on broader, more open areas. Susceptibility rating: High</p>	<p>This typology would overwhelm the scale and generally narrow extent of these upland fringes. This typology would dominate woodlands and field trees which often provide highly visible scale references even on broader, more open areas. Susceptibility rating: High</p>
<p>Landform These <i>Upland Fringes</i> comprise gently rolling lower hill slopes. In many units a complex furled landform of dips, narrow terraces, steep slopes and deeply cut valleys feature. Slacker slopes and broader ridges can occur at the transition with the <i>Foothills</i> and <i>Foothills with Forest</i> (19/20) or <i>Plateau Moorland</i> (16) AUs.</p>	<p>This typology would detract from the predominantly rolling landform, particularly where it is most complex. It could relate to broader ridges and slacker hill slopes although there are very few of these areas that are sufficiently large to accommodate multiple turbines of this size. Susceptibility rating: High</p>	<p>This typology would detract from the predominantly rolling landform, particularly where it is most complex. It could relate to broader ridges and slacker hill slopes although there are very few of these areas that are sufficiently large to accommodate multiple turbines of this size. Susceptibility rating: High</p>
<p>Landcover These landscapes commonly have a richly diverse land cover of enclosed pastures and often extensive broadleaved woodlands, most notably within the <i>Cairnharrow</i> and <i>Glentrool</i> units. A strong pattern of hedges, stone dykes, mature field trees and planted policies often occur on lower slopes at the transition with settled valleys and dales. The vegetation and enclosure pattern are less diverse at the transition with adjacent landscapes with a more open upland character where more extensive pasture and coniferous shelterbelts occur.</p>	<p>This typology would incur significant direct and indirect impact to woodlands, policy features and distinctive field enclosure pattern if sited within or nearby more patterned landscapes. While areas with a simpler vegetation pattern at the transition with more open upland landscapes are of reduced susceptibility, these areas are limited in extent. Susceptibility rating: High-medium</p>	<p>This typology would incur significant direct and indirect impact to woodlands, policy features and distinctive field enclosure pattern if sited within or nearby more patterned landscapes. Turbines of this size could relate to areas with a simpler vegetation pattern at the transition with more open upland landscapes although these areas are limited in extent. Susceptibility rating: High-medium</p>
<p>Built environment These landscapes are generally well-settled with dispersed farms and occasional estate houses mainly located on lower slopes and set within narrow valleys. Main roads tend to be aligned at the foot of these hill slopes although occasional narrow no-</p>	<p>This typology would dominate the scale of farms and other small dwellings within these settled landscapes. It would also be likely to affect the setting of the many archaeological sites, as well as landmark features located in these upland fringes and could detract</p>	<p>This typology would also dominate the scale of farms and other small dwellings within these settled landscapes. It would also be likely to affect the setting of the many archaeological sites, as well as landmark features located in these upland fringes and could detract from</p>

<p>through access roads weave up steep slopes. These upland fringes commonly feature a rich archaeological and historic heritage including old field systems, chambered cairns, numerous hill forts and castles, some forming landmark features. Operational wind farms have a particularly strong influence on the <i>Ae, Camrie</i> and <i>Annandale</i> hill fringes</p>	<p>from the prominence of mansion houses, castles and other historic features if located within their landscape setting. The strong influence of operational wind farm development on some hill fringes increases susceptibility. Susceptibility rating: high</p>	<p>the prominence of mansion houses, castles and other historic features if located within their landscape setting. The strong influence of operational wind farm development on some hill fringes increases susceptibility. Susceptibility rating: high</p>
<p>Landscape context These areas of the <i>Upland Fringe</i> form generally narrow hill slopes, lying in close juxtaposition with adjacent foothills and upland landscapes. They also commonly contribute to wider landscape compositions seen from lowland and coastal areas. These landscapes form a backdrop to settlements such as Creetown, Lockerbie, Glenluce and Thornhill. The <i>Glentool</i> unit is important in the wider setting to Merrick hills, <i>Cairnharrow</i> particularly prominent in forming the setting to Wigtown Bay, <i>Cairnharrow</i> hill and the Fleet valley. <i>Cairn, Ae, Annandale</i> and <i>Liddesdale</i> form highly visible edge to populated valleys and dales.</p>	<p>This typology would adversely affect the scenic backdrop and contrast these landscapes provide to generally more managed and developed valleys and dales. Development within the <i>Cairnharrow</i> unit would impact on the wider scenic character of Wigtown Bay, <i>Cairnharrow</i> Hill and the Fleet valley NSA. The setting of settlements which are often located at the foot of these upland fringes could also be affected. Susceptibility rating: High</p>	<p>This typology would adversely affect the scenic backdrop and contrast these landscapes provide to generally more managed and developed valleys and dales. Development within the <i>Cairnharrow</i> unit would impact on the wider scenic character of Wigtown Bay, <i>Cairnharrow</i> Hill and the Fleet valley NSA. The setting of settlements which are often located at the foot of these upland fringes could also be affected. Susceptibility rating: High</p>
<p>Perceptual qualities These are generally managed landscapes with little sense of remoteness although more extensive broadleaved woodlands and scrub has a natural character and there is a perception of timelessness associated with less intensively farmed small pastures, narrow roads and the many vernacular buildings.</p>	<p>The landscape is settled and generally well cultivated and managed, therefore this typology will have limited impact on any sense of wildness provided impacts on more natural habitats are avoided Susceptibility rating: Medium</p>	<p>The landscape is settled and generally well cultivated and managed, therefore this typology will have limited impact on any sense of wildness provided impacts on more natural habitats are avoided Susceptibility rating: Medium</p>
<p>Views and visibility These landscapes are well settled with dwellings located within the upland fringes generally facing outwards, away from more sensitive skylines or in more contained valleys. Woodlands and landform can further contain views although minor roads and footpaths are often elevated and allow open views over the <i>Upland Fringe</i> and across adjacent valleys, dales and coasts. Burnswark Hill is an important viewpoint in the <i>Annandale</i> Foothills.</p>	<p>Turbines of this size would be highly visible from footpaths and minor roads which cross these hill fringes. They would also be highly visible over an extensive area seen from major roads and settlement within Nithsdale, <i>Annandale</i> and from the Wigtown Bay area where they may interrupt sensitive skylines and backdrops. This typology would diminish the visual focus of woodlands, policy landscapes, archaeological and</p>	<p>While it may be possible to site this typology on less settled upper slopes at the transition with more open and larger scale foothills and plateau landscapes (and thus away from direct views from settlement located within these <i>Upland Fringes</i>) it would be highly visible from footpaths and minor roads which cross these areas. This typology would be highly visible over an extensive area, particularly if it affected sensitive skylines, seen from major roads and settlement</p>

<p>The <i>Upland Fringe</i> landscapes are highly visible from major roads and settlement within adjacent populated valleys, Nithsdale and Annandale and the coastal edges of Wigtown Bay (in the case of the <i>Cairnharrow</i> unit) and across Loch Ryan from the Rhins and Stranraer Basin (<i>Balker</i>).</p>	<p>historic features seen from within and beyond these landscapes. Susceptibility rating: High</p>	<p>within Nithsdale, Annandale and from the Wigtown Bay area. It would diminish the visual focus of woodlands, policy landscapes, archaeological and historic features seen from within and beyond these landscapes. Susceptibility rating: High</p>
<p>Landscape value The eastern part of the <i>Cairnharrow</i> area falls within the Fleet NSA. Special qualities of this NSA include the richness of archaeological and historic features, distinctive field pattern and woodlands.</p> <p>The <i>Cairnharrow</i> and <i>Glentroot</i> areas are covered by the Galloway Hills RSA where they are described as being “<i>prominent westward facing edges of the main hill masses</i>”. The southern part of the <i>Cairn</i> area is covered by the <i>Terregles</i> RSA and its attractive knolly topography and diverse vegetation pattern is noted in the citation. The northern part of the <i>Ae</i> area is included in the <i>Thornhill Uplands</i> RSA and described as forming open sculptural ridges fringing scenic valley landscapes.</p> <p>The <i>Balker</i>, <i>Camrie</i>, <i>Annandale</i> and <i>Liddesdale</i> areas are not covered by a landscape designation but Castle Kennedy GDL lies in the <i>Balker</i> hill fringes.</p> <p>There are numerous valued archaeological and historic features within the hill fringes and many recreational routes.</p>	<p>This typology would significantly affect the special qualities of the NSA if located within the designated area.</p> <p>The special qualities of the RSAs focus on their prominence and importance in views from more populated landscapes. This typology could intrude on prominent skylines and views from the Nith and Annandale valleys. It could also adversely affect the diverse landform and vegetation pattern contributed by the <i>Cairn</i> unit to the <i>Terregles</i> Ridge RSA and disrupt the open sculptural ridges of the <i>Ae</i> unit.</p> <p>Development on the <i>Balker</i> hill fringes could affect the setting of Castle Kennedy GDL. Value rating: High to medium</p>	<p>This typology would significantly affect the special qualities of the NSA if located within the designated area.</p> <p>The special qualities of the RSAs focus on their prominence and importance in views from more populated landscapes. This typology could intrude on prominent skylines and views from the Nith and Annandale valleys. It could also adversely affect the diverse landform and vegetation pattern contributed by the <i>Cairn</i> unit to the <i>Terregles</i> Ridge RSA and disrupt the open sculptural ridges of the <i>Ae</i> unit.</p> <p>Development on the <i>Balker</i> hill fringes could affect the setting of Castle Kennedy GDL. Value rating: High to medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

14.4 'Stand-alone' Upland Fringes

14.4.1 Description

The prominent ridges of *Dunscore*, *Ward Law*, *Terregles* and *Torthorwald* which form part of the *Upland Fringe* (15) Assessment Unit, are considered together in this assessment. These isolated and relatively low ridges are important in the scenic backdrop they provide to the settled dales and the Nith Estuary. They feature complex interlocking hills and valleys and elongated rolling ridges. Planted policy features are a particular characteristic in places and there is a rich archaeological and historic heritage with many notable landmarks. These landscapes are visually prominent from well-settled lowland areas such as Annandale and Nithsdale.

14.4.2 Operational/consented wind farms and cumulative issues

No wind farms are located in these landscapes. The operational Dalswinton wind farm is prominently sited on the outer edge of the *Ae Foothills with Forest* (20) and is particularly visible from the *Dunscore* area of this Assessment Unit and across Nithsdale. The operational Harestanes wind farm, which is also sited in the *Ae Foothills with Forest* (20), is visible in close proximity from the northern part of the *Torthorwald* area. Key cumulative effects that could arise with wind energy developments sited in these areas of the *Upland Fringes* (15) include:

- Potential effects on views from roads, settlement and footpaths in surrounding dales, for example Nithsdale, if larger turbines were sited on these hill tops and seen in conjunction with windfarms sited in the *Ae Foothills with Forest* (20) from Nithsdale.

14.4.3 Key constraints

- The complex folded landform and richly diverse land cover of these landscapes; particularly characteristic of the *Terregles* Ridge and the northern part of the *Torthorwald* Ridge.
- The relatively lowly height of these ridges and the presence of mature field trees and woodlands on hill tops which provide ready scale references.
- The scenic backdrop these 'stand-alone' ridges provide to Annandale, Nithsdale, the Nith Estuary and the *Drumlin Pastures* (13).
- The high visual prominence of these landscapes in views from populated lowland areas and from major roads.
- The presence of policy landscapes, archaeological and historic sites and areas, small villages and nearby settlement.
- The NSA which covers most of the *Ward Law* ridge and the RSA designation which applies to all these landscapes areas.

14.5 Sensitivity and guidance

Sensitivity would be **High** to turbines >80m high.

Smaller wind turbines <80m would be more successfully accommodated in these highly sensitive landscapes and guidance is provided in the accompanying Sensitivity Assessment for Smaller Wind Turbines report.

AU 15 – Upland Fringe – Torthorwald, Terregles, Dunscore and Ward Law – Detailed assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale Relatively low, small hills and undulating ridges rising to between 103m and 250m and cut by narrow valleys. Fields extend over the hill tops and woodlands, hedgerows and field trees are visible on the skyline. The rolling landform limits scale which is generally medium reducing to small in more confined areas.</p>	<p>This typology would overwhelm the vertical scale of these small hills/ridges, appearing very large in relation to their height when seen from surrounding valleys/dales. It would dominate the containment of narrow valleys and the field enclosures, trees and woodlands which provide highly visible scale references on hill tops. Susceptibility rating: High</p>	<p>This typology would overwhelm the vertical scale of these small hills/ridges, appearing very large in relation to their height when seen from surrounding valleys/dales. It would dominate the containment of narrow valleys and the field enclosures, trees and woodlands which provide highly visible scale references on hill tops. Susceptibility rating: High</p>
<p>Landform The <i>Terregles</i> and <i>Dunscore</i> areas comprise small hills while <i>Torthorwald</i> and <i>Ward Law</i> form longer rolling ridges with less dissected hills. Landform is particularly complex, with deeply folded hills and occasional knolly craggy tops within the <i>Terregles</i> area and at either ends of the <i>Torthorwald</i> Ridge. Broader, smooth hill slopes and more flattened tops and ridges occur in the middle sections of the <i>Ward Law</i> and <i>Torthorwald</i> Ridge and in parts of the <i>Dunscore</i> area.</p>	<p>There are no flatter and sufficiently extensive broader scaled areas to accommodate multiple turbines of this size without impacts occurring on adjacent more irregular landform. This typology would detract from the rolling landform, particularly where it is most complex. Susceptibility rating: High</p>	<p>There are no flatter and sufficiently extensive broader scaled areas to accommodate multiple turbines of this size without impacts occurring on adjacent more irregular landform. This typology would detract from the rolling landform, particularly where it is most complex. Susceptibility rating: High</p>
<p>Landcover These landscapes commonly have a richly diverse land cover of enclosed pastures and woodlands, with patchy heather, bracken and gorse scrub accentuating the ruggedness of the landform on some hill tops. A notably strong pattern of hedges, stone dykes, roundels, beech avenue plantings and policy woodlands feature in places. Narrow, twisty hedge-lined roads cut through valleys and the lower hill slopes. The vegetation pattern is less diverse in the middle sections of the <i>Torthorwald</i> and <i>Ward Law</i> ridges and the southern part of the <i>Dunscore</i> ridge.</p>	<p>Construction of this typology would be likely to significantly affect narrow tree and hedgerow-lined roads and the field enclosure pattern. The composition and integrity of the distinct interlocking pattern of wooded and open hill tops in the <i>Terregles</i> area would be affected as would more intricate policy influenced plantings in parts of the <i>Torthorwald</i> ridge. Susceptibility rating: High</p>	<p>Construction of this typology would be likely to significantly affect narrow tree and hedgerow-lined roads and the field enclosure pattern. The composition and integrity of the distinct interlocking pattern of wooded and open hill tops in the <i>Terregles</i> area would be affected as would more intricate policy influenced plantings in parts of the <i>Torthorwald</i> ridge. Susceptibility rating: High</p>

<p>Built environment Small tightly clustered villages are set within the sheltered folds of valleys and at the foot of hills. Many villages have a strong architectural integrity. These landscapes are rich in archaeological features, including hill forts, mottes and cairns which form landmarks. A number of mansion houses also feature. Dispersed farms and houses are generally sited on outer hill slopes and in valleys. Telecommunication masts and lattice towers on the <i>Torthorwald</i> and <i>Terregles</i> ridges are visually prominent and a transmission line is also aligned through the <i>Terregles</i> area.</p>	<p>This typology would dominate the scale of farms and other small dwellings and could also adversely affect the setting of small settlements. It would also be likely to affect the setting of the many archaeological features located in these landscapes and could detract from the prominence of mansion houses if located within their landscape setting. Susceptibility rating: High</p>	<p>This typology would dominate the scale of farms and other small dwellings and could also adversely affect the setting of small settlements. It would also be likely to affect the setting of the many archaeological features located in these landscapes and could detract from the prominence of mansion houses if located within their landscape setting. Susceptibility rating: High</p>
<p>Landscape context These hills and ridges form an important backdrop to Annandale, Nithsdale and the <i>Drumlin Pastures</i> (13) to the west where their diverse rolling landform and land cover enriches the wider landscape composition. The <i>Terregles</i> ridge forms part of the setting to Dumfries while the <i>Ward Law</i> ridge contains the Nith Estuary and provides an important backdrop to the <i>Coastal Flats</i> (2) and Caerlaverock Castle.</p>	<p>This typology would adversely affect the scenic backdrop and contrast these landscapes provide to Annandale, Nithsdale, the Drumlin Pastures to the west and the coastal area to the south-west. Susceptibility rating: High</p>	<p>This typology would adversely affect the scenic backdrop and contrast these landscapes provide to Annandale, Nithsdale, the Drumlin Pastures to the west and the coastal area to the south-west. Susceptibility rating: High</p>
<p>Perceptual qualities Generally a managed landscape with little sense of remoteness or naturalness although rough grazing, scrub and woodland on more rugged hill tops is naturalistic. These landscapes nonetheless have a distinct sense of timelessness influenced by small fields with an intact pattern of hedges, woodlands and field trees. .</p>	<p>Turbines of this size could impact on the perception of a traditional rural and less intensively farmed landscape. Susceptibility rating: High-medium</p>	<p>Turbines of this size could impact on the perception of a traditional rural and less intensively farmed landscape. Susceptibility rating: High-medium</p>
<p>Views and visibility These landscapes are well settled. Villages and dispersed houses tend to be located in visually contained valleys or at the foot of hills or outward-facing slopes. Minor roads within these landscapes are generally similarly contained although views are more open from the B729 which crosses the <i>Dunscore</i> ridge. Hill summits and</p>	<p>While it may be possible to site turbines of this size on less settled hill tops to avoid close visibility from settlement, they would be highly visible from the footpaths and minor roads which cross these areas. Large turbines sited on these ridges and hills would be highly visible over an extensive area from major roads and settlement within Nithsdale,</p>	<p>While it may be possible to site turbines of this size on less settled hill tops to avoid close visibility from settlement, they would be highly visible from the footpaths and minor roads which cross these areas. Large turbines sited on these ridges and hills would be highly visible over an extensive area from major roads and settlement within Nithsdale,</p>

<p>ridges provide vantage points with extensive views possible. The <i>Torthorwald</i> ridge is crossed by the major routes of the A75, A709 and A701 and is highly visible on the approach to Dumfries (and at the 'threshold' to Annandale seen from the M74). The <i>Terregles</i> hills are also highly visible from the A75. Vantage points such as Ward Law and the Alamgill Monument provide diverse views over some of these landscapes. These outcrop hills form prominent features, viewed on all sides from surrounding well-settled dales and coastal areas.</p>	<p>Annandale and from within the Nith Estuary. Telecomm masts are already prominent foci and this typology would increase the clutter of structures on the highly visible skyline of these hills. Susceptibility rating: High</p>	<p>Annandale and from within the Nith Estuary. Telecomm masts are already prominent foci and this typology would increase the clutter of structures on the highly visible skyline of these hills. Susceptibility rating: High</p>
<p>Landscape value Much of the <i>Ward Law</i> ridge lies within the Nith Estuary NSA. The landmark feature of Ward Law hill is noted as a special quality as is Criffel which features in extensive views from the surrounding area.</p> <p>The <i>Dunscore</i> area is located within the <i>Thornhill Uplands</i> RSA. The citation describes the Upland Fringe landscapes within the RSA as forming open sculptural ridges fringing the scenic valley landscapes. The <i>Torthorwald</i> area lies within the <i>Torthorwald Ridge</i> RSA. It is described as a..."<i>prominent hill separating, and widely overlooked and easily accessible from the well populated Nith and Annandale valleys</i>". The <i>Terregles</i> area lies within the <i>Terregles Ridge</i> RSA. The citation describes it as containing and forming western setting to Dumfries. The very diverse character of transitional uplands, steep-sided valleys and attractive knolly topography with areas of enclosed pasture, gorse knolls and woodlands is noted.</p> <p>These landscapes are rich in archaeology and feature many promoted recreational routes.</p>	<p>This typology would have a significant effect on the special qualities of the Nith Estuary NSA if sited on <i>Ward Law</i> as it would dominate its scale, overwhelming the 'emphasis' it provides to the Nith estuary, the landmark feature of Ward Law (a planted roundel on a former Iron Age hill Fort with nearby Roman features) and views to Criffel from this ridge.</p> <p>This typology would adversely affect the open sculptural ridges of <i>Dunscore</i>. It would significantly affect views to the prominent <i>Torthorwald</i> Ridge from the well populated Nith and Annandale valleys. It would also adversely affect the very diverse character of the <i>Terregles</i> Ridge, conflicting with its attractive knolly topography and intricate vegetation pattern. Value rating: High to High-medium</p>	<p>This typology would have a significant effect on the special qualities of the Nith Estuary NSA if sited on <i>Ward Law</i> as it would dominate its scale, overwhelming the 'emphasis' it provides to the Nith estuary, the landmark feature of Ward Law (a planted roundel on a former Iron Age hill Fort with nearby Roman features) and views to Criffel from this ridge.</p> <p>This typology would adversely affect the open sculptural ridges of <i>Dunscore</i>. It would significantly affect views to the prominent <i>Torthorwald</i> Ridge from the well populated Nith and Annandale valleys. It would also adversely affect the very diverse character of the <i>Terregles</i> Ridge, conflicting with its attractive knolly topography and intricate vegetation pattern. Value rating: High to High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

15 ASSESSMENT UNIT 16: PLATEAU MOORLAND

15.1 Introduction

This Assessment Unit occurs in one area in the north-west of Galloway. It comprises the predominantly open western extent of the Wigtownshire Moors.

15.1.1 *Cultural heritage overview*

This landscape is characterised as moorland/rough grazing and forestry with both extensive pre-improvement (pre-19thc) land-use with remains of buildings and distinct field shapes as well as numerous areas of pre-medieval features. These relict land-use areas with their numerous individual sites from historic and prehistoric times add distinctiveness to this landscape. The large East Rhins Archaeologically Sensitive Area within Balker Moor reflects this significance.

There are a very high number of outstandingly significant and distinctive archaeological sites across Balker Moor, some of which are promoted for public benefit.

15.1.2 *Operational/consented wind farms*

The operational Artfield Fell, Balmurrie Fell and Glenchamber wind farms are located in the south-eastern part of this landscape. The extensive operational Kilgallioch wind farm is partially located in this Assessment Unit but with the majority of turbines located in the adjacent *Plateau Moorland with Forest* Assessment Unit (17). The consented Stranoch wind farm is located in the northern part of Balker Moor and west of the Water of Luce Valley.

The operational Arecleoch and Glen App wind farms are located to the north and west of this Assessment Unit within South Ayrshire.

15.2 Description

The *Plateau Moorland* Assessment Unit comprises a gently undulating plateau. While this landscape has an upland character, influenced by its predominantly simple land cover of grass moorland and sparse settlement, it has a relatively low elevation. The Water of Luce and its tributary the Cross Water of Luce cut narrow, incised valleys through the open moorland lying at the core of the plateau. Occasional improved pastures and small mixed woodlands, isolated farms and the tightly clustered settlement of New Luce are associated with these valleys. Some areas of coniferous forestry are present, notably near the Penwhirn Reservoir which sits in a shallow basin at the core of this upland plateau. The open moorlands are not settled although there are many archaeological features dispersed across this landscape, including cairns and hut circles. Single-track roads provide access across open, sweeping moorland to the reservoir and along the valleys. Scale is reduced around the fringes of the moorland where the topography becomes more complex and within the narrow valleys which cut into the plateau. Operational and consented wind farm development is present in the northern and eastern parts of this landscape.

15.2.1 *Cumulative issues*

This landscape has significantly changed (and will continue to change) because of the extent of operational and consented wind farm development. Parts of the Wigtownshire Moorlands are dominated by wind farm development and the openness of the landscape increases the visual influence of wind farms across undeveloped areas.

The close juxtaposition of a variety of wind farm developments (varied in terms of turbine size and siting) has led to some significant cumulative landscape and visual impacts in the south-eastern part of the *Plateau Moorland* Assessment Unit and adjoining Assessment Units including the *Camrie Upland Fringe* (15). The operational Barlockhart and Carsecreugh wind farms incur the greatest effects as they are located in transitional landscapes closer to more settled lowland and coastal areas.

Key cumulative issues that may arise if additional wind turbines were located within the *Plateau Moorland* (16) Assessment Unit include:

- Effects on the smaller scale Water of Luce valley and on views from minor roads and settlement where operational and consented developments already form a near-continuous arc of turbines around the Water of Luce watersheds and beyond.
- Exacerbation of the varied design rationale already associated with operational and consented wind farms located in the *Plateau Moorland*, the *Camrie* area of the *Upland Fringe* (15) and the *Plateau Moorland with Forest* (17) which has resulted in significant visual clutter and confusion. This would result because of the current use of much larger turbines in commercial schemes but also where additional development is located on the outer, more visible, edges of this Assessment Unit (contrasting with the siting rationale adopted by older wind farms which favour more interior parts of the plateau). New, much larger turbines in these more visible upland edges could also contribute to cumulative effects associated with different designs/rotation speed with close-by operational wind farms.
- Cumulative effects on archaeological features and the SUW but also on views from the A75 and from other roads and settlement in the Stranraer Basin and the eastern coast of The Rhins.

15.2.2 *Key constraints*

- The south-western 'edge' of this upland plateau which is important in forming a backdrop to settled lowland landscapes and the designed landscape of Castle Kennedy and which forms a highly visible skyline seen widely across the Stranraer Basin, Loch Ryan and The Rhins.
- The small scale, relatively diverse and settled valleys of the Water of Luce and Cross Water of Luce.
- The pronounced hills of Berneraird and Milljoan within the adjacent *Southern Uplands* (21) on the north-western boundary of this Assessment Unit.
- Open, minimally developed moorland which comprises an increasingly rare feature within Dumfries and Galloway (due to commercial forestry and wind farm development) and where a stronger sense of naturalness and seclusion can be experienced.

- The extensive Glen App and the Galloway Moors SSSI nature conservation designation which increases the value associated with this landscape.
- Areas where there is an extensive record of a multi-layered historic environment which has largely remained intact, particularly the Archaeologically Sensitive Area, surviving to a greater degree than in other areas. Archaeological features such as the Caves of Kilhern and numerous cairns and standing stones contribute to landscape character.
- The SUW which is aligned through the south-eastern part of this Assessment Unit.
- Potential cumulative effects with operational and consented wind farms, particularly given the variety of turbine sizes and siting between developments in the south-eastern part of this landscape.

15.2.3 Opportunities

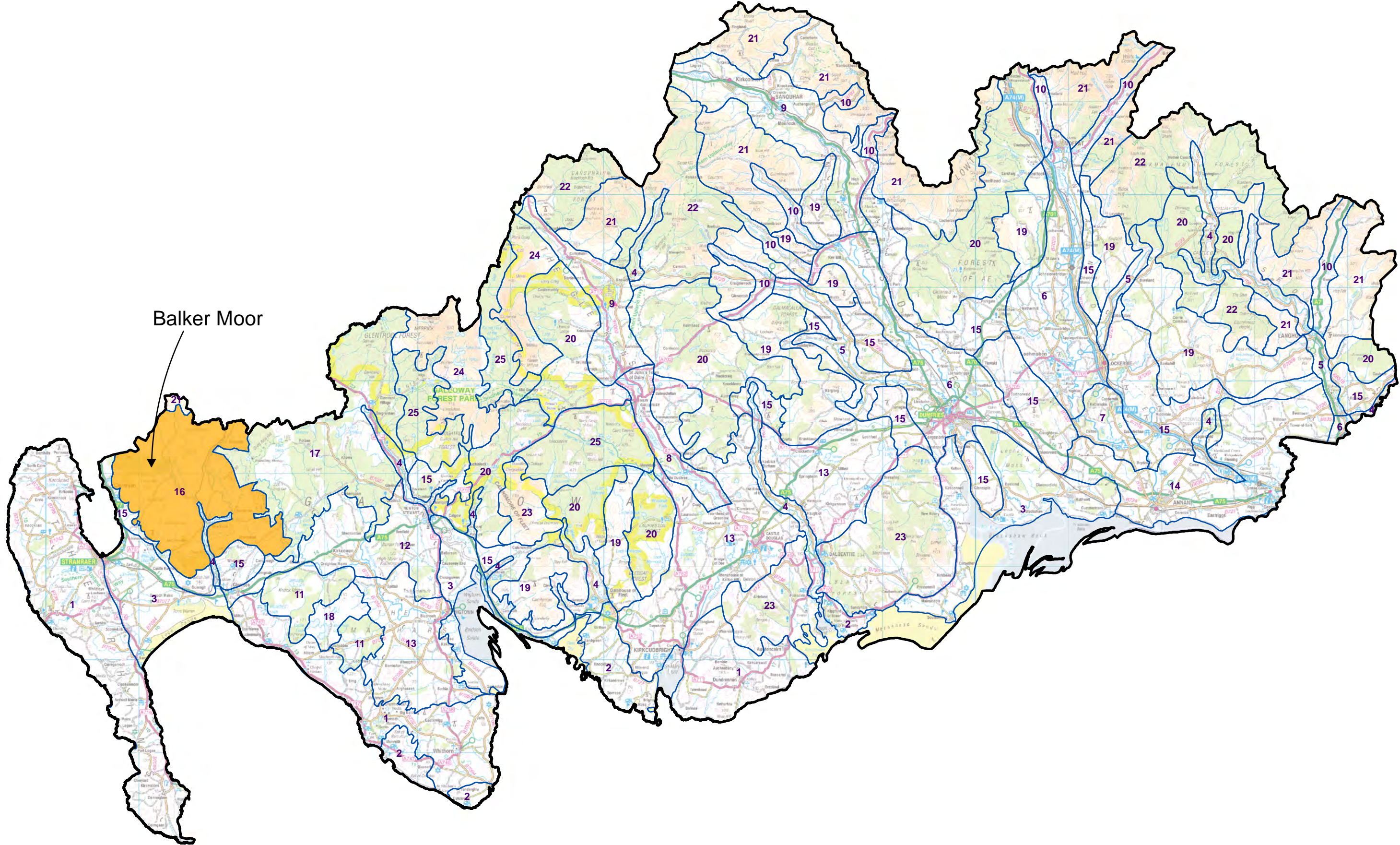
- The generally simple landform, expansive scale and absence of strong pattern within this landscape which could relate to larger wind turbines.
- The sparsely settled nature of this landscape and the relatively limited visibility of the 'core' of this extensive plateau which is distant from surrounding more settled landscapes and also contained by higher ground to the north.
- The more modified landscape around Penwhirn Reservoir where forestry and infrastructure strongly influence character.
- An absence of formal landscape designations within this Assessment Unit.

15.3 Sensitivity and guidance

There would be a **High** sensitivity to wind turbines >150m high and a **High-medium** sensitivity to wind turbines 80-150m high.

Operational wind farms sited in this Assessment Unit and the adjacent *Plateau Moorland with Forest* AU (17) are largely set well back into the core of these sparsely settled upland plateaux and this reduces widespread landscape and visual effects. Any further development in the *Plateau Moorland* should minimise impact on the more settled small valleys of the lower Water of Luce/Cross Water of Luce and avoid significant intrusion on the pronounced upland edge hills which lie to the east of Loch Ryan and provide an important backdrop to the highly sensitive Castle Kennedy designed landscape and to Loch Ryan and the Stranraer basin.

Larger wind turbines are likely to be more successfully accommodated in this landscape where they are located in the less sensitive core of this plateau. Additional developments should avoid impacting on the remaining areas of open moorland lying in the southern Balker Moor area where a strong sense of seclusion can be experienced and where they could affect the integrity and setting of the extensive and multi-layered archaeological features which are a key characteristic of this landscape. Turbines should be sited well away from the sensitive 'edges' of the *Plateau Moorland* where they abut small, settled valleys and the designed landscape of Castle Kennedy. The walking experience of the SUW should also be conserved by avoiding siting wind turbines close to the route. Cumulative effects will need to be carefully considered given the extent and variety of operational and consented wind farms present both within this landscape and sited in nearby landscapes and in South Ayrshire. Monitoring would need to be carried out on a case-by-case basis to consider potential cumulative effects.



Balker Moor

AU 16: Plateau Moorland – Detailed sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)
<p>Scale This landscape has a generally large scale due to its gently undulating landform, simple land cover and open character. Scale is reduced around the fringes of the moorland where topography becomes more broken and narrow valleys cut into the plateau. Operational and consented wind farm development is sited in the northern and south-eastern parts of this landscape, reducing the extent of open ground.</p>	<p>This typology (and particularly turbines >200m high) would appear very large in relation to the remaining areas of open moorland lying in the simpler core of this landscape and would overwhelm smaller scale valleys and more settled fringes. They could also dominate the scale of the more pronounced hills of the <i>Southern Uplands</i> (21) lying on the NW boundary of this AU. Susceptibility rating: High-medium</p>	<p>This typology could relate to the expansiveness of the remaining undeveloped core of the plateau although it would overwhelm smaller scale valleys and the more settled fringes of this landscape. Susceptibility rating: Medium</p>
<p>Landform A simple, gently undulating upland plateau with the domed shaped Cairnerzean Fell rising to 229m in the south. This upland plateau presents a distinct upland 'edge' to the south-west above Loch Ryan and frames the valley of the Water of Luce. Landform becomes more rolling and complex close to valleys and particularly east of the Water of Luce. Higher rounded hills to the NW contain the broad bowl landform of the upper Main Water of Luce valley and the Penwhirn Reservoir.</p>	<p>This typology could relate to the simple gently undulating plateau landform and broader basins of this AU although it would detract from the more pronounced hills which lie to the NW and more rolling landform on the outer edges of the plateau and against valleys. Susceptibility rating: Medium</p>	<p>This typology could relate to the simple gently undulating plateau landform and broader basins of this AU. Pronounced hills and more rolling landform on the outer edges of the plateau and close to valleys have an increased sensitivity to development. Susceptibility rating: Medium-low</p>
<p>Landcover This landscape has a simple land cover of grass/heather moorland. Small fields and woodland fringe the outer edges of moorland forming a transition with adjacent lower ground and valleys. Coniferous forestry covers gentle hill slopes above Penwhirn Reservoir. Minor single track roads and the Stranraer to Girvan railway cross this area.</p>	<p>Turbines could fit with the simple land cover and general absence of pattern within the upland interior of this AU. This typology could dominate small fields and scattered woodland found on the outer edges of this landscape and within more settled valleys. Susceptibility rating: Medium</p>	<p>Turbines could fit with the simple land cover and general absence of pattern within the upland interior of this AU. This typology could dominate small fields and scattered woodland found on the outer edges of this landscape and within more settled valleys. Susceptibility rating: Medium</p>
<p>Built environment A sparsely settled landscape with isolated farms located within the Main and Cross Water of Luce valleys. Archaeological features including abandoned farms are conspicuous in this open landscape but there are also extensive areas of less obvious multi-layered historic</p>	<p>While there is scope for very large turbines to be sited within sparsely populated areas to avoid overly dominating settled valleys, there are extensive areas of dense and multi-layered archaeological features which could be disturbed and fragmented by turbines and associated infrastructure. In addition,</p>	<p>While there is scope for large turbines to be sited within sparsely populated areas to avoid overly dominating settled valleys, there are extensive areas of dense and multi-layered archaeological features which could be disturbed and fragmented by turbines and associated infrastructure. In addition,</p>

<p>landuse from prehistoric to 19th century farming enclosures which create a rich archaeological resource. The Penwhim Reservoir and associated large buildings of the water treatment works are obvious man-made features seen from the public road. Operational and consented wind farms strongly influence parts of this AU.</p>	<p>the setting of archaeological features could be affected by larger typologies particularly in the southern and eastern parts of this AU. Cumulative effects could occur where very large turbines were seen close-by much smaller wind turbines within operational and consented wind farms. Susceptibility rating: High</p>	<p>the setting of archaeological features could be affected by larger typologies particularly in the southern and eastern parts of this AU. This typology would be likely to be more compatible with operational wind turbines if forming extensions or sited nearby. Susceptibility rating: High</p>
<p>Landscape context This area is fairly extensive and relatively low-lying. While it does not make a strong contribution to the wider landscape composition the undeveloped moorlands provide an upland 'edge' to the Water of Luce valley (AU4) and a backdrop to Loch Ryan and the designed landscape of Castle Kennedy. There is a strong visual relationship with the adjacent <i>Plateau Moorland with Forest</i> AU.</p>	<p>Very Large typologies could impact on the settled Water of Luce valley. Larger wind turbines within this typology sited on remaining undeveloped moorland which lies in the southern part of this AU would be likely to intrude on adjacent <i>Upland Fringes</i> and valued landscapes such as Castle Kennedy GDL. Susceptibility rating: High</p>	<p>Large typologies could also impact on the settled Water of Luce valley and affect the backdrop provided to settled lowland areas, including Castle Kennedy, although there may be some scope to site smaller wind turbines away from the edges and higher points of the plateau to minimise intrusion. Susceptibility rating: Medium</p>
<p>Perceptual qualities A sense of remoteness and naturalness can be experienced in areas of open moorland although the presence of reservoir infrastructure, wind farms and forestry reduce these perceptual qualities in other areas. Visible upstanding archaeological features can add to the impression of parts of this landscape having a timeless quality.</p>	<p>Turbines sited within remaining areas of open moorland which are less influenced by wind farm development would significantly affect the sense of seclusion and historical time depth that can be experienced. This typology, and particularly turbines >200m, replacing smaller turbines in existing wind farms could also adversely affect perceptual qualities associated with less developed moorlands. Susceptibility rating: High</p>	<p>Turbines sited within remaining areas of open moorland which are less influenced by wind farm development would also significantly affect the sense of seclusion and historical time depth that can be experienced. Susceptibility rating: High-medium</p>
<p>Views and visibility Views to this AU are generally distant from main roads and settlement with close views limited to those from minor roads and footpaths. The interior of the plateau is not generally visible from surrounding settled lowland areas but rather forms an 'edge' of steeper slopes which provide a backdrop to views from the south and west. A rim of higher ground on the NW boundary of this AU restricts visibility in adjacent more sensitive valleys and coasts in South Ayrshire. This landscape forms a low edge either side of the small-scale Water of</p>	<p>The sparsely settled nature of this landscape reduces sensitivity although very large turbines located on remaining areas of open ground (which are not already occupied by operational and consented wind farms) could be more visible. Particular sensitivities include skylines above the Stranraer Basin and Castle Kennedy designed landscape and either side of the Water of Luce valley, skylines above Glen App and a breaching of the present containment offered by higher ground to the north. Susceptibility rating: High-medium</p>	<p>The sparsely settled nature of this landscape reduces sensitivity although large turbines could affect the visual containment provided by the rim of higher ground on the NW boundary of this character type. Particular sensitivities include skylines above the Stranraer Basin and Castle Kennedy designed landscape, skylines above Glen App and either side of the Water of Luce valley. Susceptibility rating: Medium</p>

<p>Luce valley. There are distant but dramatic views of the Galloway Hills from the open moorland, hill tops and minor roads within this AU. Operational wind farm development is a key component of views from within this AU.</p>		
<p>Landscape value Although no landscape designations apply to this AU, the more extensive tracts of open moorland particularly found in the southern part of this landscape represent a rare feature of Dumfries and Galloway’s landscapes due to the extent and influence of wind farm development and forestry. These moorlands are largely covered by an extensive SSSI designation. A large ASA is also present in this landscape and there are a very high number of outstanding significant archaeological sites across Balker Moor, some of which are promoted for public benefit. There are some recreational routes including the SUW.</p>	<p>This typology is more likely to comprise multiple turbines as part of a wind farm and it would therefore diminish the remaining open moorland particularly characteristic in the south-western part of this landscape. Value rating: High-medium</p>	<p>This typology is more likely to comprise multiple turbines as part of a wind farm and it would therefore diminish the remaining open moorland particularly characteristic in the south-western part of this landscape. Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

16 ASSESSMENT UNIT 17: PLATEAU MOORLAND WITH FOREST

16.1 Introduction

This Assessment Unit occurs in the more extensively forested eastern part of the Wigtownshire Moorlands. This landscape already accommodates extensive operational wind farm development.

16.1.1 *Cultural heritage overview*

This landscape is characterised as forestry with considerable areas of relict land-uses occurring in areas that are not forested. The HLA records evidence for extensive pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes as well as a few area of pre-medieval features, particularly west of Cree. These relict land-use areas with their numerous individual sites from historic and prehistoric times add distinctiveness to this landscape and are a key characteristic. At a site-specific level, there are a number of archaeological sites of outstanding significance with some being promoted for public benefit.

16.1.2 *Operational/consented wind farms*

The operational Aries and Kilgallioch wind farms are largely sited in this landscape. The operational Artfield Fell, Balmurrie Fell and Glenchamber wind farms are located within the adjacent *Plateau Moorland* (16) Assessment Unit. The operational Arecleoch wind and the consented Chirmorie wind farms are located in South Ayrshire but adjacent to the Kilgallioch wind farm and in a similar plateau moorland landscape. The operational Carsecreugh wind farm straddles the *Plateau Moorland* (16) and *Upland Fringe* (15) Assessment Units which lie close to this landscape. The operational Barlockhart wind farm lies to the south of the *Plateau Moorland* Assessment Unit.

16.2 Description

The *Plateau Moorland with Forest* (17) comprises an extensive gently undulating plateau of relatively low elevation. The landform and landcover is generally simple in character. Uniform coniferous forestry forms the predominant landcover although this is interspersed with areas of open moorland and farmland focused on narrow valleys and the outer fringes of the plateau where dispersed settlement is present. There are also some small but pronounced hills and loch basins, where pockets of settled farmland are focussed, and pre-improvement and prehistoric sites. These features are important in contributing diversity to this landscape. Extensive wind farm development is a key characteristic of this landscape. These comprise a variety of turbine sizes, turbine spacings and layouts and differences in their association with landform features (whether sited in shallow basins, extensive plateaux or on small hills).

16.2.1 *Cumulative issues*

Operational and consented wind farms sited in the *Plateau with Forest* (17) and within the adjacent *Plateau Moorland* (16) and *Upland Fringe – Camrie* (15), and similar landscapes within neighbouring South Ayrshire, are a defining characteristic of the Wigtownshire Moorlands. Significant cumulative effects occur in some places because of the different turbine sizes, siting rationale and spacing pattern between developments.

Key cumulative effects that are likely to arise within the *Plateau with Forest* (17) include:

- Further variation in the size and layout of wind turbines proposed within this and nearby Assessment Units which could exacerbate the visual confusion and clutter already associated with the operational wind farms noted above.
- Sequential visual impacts experienced when travelling on minor roads and footpaths, including the SUW, where the incidence and extent of wind farm development could dominate views and overwhelm the viewer.
- Landscape and visual effects on small pockets of settled farmland and lochs, which are a rare and important diverse feature within this landscape, if wind farms substantially extend on surrounding skylines or give a perception of encirclement.
- Wider cumulative effects on the *Galloway Hills* RSA and on the perception of wildness associated with these uplands where further development could fill gaps creating a sense of near encirclement and domination in combination with other operational and consented wind farms in South Ayrshire. Much larger and closer turbines would significantly exacerbate cumulative effects.

16.2.2 Key constraints

- Areas of open moorland and pockets of settled farmland, small but pronounced hills and loch basins, for example Glenvernoch Fell and the small-scale and diverse area of lochs (Lochs Ochiltree, Maberry and Dornal and others lying in a similar area within South Ayrshire) which increase diversity within this landscape.
- The outer fringes of this landscape, close to areas of settled farmland, where larger turbines would dominate small scale valleys including the notably diverse upper Cree valley (Assessment Unit 4).
- The rich archaeology found within areas of open moorland.
- The *Galloway Hills* RSA lying to the east of this Assessment Unit where wind turbines could diminish the sense of naturalness and seclusion experienced and affect the setting of the western Galloway Hills.
- Views from the Merrick and other western Galloway Hills, from key viewpoints within Glen Trool such as the Bruce's Stone and from the SUW, A75 and A714 and also views to the Galloway Hills from vantage points such as Glenvernoch Fell and from the B7027.
- Cumulative effects with operational and consented wind farms particularly where turbine size, pattern and siting is noticeably different.

16.2.3 Opportunities

- The generally simple landform, expansive scale and uniform land cover of coniferous forestry which could relate to larger wind turbines.
- The presence of extensive operational and consented wind farm development sited in the less sensitive core of this landscape which reduces sensitivity to extensions or close-by developments with a similar siting rationale.
- The sparsely settled nature of this landscape and the relatively limited visibility of the core of the plateau which is distant from public roads and settlement and the screening provided by forestry.
- An absence of landscape designations.

16.3 Sensitivity and guidance

There would be a **High** sensitivity to wind turbines >150m high and a **High-medium** sensitivity to wind turbines 80-150m high.

Operational wind farms already occupy less sensitive core areas of the *Plateau Moorland with Forest* Assessment Unit where wind turbines towards 200m and over could potentially have been located to minimise effects on smaller scale features such as settled valleys, small hills and lochs and on the Galloway Hills RSA and important associated recreational areas centred on the Merrick. Repowering of operational wind farms is unlikely in this area given the relatively recent construction of developments.

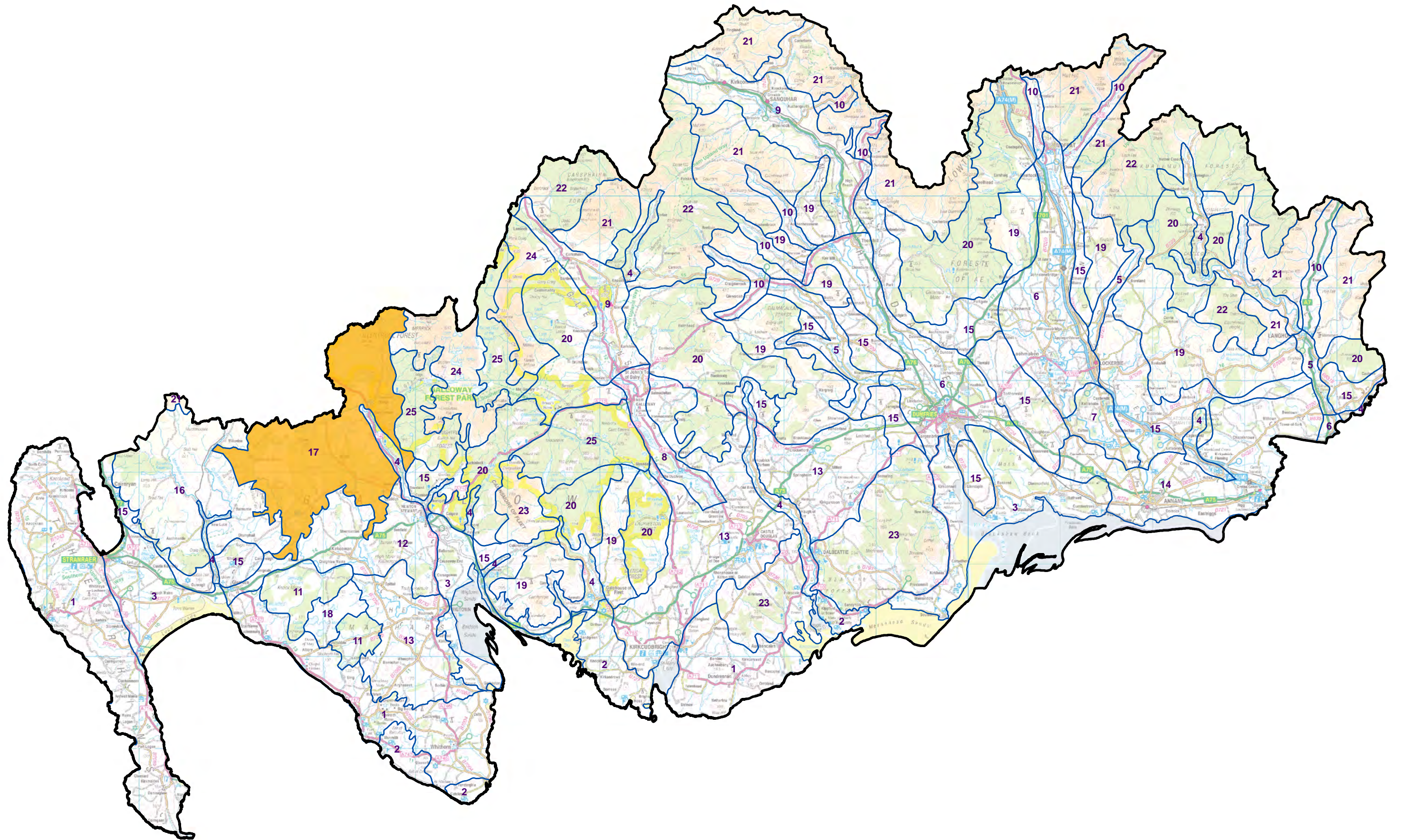
Additional wind turbines substantially over 150m high sited in the less sensitive core areas of this landscape could exacerbate the visual confusion already evident between different wind farm developments sited in, and close to, the south-western part of this Assessment Unit. Turbines closer to 150m high would be more able to be successfully accommodated if set well back into the core of this plateau landscape so they are some distance from roads and settlement and from other wind farms which feature smaller turbines. Wind turbines 80-150m high would be more compatible in size with the majority of operational wind turbines.

All development typologies should avoid impacting on the setting and views to small lochs, on areas of more complex landform, including small but pronounced hills such as Glenvernoch Fell, and on archaeological features as these enrich this landscape and often provide a focus in views. Intrusion on key views to the Galloway Hills, for example from the A714 and the Cree valley, should be avoided. Sensitivity is increased in the eastern parts of this Assessment Unit due to their proximity to the Galloway Hills RSA and the Merrick and Glentool area which is important for recreation. Larger wind turbines would be likely to have an increased impact on these adjacent landscapes and could also extend the duration of effects on the sense of wildness associated with the Galloway Hills (and the associated Dark Sky Park) if permanent aviation lighting was a feature of the development.

Potential cumulative landscape and visual effects with other operational and consented wind farms in Dumfries and Galloway and South Ayrshire would need to be carefully considered on a case-by-case basis.

There is potential for wind farm development to accelerate positive change to existing forestry and proposals for wind farm development should aim to improve the composition, age structure and design of existing forestry in accordance with best practice guidance set out in the UK Forestry Standards and to accord with NPF4's policies on enhancing biodiversity.

Assessment Unit Key Map - 17. Plateau Moorland and Forest



AU 17: Plateau Moorland with Forest – Detailed assessment of larger wind turbines		
Topics and description	Assessment: Very Large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale This landscape has an expansive scale due to its simple low-lying plateau landform although extensive coniferous forest cover can reduce the scale experienced. There are few remaining areas of open moorland within this AU. Operational/consented wind farms occupy a large part of this landscape. Small hills are an occasional feature and lochs and farmland occur in pockets and on the outer fringes of this landscape and these have a reduced scale.</p>	<p>Very large wind turbines would dominate the smaller scale settled outer fringes of this plateau and the small hills and lochs which are an occasional feature in this landscape. This typology would have a better scale relationship with the remaining undeveloped moorland and forest within the core of this plateau but it would dominate the smaller scale hills, valleys, farmland and lochs found on the fringes of this AU. Susceptibility rating: High-medium</p>	<p>Very large wind turbines would dominate the smaller scale settled outer fringes of this plateau and the small hills and lochs which are an occasional feature in this landscape. This typology would have a better scale relationship with the remaining undeveloped moorland and forest within the core of this plateau but it would dominate the smaller scale hills, valleys, farmland and lochs found on the fringes of this AU. Susceptibility rating: High-medium</p>
<p>Landform A simple, gently undulating low-lying plateau where occasional open craggy topped small knolls are distinctive features within generally subtle and sweeping topography. Larger hills rise to around 300m. The extensive forest cover of this area tends to 'flatten' and mask underlying topography. The shapely open Glenvernoch Fell and Hill of Ochiltree are more prominent despite their relatively low relief.</p>	<p>Turbines sited on or close to occasional distinctive craggy knolls and small hills would overwhelm their size and detract from their more intricate form. Turbines could however relate to the gentle hill slopes and low-lying basins of the plateau. Susceptibility rating: Medium-low</p>	<p>Turbines sited on or close to occasional distinctive craggy knolls, and small hills would dominate their size and detract from their more intricate form. Turbines could however relate to the gentle hill slopes and low-lying basins of the plateau. Susceptibility rating: Medium-low</p>
<p>Landcover This landscape has a simple pattern being dominated by dense and fairly uniform coniferous forest. Areas of open moorland, small pockets of farmland and occasional lochs, for example the string of lochs focussed on Loch Ranald and Loch Ochiltree, are important in providing diversity and contrast within this AU.</p>	<p>While larger turbines could fit with the simple pattern of forestry, these areas are largely already occupied by wind farm development. Open moorland and pockets of farmland which provide diversity to this landscape have an increased susceptibility. Turbines of this size sited close to lochs would overwhelm their scale and adversely affect the focus they provide. Susceptibility rating: High-medium</p>	<p>This typology would fit with the generally simple landcover pattern but would also diminish landscape diversity and contrast if sited on, or close to, rare areas of open moorland and farmland. Turbines sited close to lochs would dominate their scale and adversely affect the focus they provide. Susceptibility rating: High-medium</p>
<p>Built environment This area is sparsely settled with isolated farms, small groups of cottages and occasional estate houses set within adjacent valleys such as the Water of Luce and the Cree valley. A network of tracks is</p>	<p>These sparsely settled forested uplands are generally of reduced sensitivity although the setting of more settled areas lying on the outer edges of this landscape and of the many archaeological features in open moorland could be significantly</p>	<p>There is scope for large turbines to be sited to avoid contrasts of scale with settlement and to avoid impacts on archaeological features by being located within more extensively forested areas and set back from more populated areas within the</p>

<p>largely hidden by the forest and the B7027 and narrow minor roads cross the plateau. Archaeological and relict land-use features often have a strong presence within open moorland and fringe farmland. Extensive wind farm development is a feature of this landscape.</p>	<p>affected by turbines of this size. Cumulative effects could arise between these very large turbines and older smaller wind turbines. Susceptibility rating: Medium</p>	<p>interior of this plateau. Open areas of moorland and farmland which feature settlement and archaeology would be of higher susceptibility to this typology. Susceptibility rating: Medium</p>
<p>Landscape context This area is fairly extensive and relatively low-lying. While it does not make a strong contribution to the wider landscape composition it provides a simple foreground to the distant Galloway Hills and an upland backdrop to the Water of Luce and Cree Valleys which are classified as the <i>Narrow Valleys</i> (AU4). Operational and consented wind farms occupy much of the core of this AU and remaining undeveloped areas lie closer to adjacent more sensitive landscapes/features.</p>	<p>Turbines of this size would dominate the settled and small-scale Water of Luce Valley. Very large turbines sited in the eastern part of this area could adversely affect the small scale and diverse Cree valley, small hills and lochs within South Ayrshire and the setting and character of the dramatic Galloway Hills Susceptibility rating: High</p>	<p>Large wind farms sited in the eastern part of this area could adversely affect the small scale and diverse Cree valley and the scenic contrast between the flat plateau and the dramatic Galloway Hills. There may be some very limited scope to minimise impacts on adjacent AUs for these smaller wind turbines. Susceptibility rating: High-medium</p>
<p>Perceptual qualities Operational and under-constructed wind farms in this and adjacent AUs and extensive heavily managed non-native forestry precludes a sense of wildness. Remaining pockets of open moorland and lochs have a natural appearance however and archaeological features in these areas give a sense of historical time depth.</p>	<p>Turbines sited within and close to the more extensive areas of open and undeveloped moorland would affect the sense of naturalness particularly where these are more visually contained and less influenced by adjacent wind farm development. Productive forestry and areas with a concentration of existing wind farm development has a reduced susceptibility. Susceptibility rating: Medium</p>	<p>Turbines sited within and close to the more extensive areas of open and undeveloped moorland would affect the sense of naturalness particularly where these are more visually contained and less influenced by adjacent wind farm development. Productive forestry and areas with a concentration of existing wind farm development has a reduced susceptibility. Susceptibility rating: Medium</p>
<p>Views and visibility Views to this sparsely settled AU are generally distant with close views from the key routes of the A714 and A75 and from settlements restricted by forestry and landform. There are dramatic views of the Galloway Hills from the open moorland and hill tops of this AU and from the SUW. Lochs form a visual focus from roads such as the B7027 and from footpaths (SUW). Operational and under-construction wind farms are visible from the SUW and from minor roads within and close-by the AU.</p>	<p>The sparsely settled nature of this AU, the presence of large wind farm developments and the screening provided by extensive forestry reduces visual sensitivity. Turbines of this size could increase the extent of development visible on key skylines on the Water of Luce and Duisk Valleys and seen from key roads. Views to and from the Galloway Hills, from minor roads and from the SUW could also be affected and the focus provided by small lochs, which provide visual interest within the predominant forest cover of this AU, could also be diminished. This typology, and particularly wind</p>	<p>The sparsely settled nature of this AU reduces sensitivity to large scale turbines. Wind farms are already a key component of views and this reduces sensitivity. Additional turbines of this size could increase the extent of turbines visible on key skylines on the Water of Luce and Duisk Valleys and seen from key roads. Views to and from the Galloway Hills, from minor roads and from the SUW could also be affected and the focus provided by small lochs, which provide visual interest within the predominant forest cover of this AU, could also be diminished. Although this typology would have</p>

	<p>turbines 200m+ high would be likely to significantly increase visual impact from the Galloway Hills assuming these would be sited on the remaining undeveloped forest in the east of this AU.</p> <p>Susceptibility rating: High</p>	<p>less of an impact than the Very Large typology, views from the Galloway Hills would still be likely to be significantly affected due to the closer proximity of remaining undeveloped areas within this AU.</p> <p>Susceptibility rating: High-medium</p>
<p>Landscape value</p> <p>No landscape designations apply to this AU although the Galloway Hills RSA extends to include the Cree Valley and Water of Minnoch on the eastern boundary which are described as ...<i>forming the flanks of, and setting to, the Merrick Rugged Granite Uplands</i>”.</p> <p>The Merrick Wild Land Area lies to the east of this AU.</p> <p>This landscape is not generally well-used for recreation although the SUW is aligned through part of it and well used recreational facilities are present in Glentroll Forest.</p>	<p>Development located on remaining undeveloped ground lies closer to the RSA and could affect the <i>sweeping and dramatic views of the hills</i> and the setting provided by forested hill slopes to the <i>dramatic summits of the Galloway Hills</i>.</p> <p>Susceptibility rating: High-medium</p>	<p>Development located within and close to the RSA would affect the <i>sweeping and dramatic views of the hills</i> and the setting provided by forested hill slopes to the <i>dramatic summits of the Galloway Hills</i>.</p> <p>Susceptibility rating: Medium</p>
Sensitivity	High	High-medium

17 ASSESSMENT UNIT 18: PLATEAU MOORLAND WITH LOCHS

17.1 Introduction

This Assessment Unit occurs in only one location centred around Mochrum and Castle Lochs in the north-western part of the Machars peninsula.

17.1.1 *Cultural heritage overview*

This landscape is characterised as moorland/rough grazing and forestry with areas of relict pre-improvement (pre-19thc) land-use with the focus of the medieval Old Place of Mochrum and its later designed landscape. There are a few outstandingly significant and distinctive archaeological sites in the area.

17.1.2 *Operational/consented wind farm development*

There are no operational or consented wind farms located in this landscape. A number of operational and consented wind farms are located in the *Plateau Moorland with Forest* (17) Assessment Unit within 10km to the north-west. The low-lying nature of this landscape together with its containment by forestry and woodland limits visibility of these wind farms.

17.2 Description

This landscape comprise a gently undulating basin, edged by a rim of slightly higher ground in places, containing an intricate and diverse mosaic of lochs, trees and scrub, wetland, grassland and moorland but also featuring a notable designed landscape with associated policy woodlands and scattered islands on Mochrum and Castle Lochs. A distinct sense of seclusion and naturalness is associated with this landscape due to its containment and the integrity of the pattern of land cover and lochs. Although this small area is sparsely settled and crossed only by narrow minor roads, visual sensitivity is increased by the perception of it being 'hidden' and the experience of surprise when encountering the landscape as a whole, as well as the revelation of the subtle sequence of lochs, and the Mochrum designed landscape.

17.2.1 *Cumulative issues*

Cumulative landscape and visual effects are likely to arise if multiple larger turbines were to be located in the adjacent *Moss and Forest Lowland* (11) and seen above woodland, adversely affecting the setting of this characteristically contained landscape.

17.2.2 *Key constraints*

- A rich, interlocking mosaic of wetlands, woodland, moorland, grassland and lochs which have a strongly natural character.
- Policy influenced woodlands and the designed landscape associated with Mochrum Loch, including the focal points of the wooded islands.
- The historic tower house of Old Place of Mochrum and other archaeological features.
- The strong perception of seclusion and timelessness which contributes to the distinct sense of place that can be experienced in this landscape.
- The Mochrum Lochs RSA which covers much of this Assessment Unit.

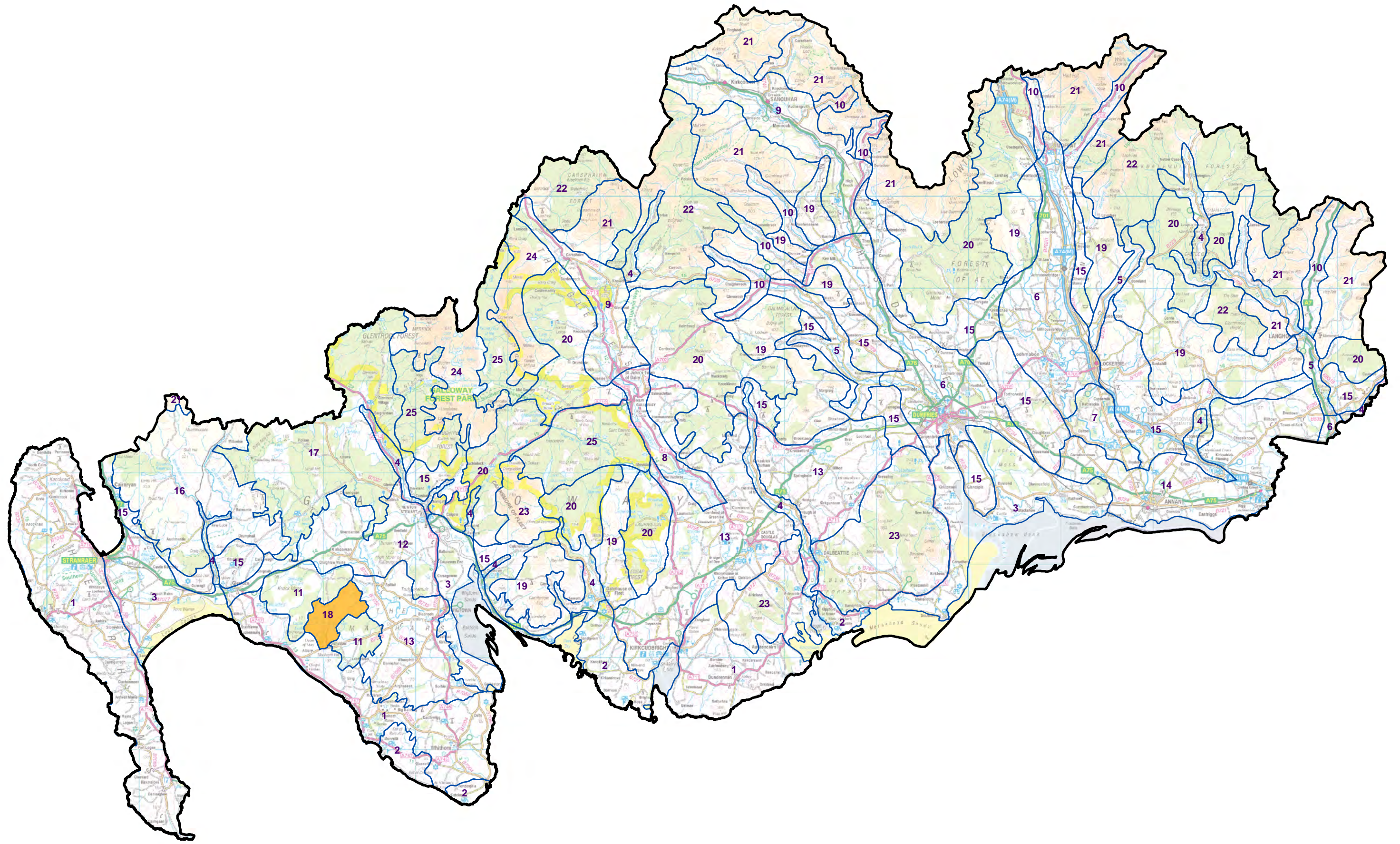
17.3 Sensitivity and guidance

The *Plateau Moorland with Lochs* Assessment Unit has a **High** sensitivity to wind turbines >80m.

Smaller wind turbines would be more easily accommodated in this sensitive landscape. The accompanying Sensitivity Assessment for Smaller Wind Turbines report provides guidance on siting and design of wind turbines <80m high.

This landscape would be highly sensitive to larger wind turbines sited in nearby Assessment Units where developments may be visible above containing woodland. Care should be taken in the location and design of any proposals in adjoining Assessment Units to ensure that views within the *Plateau Moorland with Lochs* are not significantly and adversely affected. This may include long term retention of coniferous plantations to retain screening.

Assessment Unit Key Map - 18. Plateau Moorland with Lochs



AU 18: Plateau Moorland with Lochs – Detailed sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale Although this landscape comprises an open moorland loch basin its small geographic extent and strong containment by surrounding forest and woodlands limits scale to small-medium, which is reinforced by the subtle, undulating topography, small scale rock outcrops and the fragmentation of land cover introduced by the scattered lochs. Scale is further reduced at the head of Mochrum Loch by policy woodlands.</p>	<p>This typology would dominate the small extent of this landscape, the subtle small-scale topography and intricate pattern of lochs, rock outcrops and semi natural woodland scrub as well as the small size of key features, such as the lochs. Susceptibility rating: High</p>	<p>This typology would dominate the small extent of this landscape, the subtle small-scale topography and intricate pattern of lochs, rock outcrops and semi natural woodland scrub as well as the small size of key features, such as the lochs. Susceptibility rating: High</p>
<p>Landform A simple, gently undulating low-lying plateau patterned by knolly, often rocky, outcrops and contained within a rim of slightly higher ground. A series of lochs sit within a broad basin and have a distinctly irregular form patterned by small islands.</p>	<p>While this typology could relate to the overall simple landform, it would detract from the detail of the subtle knolly outcrops and their interlock with the lochs and wetland. Susceptibility rating: High-medium</p>	<p>While this typology could relate to the overall simple landform, it would detract from the detail of the subtle knolly outcrops and their interlock with the lochs and wetland. Susceptibility rating: High-medium</p>
<p>Landcover The heather moorland and mixed upland grassland, punctuated by rocky outcrops, clumps of shrubby trees and scrub and wetland forms a rich mosaic of interlocking vegetation, an intricate pattern further emphasised by the irregularly shaped lochs, which are a key landmark feature. Coniferous plantations border this landscape although more mixed policy-influenced woodlands edge Mochrum Loch. Small woodlands are associated with settlement and ornamental gardens surround Old Place of Mochrum at the head of Mochrum Loch.</p>	<p>The creation of the infrastructure and regularity of access roads and structures associated with this typology would fragment and severely impact the intricate pattern of interlocking vegetation types. Susceptibility rating: High</p>	<p>The creation of the infrastructure and regularity of access roads and structures associated with this typology would fragment and severely impact the intricate pattern of interlocking vegetation types. Susceptibility rating: High</p>
<p>Built environment This area is very sparsely settled with the tower house of Old Place of Mochrum and a few isolated farms and cottages the only habitation. Archaeological features from prehistoric and historic times pepper the moorland and loch edges including cairns, crannogs and a ruinous castle.</p>	<p>Although sparsely settled, the limited extent of this AU would result in this typology dominating small dwellings and the Old Place of Mochrum. It would also be likely to adversely affect the setting of archaeological features. Susceptibility rating: High</p>	<p>Although sparsely settled, the limited extent of this AU would result in this typology dominating small dwellings and the Old Place of Mochrum. It would also be likely to adversely affect the setting of archaeological features. Susceptibility rating: High</p>

<p>Landscape context This landscape is low-lying and strongly contained by woodland and therefore does not make a strong contribution to the wider landscape. It is small in extent however and thus lies in close proximity to the <i>Peninsula</i> (AU1), the <i>Moss and Forest Lowland</i> (AU11) and the Drumlin Pastures (AU13).</p>	<p>Turbines of this size would be visible in relative proximity from nearby AUs and would be likely to overwhelm the scale of more pronounced hills in the surrounding area, for example Knock Fell and Mochrum Hill, as well as the scale of adjacent dwellings. Susceptibility rating: High-medium</p>	<p>This typology would be visible in relative proximity from nearby AUs and could overwhelm the scale of more pronounced hills in the surrounding area, for example Knock Fell and Mochrum Hill, as well as the scale of adjacent dwellings. Susceptibility rating: Medium</p>
<p>Perceptual qualities The open moorland, widespread semi-natural vegetation including wetland, scrub and the lochs have a strong sense of naturalness. The strong containment by woodland and the richness of historic and archaeological features contribute to the impression of this being a timeless and 'hidden' landscape with a strong sense of place.</p>	<p>This typology would diminish the strong sense of naturalness and seclusion associated with this landscape by introducing large scale industrial elements into a seemingly unmodified landscape. Turbines would also disrupt the integrity of the strong and unified sense of place. Permanent aviation lighting would extend the duration of significant effects on perceptual qualities associated with this landscape. Susceptibility rating: High</p>	<p>This typology would diminish the strong sense of naturalness and seclusion associated with this landscape by introducing large scale industrial elements into a seemingly unmodified landscape. Turbines would also disrupt the integrity of the strong and unified sense of place. Susceptibility rating: High</p>
<p>Views and visibility This AU is sparsely settled. A narrow minor road, which is also a promoted cycle route, crosses this landscape. The openness of the moorland and loch basins allows long views from this road although views are contained by forestry on the boundary with AU11 and around Mochrum Loch. Visual amenity is enhanced by the sudden revelation of this landscape on arrival through the surrounding woodland, by encountering the sequence of lochs and by the equally sudden revelation of Mochrum Loch, which is surrounded by policy woodland. The visual composition of Mochrum Loch is additionally enhanced by the scattered, wooded islands. Views into this landscape are restricted by a combination of its low-lying nature and containment by coniferous forestry within the adjoining <i>Moss and Forest Lowland</i> AU11. Parts of this landscape are visible from the nearby B7005, Mochrum Fell and the more distant Knock Fell.</p>	<p>This typology would detract from the revealed sequence of lochs, their visual setting and the overall visual composition as well as from key visual foci, such as the lochs themselves and their islands. Turbines of this size would be likely to dominate views from nearby hill summits and the B7005. They would also be likely to be intrusive from more settled parts of the Machars and visible from parts of The Rhins. Susceptibility rating: High</p>	<p>This typology would detract from the revealed sequence of lochs, their visual setting and the overall visual composition as well as from key visual foci, such as the lochs themselves and their islands. Turbines would be visible in close proximity from nearby hill summits and the B7005 and the taller height band in particular would be likely to dominate views. Although the sparse settlement of this AU and screening by forestry could limit intrusion turbines this size would be highly visible from more settled parts of the Machars and from parts of The Rhins. Susceptibility rating: High</p>

<p>Landscape value This landscape is substantially covered by the <i>Mochrum Lochs</i> RSA. This landscape is described as having an open exposed wild feel with a distinctive character unique in Dumfries and Galloway. The few signs of human activity and the atmospheric and scenic policy landscape of Old Place of Mochrum are particularly noted. There are many listings associated with the Old Place of Mochrum estate.</p>	<p>This typology would impact on the open, exposed and wild feel of this landscape. It would introduce obvious human activity and affect the setting and potentially the visual and scenic composition of the policy landscape of the Old Place of Mochrum. Value rating: High-medium</p>	<p>This typology would impact on the open, exposed and wild feel of this landscape. It would introduce obvious human activity and affect the setting and potentially the visual and scenic composition of the policy landscape of the Old Place of Mochrum. Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

18 ASSESSMENT UNIT 19: FOOTHILLS

18.1 Introduction

The Foothills have a very diverse character with individual landscape units varying from those with a complex landform and intimate scale to areas with a simpler topography and land cover pattern and often larger scale. There are eight individual landscape areas identified within this Assessment Unit as follows:

- *Annandale*
- *Beattock*
- *Cairnharrow*
- *Dalmacallan*
- *Fleet*
- *Keir*
- *Tynron*
- *Nithsdale*

These landscape areas are individually assessed in this study with the exception of Keir and Tynron areas which are assessed together.

18.1.1 *Cultural heritage overview*

A landscape characterised as moorland/rough grazing in the west, a land-use that is repeated in the east along with some post-improvement fields and farming and patches of forestry/woodland. Both west and east are characterised by extensive relict pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes as well as numerous areas of pre-medieval features. However, the areas of *Dalmacallan*, *Keir* and *Nithsdale* lie in areas still to be assessed for their HLA values. The *Cairnharrow*, *Fleet* and *Beattock* landscape areas have Archaeologically Sensitive Areas of which *Fleet* is particularly large. In addition, there are numerous archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit.

18.2 Annandale Foothills

18.2.1 *Description*

The *Annandale Foothills* form a long band of low rolling hills on the east side of Annandale. These foothills are broader in extent in the south but taper to form a narrow fringe in the north, backed by the higher *Southern Uplands with Forest* (22) to the south of Moffat. These foothills have a diverse character with broader hill tops interspersed with more complex knolly landform and cut by narrow winding valleys. The western and southern edges of these foothills are particularly visible from the surrounding well-settled lowlands of Annandale. Walled pastures cover rolling hill slopes while rough grazing and moorland occur on broader hill tops. Conifer woodlands and shelterbelts are a consistent feature with broadleaved woodlands found around more settled valleys. These foothills are relatively well-settled and they are also rich in archaeology. Wind farm development strongly influences the character of the southern part of these foothills.

18.2.2 *Operational/consented wind farms and cumulative issues*

The operational Minsca and Solwaybank wind farms, located in the southern part of the *Annandale Foothills*, lie close to the outer edge of these foothills and are prominent from the well-settled *Upland Fringes* (15), the broad lower dale of Annandale and the *Coastal/Flow Plateau* (14). The Ewe Hill wind farm is partially located in the eastern part of this Assessment Unit and extends into the adjacent *West Langholm* area which lies in the *Southern Uplands with Forest* (22) Assessment Unit. This development is less visually prominent than the Minsca and Solwaybank wind farms as it is set back further into the interior of the *Foothills* at the transition with the higher and more expansively scaled *Southern Uplands with Forest* (22). The operational Crossdykes wind farm lies adjacent to the Ewe Hill wind farm and comprises turbines of 176m high seen adjacent to the 111m high Ewe Hill turbines. While contrasts of scale between turbines within these two developments are obvious in close views from the Corrie Common area, the less prominent location of these two wind farms reduces the extent of these effects.

The consented Hopsrig and Loganhead wind farms will lie between the Ewe Hill and Carlesgill wind farms, principally affecting views from the *Narrow Valley* (4) of the *Ewe Water*.

Operational wind farm development is already a key characteristic of the broader southern part of the *Annandale Foothills*. Key cumulative effects that could occur if additional development were located in this Assessment Unit include:

- Increased intrusion associated with any potential expansion of large wind turbines seen on the outer edges of the *Annandale Foothills* where they abut more settled lowland landscapes to the west and south.
- The siting of wind farms on every broad open hill in this landscape would result in the spacing between operational wind farms being reduced, thus exacerbating cumulative effects from settlement, roads and paths in the local area. The diversity and rural qualities of this landscape could also be diminished if all or the majority of open hill tops were developed.
- Simultaneous visibility between the significantly larger operational Harestanes and Clyde wind farms with wind farms located in the southern part of the *Annandale* unit of the *Foothills* (19) is currently limited (due to intermediate screening and distance) although multiple wind farm developments in this landscape could result in more sustained sequential cumulative landscape and visual effects experienced from major transport routes including the M74.
- Wind farm development located in the northern part of the Annandale Foothills could create a more dominant 'corridor' of large wind turbines either side of the narrowing dale of Annandale.

18.2.3 *Key constraints*

- The more complex landform of small, steep-sloped, knolly hills that are occasionally present and which would be sensitive to all scales of wind energy development.
- The narrow, settled valleys which weave their way through these foothills.
- The narrow extent, and generally more intricate landform and landcover, of the northern part of these foothills which reduces scale and increases sensitivity in relation to effects on the adjacent *Lower/Middle Dale* (6) of *Mid-Annandale*.

- A rich archaeology with numerous hill forts, cairns and early settlements sited on hill tops and upper slopes.
- The backdrop provided by these foothills to well-settled *Upland Fringes* (15), lowland areas such as the *Coastal/Flow Plateau* (14) and *Lower/Middle Dale - Annandale* (6) and to the *Pastoral Valley* (5) of the Dryfe and Eskdale.
- Potential cumulative effects with the operational Minsca, Ewe, Solwaybank and Crossdykes wind farms which are located in close proximity to each other in the broader southern part of this landscape and are seen sequentially and in combination from settled valleys and roads in the foothills immediately east of Lockerbie and in the wider Annandale area.

18.2.4 Opportunities

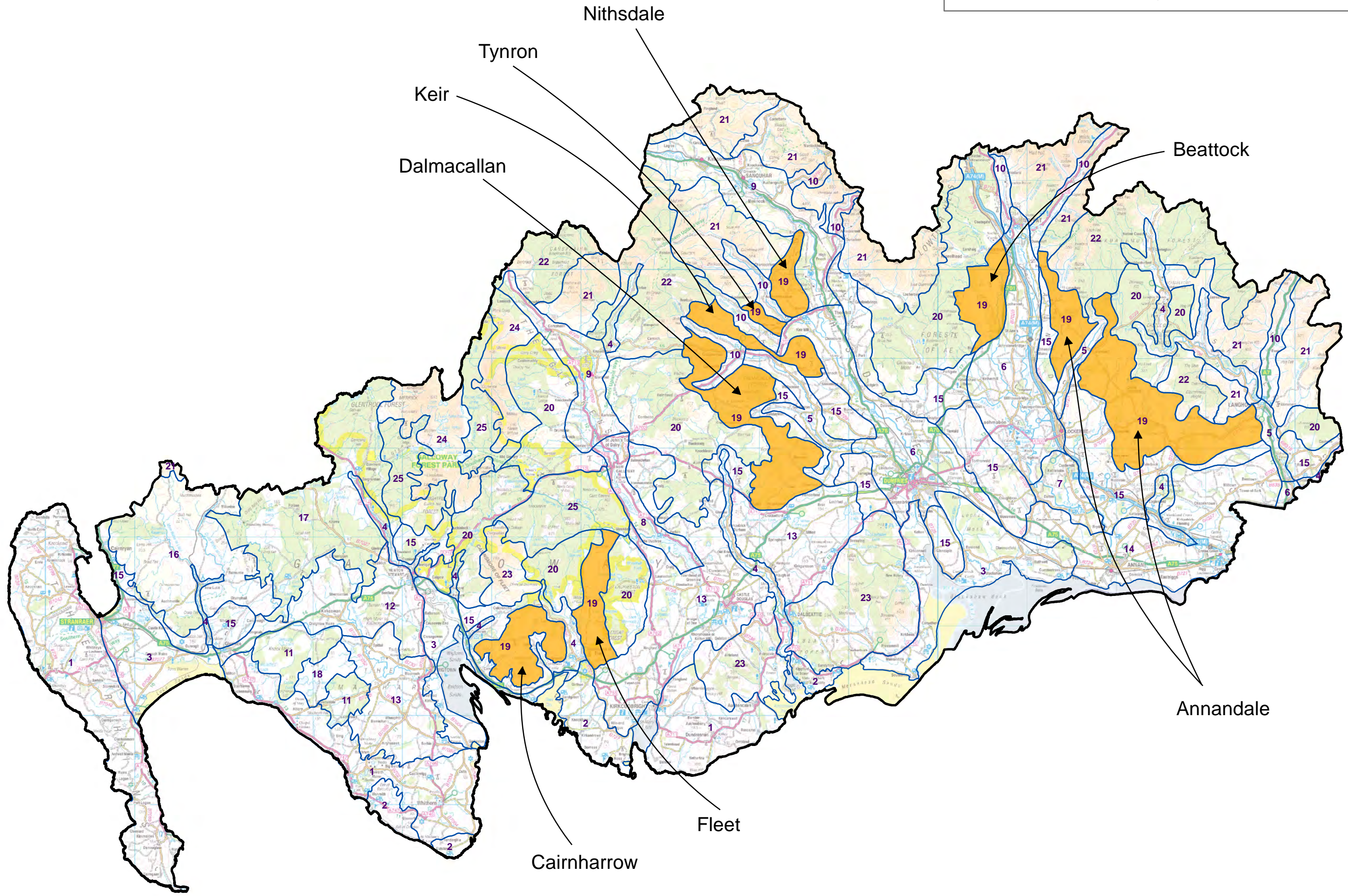
- Broader hill tops and more expansive hill slopes with a relatively simple landform, set back from the more sensitive southern and western edges of these foothills which abut well-settled upland fringes and lowland areas.
- An absence of landscape designations.

18.3 Sensitivity and guidance

Sensitivity is **High** for turbines >150m high and **High-medium** for turbines between 80-150m high.

While larger wind turbines could relate to the broad scale and less complex form of some hill tops and more expansive hill slopes at the transition with Assessment Units 22 and 20 to the north-east, the settled nature of the *Annandale Foothills* and the presence of operational and consented wind farm development increases susceptibility particularly in the more developed southern part of this landscape. Areas of less complex landform, broader topped hills and slacker hill slopes set well back from the more prominent outer edges of these foothills would be less susceptible. All turbines should still be sited away from prominent skylines at the transition with the *Upland Fringe* (15) and the *Pastoral Valleys* (5). The setting of archaeological features should be carefully considered in the siting of wind turbines.

Assessment Unit Key Map - 19. Foothills



AU 19 Foothills – Annandale area – Detailed sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale This landscape comprises rolling hills, generally rising between 250-300m, tapering in the north to form a narrow band between the <i>Upland Fringe</i> (15) and the extensively forested higher uplands to the east. Occasional broad-topped ridges have a larger scale than areas of more complex smaller hills and the narrow valleys that wind their way through these foothills. Operational and consented wind farm developments already occupy some of these larger scaled areas in the south.</p>	<p>Turbines of this size would appear overly large in relation to the relief of broader topped hills. They would also overwhelm the scale of narrow valleys and the small complex hills that occur within parts of these foothills. Multiple turbines of this size would dominate the fairly narrow extent of these foothills in the north. Susceptibility rating: High</p>	<p>This typology could relate to the scale of broader topped hills but would overwhelm the scale of narrow valleys and the small complex hills that occur within parts of these foothills. Extensive developments >20 turbines would be likely to dominate the fairly narrow extent in the north. Susceptibility rating: High-medium</p>
<p>Landform Landform varies considerably with occasional broader hills with flatter gently undulating tops interspersed with more defined steep-sided knolly hills and irregular landform, often found close to main valleys and sometimes on the fringes with the <i>Foothills with Forest</i> (20). Narrow, incised river valleys cut often convoluted courses through these foothills, or more dramatic gorges through steep-sided hills such as the Wamphrey Water.</p>	<p>This typology could relate to the simple landform of gently undulating ridge tops but would detract from more complex landform, deeply incised river valleys and small well-defined hills. Susceptibility rating: High-medium</p>	<p>This typology could relate to the simple landform of gently undulating ridge tops but would detract from more complex landform, deeply incised river valleys and small well-defined hills. Susceptibility rating: High-medium</p>
<p>Landcover These foothills are farmed with pastures enclosed by stone dykes. More expansive areas of semi-improved and rough grazing and conifer plantations occur on broader hill tops. Broadleaved shelterbelts and clumps form rare, but distinctive, features around more settled valleys. Small angular conifer shelterbelts consistently pattern these smooth, rolling hills.</p>	<p>This typology could fit with the simple pattern of broader pasture and conifer plantations on broader hill tops. It would disrupt and overwhelm the scale of more distinct field enclosure pattern and broadleaved woodlands. Susceptibility rating: Medium</p>	<p>This typology could fit with the simple pattern of broader pasture and conifer plantations on broader hill tops. It would disrupt and overwhelm the scale of more distinct field enclosure pattern and broadleaved woodlands. Susceptibility rating: Medium</p>
<p>Built environment Small settlements and dispersed farms are located in narrow sheltered valleys and lower hill slopes although occasional settlements such as Corrie Common are more elevated. These foothills are rich in archaeology with numerous hill forts and settlements and occasional stone circles. Operational</p>	<p>This typology would dominate the scale and setting of settlement if sited close to more settled valleys, although the more sparsely settled eastern fringes of these foothills at the transition with AUs 20 and 22 are less susceptible. The setting of archaeological features, which are often located on more distinctive hills,</p>	<p>This typology would dominate the scale and setting of settlement if sited close to more settled valleys, although the more sparsely settled eastern fringes of these foothills at the transition with the largely unsettled AUs 20 and 22 are less susceptible. The setting of archaeological features, which are often located on more distinctive hills,</p>

<p>and consented wind farms influence character in the southern part of these foothills. A high voltage transmission line is routed through the south-western part of these foothills.</p>	<p>could also be adversely affected. Cumulative effects could occur where these much larger turbines were sited closer to smaller operational wind turbines and/or where they significantly extended development on prominent skylines seen from more settled parts of this AU. Susceptibility rating: High</p>	<p>could also be adversely affected. Cumulative effects could occur with existing wind farms where turbines significantly extended development on prominent skylines seen from more settled parts of this AU. Susceptibility rating: High-medium</p>
<p>Landscape context These foothills merge seamlessly with the <i>Upland Fringe</i> (15) to the west, although a more pronounced edge occurs to the south. The well-settled broad dale of Annandale (AU6) lies to the west and the edge of these foothills (together with the <i>Upland Fringe</i>) provides a backdrop to settlements such as Lockerbie and Lochmaben. These foothills also provide prominent skylines to the <i>Pastoral Valley</i> (AU5) of the Dryfe valley. The more extensive and largely unsettled <i>Foothills with Forest</i> (20) and <i>Southern Uplands with Forest</i> (22) lie to the north-east.</p>	<p>The proximity of these foothills to the well-settled landscapes of Annandale, the Dryfe valley and the often prominent ‘edge’ of the <i>Upland Fringe</i> (15) increases sensitivity to this typology. There may be some limited scope to locate this typology at the transition with the less sensitive landscapes of AUs20 and 22. Susceptibility rating: High-medium</p>	<p>The proximity of these foothills to the well-settled landscapes of Annandale, the Dryfe valley and the often prominent ‘edge’ of the <i>Upland Fringe</i> (15) increases sensitivity to this typology. There may be some limited scope to locate this typology at the transition with the less sensitive landscapes of AUs20 and 22. Susceptibility rating: High-medium</p>
<p>Perceptual qualities The farmed and settled character of these foothills limits the sense of naturalness and remoteness experienced although the rich archaeology and traditional rural character of parts of this landscape can instil a sense of timelessness.</p>	<p>While this typology would have limited effects on the qualities of wildness, further large-scale wind farm development could diminish the perception of the rural qualities of this landscape and its archaeological heritage. Susceptibility rating: Medium</p>	<p>While this typology would have limited effects on the qualities of wildness, further large-scale wind farm development could diminish the perception of the rural qualities of this landscape and its archaeological heritage. Susceptibility rating: Medium</p>
<p>Views and visibility Small settlements and dispersed farms are mainly associated with the narrow valleys that cut through these foothills but with some settlements and farms more elevated. A network of minor roads provides access through these foothills and even small hills offer vantage points with views over much of this landscape unit.</p> <p>The <i>Foothills with Forest</i> (20) and <i>Southern Upland with Forest</i> (22) lie to the north-east. These largely unsettled and higher uplands visually contain the <i>Annandale Foothills</i> from settled valleys and glens to the east. The well-settled lowlands of Annandale lie to the west and these foothills (together with the <i>Annandale</i> area of the <i>Upland</i></p>	<p>The settled nature of these foothills increases sensitivity to this typology. Views to these foothills are also extensive from lower-lying and well-settled landscapes to the west and south. Susceptibility rating: High</p>	<p>The settled nature of these foothills increases sensitivity to this typology. Views to these foothills are also extensive from lower-lying and well-settled landscapes to the west and south. Susceptibility rating: High</p>

<p><i>Fringe 15</i>) form a low backdrop and fairly even long skyline to this landscape, with the higher uplands of AU22 more prominent further east beyond these foothills. The outer edge of these foothills is particularly pronounced when seen from the low-lying <i>Coastal/Flow Plateau</i> (AU14) from the south. There are elevated views of these foothills from the Torthorwald Ridge and from key elevated viewpoints, such as Burnswark Hill Fort and the Repentance Tower at Hoddam to the south-east.</p>		
<p>Landscape value These foothills are not covered by any landscape designations although there are many nationally important archaeological features, for example Burnswick Hill Fort, and some promoted recreational routes.</p>	<p>While the value associated with this AU is reduced due to the absence of formal designations, valued archaeological features are widely dispersed across this landscape. Value rating: Medium</p>	<p>While the value associated with this AU is reduced due to the absence of formal designations, valued archaeological features are widely dispersed across this landscape. Value rating: Medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

18.4 Beattock area

18.4.1 *Description*

The *Beattock Foothills* vary greatly in character from the small-scale, strongly contained valley of the Kinnel Water and more complex rolling landform of lower hill slopes to the broader, more open upper slopes of grass moorland. The Inventory listed designed landscape of Raehills comprises extensive parkland and wooded policies focussed on the Kinnel valley. This designed landscape and a rich archaeology make a strong contribution to the character of these foothills.

18.4.2 *Operational/consented wind farms and cumulative issues*

The operational Minnygap wind farm is located in this landscape and the operational Harestanes wind farm, located in the adjacent *Ae Foothills with Forest* (20). Both these wind farms appear as a single development although in some views the Minnygap wind farm is perceived as having a very different landscape context (open hill slopes orientated to the east and therefore clearly associated with Annandale, compared with the densely forested undulating plateau that accommodates the Harestanes wind farm).

The operational Minsca and Solwaybank wind farms lie within the *Annandale Foothills* (19) on the eastern side of Annandale. The Minsca wind farm is sited relatively close to the western edge of these Foothills and is consequently visually prominent from parts of Annandale. The operational Clyde wind farm is located to the north-west of the *Beattock Foothills* within neighbouring South Lanarkshire and lies very close to main transport corridors and settlement within the narrow pass of the Evan and Daer Water.

Additional wind farm development sited within the *Beattock Foothills* could increase the ‘tipping over’ effect of the Minnygap development onto east-facing slopes with consequent impacts on the more settled landscape of Annandale (and on the more established association of large wind farms with correspondingly more extensive upland landscapes). Cumulative effects would include increasing visual intrusion from roads and settlement, with turbines appearing to be sited relatively close to the edge of the foothills and being prominent on the skyline, and the incremental loss of open upland areas which provide a backdrop and contrast to more diverse landscapes. There could also be an increase in sequential effects where additional wind farm developments were seen in combination with operational wind farms either side of Annandale from well-used transport routes.

18.4.3 *Key constraints*

- A more complex rolling landform of small knolly hills and steep slopes west of the Kinnel Water.
- The Inventory listed designed landscape of Raehills which extends over lower hill slopes and includes extensive parkland and wooded policies.
- Cumulative effects with the operational wind farm of Harestanes and Minnygap wind farms.
- Increased visual sensitivity associated with east-facing slopes in terms of views from the well-settled Annandale area and from major transport routes such as the A701 and M74.

- The Annandale Way which crosses these foothills.
- The richness of relict archaeological features, as recognised by the ASA designation in the northern part of these foothills.

18.4.4 *Opportunities*

- Simpler upper hill slopes at the transition with the *Ae Foothills with Forest* Assessment Unit.

18.5 **Sensitivity and guidance**

Sensitivity would be **High** to turbines >150m high. There would be a **High-medium** landscape sensitivity to wind turbines 80-150m high.

The Inventory listed designed landscape of Raehills increases the sensitivity of this landscape area especially in relation to very large turbines which could significantly increase impacts on the setting and views to this valued landscape. The ASA, the smaller scale, complex landform of the Kinnel Water and lower hill slopes and potential cumulative effects with the operational Harestanes and Minnygap wind farms also comprise key constraints. Any additional wind turbines should be located on simpler upper hill slopes at the transition with the *Ae Foothills with Forest* Assessment Unit. The presence of the Minnygap wind farm on these less sensitive upper hill slopes will limit the number and the size of wind turbines, that can be successfully accommodated.

AU 19 Foothills – Beattock area – Detailed sensitivity assessment of larger turbines		
Topics and description	Assessment: Very large turbines (150m+)	Assessment: Large turbines (80-150m)
<p>Scale This foothill landscape comprises a broad and open moorland plateau on upper slopes although more complex landform and extensive woodland considerably reduces scale on lower slopes at the transition with the adjacent <i>Lower/Middle Dale</i> (AU6). The Minnygap wind farm occupies an extensive part of the more expansively scaled upper slopes.</p>	<p>Although upper slopes have a more expansive scale, these areas are limited in extent and the relief of these foothills (appreciated from Annandale) is also relatively low resulting in them being likely to be dominated by turbines of this size. Turbines of this size would also overwhelm the medium scale of middle slopes where more rolling landform, field boundaries and woodland reduce scale and especially the lower hill slopes and valley of the Kinnel Water where landform becomes even more complex and woodlands and settlement provide ready scale references. Susceptibility rating: High</p>	<p>This typology could relate to the more expansive open upper slopes of these foothills, although remaining undeveloped areas are limited. Turbines of this size would dominate the medium scale of middle slopes where more rolling landform field boundaries and woodland reduce scale and especially the lower hill slopes and valley of the Kinnel Water where landform becomes even more complex and woodlands and settlement provide ready scale references. Susceptibility rating: High-medium</p>
<p>Landform Gently undulating upper slopes are occasionally punctuated by well-defined knolly hills; these becoming more common on lower hill slopes on the western edge of the valley of the Kinnel Water and above Beattock where landform is generally more rolling, complex and small scale. The Kinnel cuts a narrow gorge through the Raehills Estate</p>	<p>The more gently undulating plateau-like landform of upper slopes could accommodate large turbines, although these areas are limited in extent and largely occupied by the operational Minnygap wind farm. More complex knolly hills and the incised valley of the Kinnel and its tributaries would be highly sensitive to this typology. Susceptibility rating: High-medium</p>	<p>The more gently undulating plateau-like landform of upper slopes could accommodate large turbines, although these areas are limited in extent and largely occupied by the operational Minnygap wind farm. More complex knolly hills and the incised valley of the Kinnel and its tributaries would be highly sensitive to this typology. Susceptibility rating: High-medium</p>
<p>Landcover Land cover varies from simple and expansive areas of upland pasture, coniferous forestry and open moorland on upper hill slopes to more intricately patterned policy woodlands and parkland within the Raehills designed landscape and wider estate. Distinctive clumps of Scots pine, larch and stone dykes occur above Beattock.</p>	<p>Simple grass moorland and coniferous forestry on upper slopes would be less susceptible although these areas are largely occupied by the operational Minnygap wind farm. This typology would be likely to significantly diminish the openness of upper slopes which are important because of the contrast they provide with the adjacent densely forested foothills of Ae (20). The intricately patterned policies of Raehills and more diverse land cover of small copses and stone dykes on lower slopes increase susceptibility. Susceptibility rating: High</p>	<p>Simple grass moorland and coniferous forestry on upper slopes would be less susceptible although these areas are largely occupied by the operational Minnygap wind farm. This typology would be likely to significantly diminish the openness of upper slopes which are important because of the contrast they provide with the adjacent densely forested foothills of Ae (20). The intricately patterned policies of Raehills and more diverse land cover of small copses and stone dykes on lower slopes increase susceptibility. Susceptibility rating: High</p>
<p>Built environment This landscape is sparsely settled with dispersed farms located on lower and middle hill slopes and accessed by dead end tracks. Estate buildings and</p>	<p>This typology could adversely affect the setting of the Grade A listed Raehills House and its designed landscape and dominate the scale of smaller buildings lying close to the</p>	<p>This typology could adversely affect the setting of the Grade A listed Raehills House and its designed landscape and dominate the scale of smaller buildings lying close to the</p>

<p>Raehills House are located close to the Kinnel Water. These foothills are rich in archaeology with numerous relict hill forts, cairns and settlements mainly sited on lower and middle slopes and with an ASA designated west of Beattock. The Minnygap wind farm occupies much of this AU and the Harestanes wind farm is also seen together with this development particularly in views to the east across Annandale.</p>	<p>Kinnel valley. It could also affect the rich archaeology of this landscape which is recognised by the ASA designation in the area west of Beattock. Cumulative effects would arise with the smaller turbines of the Minnygap wind farm (the limited extent of these foothills would result in close proximity and differences in size being readily appreciated). Susceptibility rating: High</p>	<p>Kinnel valley. It could also affect the rich archaeology of this landscape which is recognised by the ASA designation in the area west of Beattock. Susceptibility rating: High-medium</p>
<p>Landscape context These foothills form the wider landscape context for the <i>Lower/Middle Dale</i> of Annandale (6). The <i>Ae Foothills with Forest</i> (20) to the west are extensively forested, sparsely populated and visually contained by the <i>Southern Uplands</i> (21) to the north-west. The operational Minnygap wind farm located on the western upper slopes of this AU already intrudes on some views to the distinctive Queensberry Hill from parts of Annandale.</p>	<p>Although the more elevated parts of these foothills do not make a strong contribution to wider scenic character, the Raehills policies and more diverse edge of smaller hills along the Kennel Water add to the richness of character experienced within the broader Annandale area. Undeveloped areas of this AU lie closer to Annandale and would have an increased susceptibility to turbines of this size. Effects on the <i>Ae Foothills with Forest</i> would be minimal as the operational Harestanes wind farm is a dominant characteristic of this landscape. Susceptibility rating: High-medium</p>	<p>Although the more elevated parts of these foothills do not make a strong contribution to wider scenic character, the Raehills policies and more diverse edge of smaller hills along the Kennel Water add to the richness of character experienced within the broader Annandale area. Turbines seen on the skyline and in relatively close proximity to Annandale could detract from this character. Effects on the <i>Ae Foothills with Forest</i> would be minimal as the operational Harestanes wind farm is a dominant characteristic of this landscape. Susceptibility rating: High-medium</p>
<p>Perceptual qualities The Minnygap wind farm and associated infrastructure reduces susceptibility. Lower slopes, which are largely covered by the extensive Raehills designed landscape, are more managed, although the rich archaeology characteristic of this area can instil a sense of timelessness.</p>	<p>Turbines of this size would diminish the perception of historic character particularly if sited on lower slopes. Susceptibility rating: High-medium</p>	<p>This typology could diminish the perception of historic character particularly if sited on lower slopes. Susceptibility rating: Medium</p>
<p>Views and visibility This landscape is sparsely populated with most settlement located on lower hill slopes where visibility of the more elevated reaches of these foothills is limited by extensive woodland and more complex landform. The upper slopes of these foothills screen low-lying forested basins within the <i>Ae Foothills with Forest</i> (20) in views from elevated parts of Annandale (AU6) and the <i>Annandale Foothills</i> (19) and limit visibility of the operational Harestanes wind farm.</p>	<p>Remaining undeveloped ground in this AU principally lies on the lower and middle hill slopes where turbines of this size would be prominent in views from the east in Annandale. This typology would be likely to significantly intrude on views across the Raehills designed landscape from the A701 where it could detract from the key focus of Raehills House set within its policies if seen on backdrop hill slopes or on the skyline. Susceptibility rating: High</p>	<p>Remaining undeveloped ground in this AU principally lies on the lower and middle hill slopes where turbines of this size would be prominent in views from the east in Annandale. This typology would be likely to significantly intrude on views across the Raehills designed landscape from the A701 where it could detract from the key focus of Raehills House set within its policies if seen on backdrop hill slopes or on the skyline. Susceptibility rating: High</p>

<p>Views to these foothill landscapes are limited by their subtle plateau-like landform of upper slopes and by intervening vegetation and ridges within Annandale. Glimpsed views are possible from minor elevated roads which cross the <i>Lower/Middle Dale</i> of Annandale (AU6) and the <i>Foothills</i> (19) on the eastern edge of Annandale.</p>		
<p>Landscape value No landscape designations cover these foothills.</p> <p>The Inventory listed designed landscape of Raehills is rated as outstanding in terms of its scenic and historical qualities. The Raehills designed landscape extends across the valley of the Kinnel Water. An ASA is present in the northern part of this AU. The Annandale Way is aligned through part of this landscape.</p>	<p>While the backdrop provided by the open upper hill slopes of these foothills to the designed landscape is not noted in the Inventory listing, it can be appreciated from elevated views within Annandale and from the A701. This typology would affect the designed landscape if sited directly within the designated area but also if sited outside the designated area but visible in key views to it.</p> <p>Value rating: High-medium</p>	<p>While the backdrop provided by the open upper hill slopes of these foothills to the designed landscape is not noted in the Inventory listing, it can be appreciated from elevated views within Annandale and from the A701. This typology would affect the designed landscape if sited directly within the designated area but also if sited outside the designated area but visible in key views to it.</p> <p>Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

18.6 Cairnharrow area

18.6.1 *Description*

The *Cairnharrow* area of the *Foothills* comprises a distinctively rugged arc of hills with southern slopes falling steeply to the coast, knolly lower tops and defined higher peaks. Although these hills have a large scale and open character, they are not extensive in area. These hills are highly visible from surrounding well-settled coasts and valleys where they provide a rugged open backdrop to more patterned landscapes and the Solway Firth.

18.6.2 *Operational/consented wind farms and cumulative issues*

There are no operational or consented wind farms in this landscape and wind farms located in other Assessment Units have a minimal influence.

18.6.3 *Key constraints*

- A prominent arc of hills focussed on Cairnharrow but also including other high peaks and lower hill tops such as Mill Knock and Ben John which are important in providing an open rugged and scenic backdrop to Wigtown Bay, coasts and valleys and a widely visible landmark feature.
- The rich archaeology with many relict features located both within these hills and within the adjacent *Upland Fringe* (15).
- The Fleet Valley NSA which includes the eastern hill slopes but also recognises the wider setting provided to the Fleet Valley by Cairnharrow Hill and the RSA which applies to the whole of the Cairnharrow area.
- The high visibility of these hills from well-settled lowland coasts and valleys and their contribution to the wider scenic quality of the coast.
- Cumulative landscape and visual effects with transmitter masts on Cambret Hill.
- Recreational routes on these hills which offer spectacular views over these hills, the coast and the Solway Firth.

18.7 Sensitivity and guidance

Landscape sensitivity would be **High** to turbines >80m high.

Smaller turbines would be more successfully accommodated in this landscape. The accompanying Sensitivity Assessment of Smaller Wind Turbines report provides guidance on the siting of wind turbines <80m high.

AU 19 Foothills – Cairnharrow area – Detailed sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very large turbines (150m+)	Assessment: Large turbines (80-150m)
<p>Scale An arc of hills with Cairnharrow, the highest, rising to 456m. Large scale and with an open character although not an extensive range of hills. Scale decreases within valleys and on lower slopes where woodland, farmland and some settlement is associated with narrow valleys.</p>	<p>While this AU has a large scale and open character it is not geographically extensive and this size of turbine would dominate the smaller hills within this AU. Susceptibility rating: High-medium</p>	<p>The large scale and open character of this landscape would be less sensitive to this development typology although it is not geographically extensive and substantial developments could dominate the area. Smaller hills would be dominated by turbines of this size. Susceptibility rating: High-medium</p>
<p>Landform A complex outcrop of hills with defined peaks rising steeply and dramatically from the coastal edge. Slopes are often knolly, folded and deeply textured with only small areas of slacker ground occurring within some valleys.</p>	<p>This typology would impact on steep, knolly folded hill slopes and detract from defined peaks. While it could relate to slacker simpler landform, these areas are not extensive and turbines of this scale would have indirect impacts on adjacent more complex landform. Susceptibility rating: High</p>	<p>This typology would impact on steep, knolly folded hill slopes and detract from defined peaks. While it could relate to slacker simpler landform, these areas are not extensive and turbines of this scale would have indirect impacts on adjacent more complex landform. Susceptibility rating: High</p>
<p>Landcover A mosaic of grass, bracken and heather and occasional scrubby woodland accentuates the hummocky landform and the rugged character of these hills, especially within the basin of Skyre burn and its fan of tributaries.</p>	<p>While the simple land-cover and absence of strong vegetation pattern reduces sensitivity to wind farm development, the integrity of grass, bracken and heather moorland and woodland would be affected by turbines and associated development. Susceptibility rating: Medium</p>	<p>While the simple land-cover and absence of strong vegetation pattern reduces sensitivity to wind farm development, the integrity of grass, bracken and heather moorland and woodland would be affected by turbines and associated development. Susceptibility rating: Medium</p>
<p>Built environment This AU is very sparsely settled with few roads. A number of archaeological features occur within the higher valleys and at the transition with the <i>Upland Fringe</i> (15). These include stone circles, cairns and standing stones. Disused mine shafts and an old military road are also present. Telecom masts are prominently sited on top of Cambret Hill.</p>	<p>These larger wind turbines could affect the setting of archaeological features and settlement and would significantly contribute to the visual clutter of masts on hill tops. Susceptibility rating: High-medium</p>	<p>The sparsely settled nature of this landscape would enable this typology to be sited without dominating the scale of domestic buildings although this typology could affect the setting of archaeological features and would contribute to the visual clutter of masts on hill tops. Susceptibility rating: High-medium</p>
<p>Landscape context Cairnharrow Hill is important in forming a scenic backdrop to Wigtown Bay, the <i>Fleet valley</i> (4) and <i>Upland Fringe</i> (15). It is a landmark feature in views from the eastern Machars, the settled coastal areas and valley. The knolly diverse form of these hills (and particularly Cairnharrow) contrasts with the smoother, bolder landform of Cairnsmore of Fleet and contributes to</p>	<p>This typology would be highly visible from surrounding settled landscapes. It would significantly diminish the contrast and contribution these rugged hills make to wider scenic quality. Susceptibility rating: High</p>	<p>This typology would be highly visible from surrounding settled landscapes. It would significantly diminish the contrast and contribution these rugged hills make to wider scenic quality. Susceptibility rating: High</p>

<p>the richness of the wider landscape context where lowland landscapes are juxtaposed with open rugged uplands.</p>		
<p>Perceptual qualities Although masts on Cambret Hill (62.5m), past mining and some forestry on the northern fringes of this area reduce the sense of naturalness, Cairnharrow Hill in particular has some qualities of wildness. Archaeological features contribute a sense of timelessness to this landscape.</p>	<p>This typology would adversely affect the naturalness and sense of history associated with this landscape. Susceptibility rating: High-medium</p>	<p>This typology would adversely affect the naturalness and sense of history associated with this landscape. Susceptibility rating: High-medium</p>
<p>Views and visibility This landscape is sparsely settled and with limited road access. These hills are however widely visible from the Fleet valley and coastal areas of Galloway. There are close views of Cairnharrow from the A75 where its southern slopes fall steeply to the coast and provide a distinctive backdrop and focus to views. These hills also form the backdrop and setting to the Fleet valley, Gatehouse of Fleet and Creetown and they are highly visible from Wigtown and the eastern Machars and Carrick coasts. Views from walking routes on these hills are spectacular. Cairnharrow is highly visible from footpaths on Cairnsmore of Fleet and from elevated views from the surrounding area, for example from the Fleet NSA promoted viewpoint at Knocktinckle. The lower slopes and hill tops also form a backdrop and setting to the rich archaeology and settlement within the adjacent <i>Upland Fringe</i> (15).</p>	<p>This typology would be highly visible from the surrounding well-settled coasts and valleys of Galloway where it would significantly detract from the largely uncluttered rugged focus of Cairnharrow Hill and the associated arc of hills (which are more visible from the Fleet valley to the east). The existing transmitter mast (amongst others) on Cambret Hill is 62.5m high and appears large in relation to the scale of this hill and is visually prominent from the surrounding coast and valleys. This typology would greatly exacerbate this effect.</p> <p>The proximity of this landscape to settled coasts, hill fringes and valleys increases visual sensitivity. Permanent visible aviation lighting would increase the duration of significant effects on views. Susceptibility rating: High</p>	<p>This typology would be highly visible from the surrounding well-settled coasts and valleys of Galloway where it would significantly detract from the largely uncluttered rugged focus of Cairnharrow Hill and the associated arc of hills (which are more visible from the Fleet valley to the east). The existing transmitter mast (amongst others) on Cambret Hill is 62.5m high and appears large in relation to the scale of this hill and is visually prominent from the surrounding coast and valleys. This typology would greatly exacerbate this effect.</p> <p>The proximity of this landscape to settled coasts, hill fringes and valleys increases visual sensitivity. Susceptibility rating: High</p>
<p>Landscape value The south-eastern slopes of this landscape fall within the <i>Fleet Valley</i> NSA. The NSA is noted as being dominated by the mass of Cairnharrow Hill on its western side. The hills of Ben John and Mill Knock are also defined as 'landmark hills'. This landscape area is covered by the <i>Galloway Hills</i> RSA. The citation notes the strong relationship between hills and adjacent lowlands which... "give rise to sweeping and dramatic views". The importance of Cairnharrow in providing the setting to the Fleet Valley, the Cree Estuary and the <i>Coastal Granite Uplands</i> (23). Archaeological</p>	<p>This typology would adversely affect some of the special qualities of the NSA if sited within or on the arc of hills visible from the Fleet Valley.</p> <p>This typology would also adversely affect the setting these hills provide to the Fleet Valley, Cree Estuary and Cairnsmore of Fleet and the sweeping and dramatic views between hills and adjacent lowlands and seascapes. Value rating: High</p>	<p>This typology would adversely affect some of the special qualities of the NSA if sited within or on the arc of hills visible from the Fleet Valley.</p> <p>This typology would also adversely affect the setting these hills provide to the Fleet Valley, Cree Estuary and Cairnsmore of Fleet and the sweeping and dramatic views between hills and adjacent lowlands and seascapes. Value rating: High</p>

features of national importance, some nature conservation designations and promoted recreational routes increase the value associated with this landscape,		
Sensitivity	High	High

18.8 Dalmacallan area

18.8.1 *Description*

The Dalmacallan foothills form a gently undulating basin surrounded by more pronounced and isolated small hills. This landscape has a medium to large scale and a simple land cover of rough grassland, coniferous woodland and some enclosed pasture. Loch Urr forms a focus and is fringed by some more diverse wetland. It is a sparsely settled landscape with a few widely dispersed hill farms. These foothills lie adjacent to settled lowland landscapes where they are important in providing a backdrop of often rugged open hills to these more patterned, managed and smaller scale landscapes.

18.8.2 *Operational/consented wind farms and cumulative issues*

There is no wind farm development located in this landscape. The operational Blackcraig wind farm sited in the *Stroan* area of the *Foothills with Forest* (AU20), influences views in part of this Assessment Unit. The consented Fell wind farm which lies closer to this Assessment Unit will be likely to exacerbate this effect. Additional wind farm development located in this landscape and in adjacent foothills could cumulatively affect the setting of key features including Loch Urr and the landmark hills.

18.8.3 *Key constraints*

- The open rugged backdrop and setting provided by the distinctive hills which form landmark features in this Assessment Unit. These hills include Bishop Forest Hill, Turner's Monument, Larglanglee Hill, Big Morton Hill and Dargarroch Hill.
- Loch Urr which forms a focus within the simple shallow basin in the interior of these foothills.
- The sense of openness, naturalness and seclusion that can be experienced in this upland landscape, the relative ease of accessibility from more settled areas and the contrast of this landscape with more densely forested foothills in the surrounding area.
- Archaeological features including remnant field patterns in parts of this landscape.
- The rocky heathery slopes of Bishop Forest Hill and the open sculptural ridge of Big Morton Hill which are recognised as special qualities in the RSA designation covering parts of these foothills.

18.9 Sensitivity and guidance

Landscape sensitivity is **High** for turbines >80m high.

Smaller wind turbines could be more successfully accommodated in this landscape area. The accompanying Sensitivity Assessment of Smaller Wind Turbines report provides guidance on the siting of wind turbines <80m high.

AU 19 Foothills – Dalmacallan area – Detailed sensitivity assessment for larger turbines		
Topics and description	Assessment: Very large turbines (150m+)	Assessment: Large turbines (80-150m)
<p>Scale A medium to large scale elevated and open, undulating plateau and loch basin with Loch Urr at its core and with distinct hills generally rising to between 340 to 417m.</p>	<p>Turbines of this size would dominate the relatively limited extent of the larger scale plateau areas and the vertical scale of landmark hills. Susceptibility rating: High-medium</p>	<p>Although this typology (and particularly turbines towards the lower height band) could relate to the broader scale of the plateau areas it would dominate the vertical scale of landmark hills. Susceptibility rating: High-medium</p>
<p>Landform This area generally forms an undulating upland plateau of smoothly rounded hills interspersed with shallow basins containing lochs and punctuated with more distinctive, often craggy-topped or deeply folded hills such as Bishop Forest Hill (392m), Castramon Hill (358m) and Big Morton Hill (417m).</p>	<p>Turbines sited on or close to landmark hills would detract from their distinctive form. More gentle hill slopes (some of these forested) or rounded less distinct lower hills and gently undulating broader basins would be less sensitive. Susceptibility rating: Medium</p>	<p>Turbines sited on or close to landmark hills would detract from their distinctive form. More gentle hill slopes (some of these forested) or rounded less distinct lower hills and gently undulating broader basins would be less sensitive. Susceptibility rating: Medium</p>
<p>Landcover Land cover is generally simple with broad areas of grass moorland interspersed with coniferous plantations but with some areas of pasture enclosed by stone walls within valleys and basins. Clumps of broadleaved trees are sited around farms and in valleys and occasional patchy scrub and wetlands pattern rougher pasture. The rocky slopes of Bishop Forest Hill are patterned with heather moorland and scrub. Loch Urr and Glenkiln Reservoir form landmark features in this landscape.</p>	<p>Although the general absence of strong pattern reduces sensitivity to this typology, the openness of this upland landscape is an unusual feature in a context where adjacent foothills are extensively forested. This typology would detract from the landmark features of Loch Urr and Glenkiln Reservoirs if sited within the basins they sit in. Distinctive walled field enclosures and areas of more diverse native scrub, woodland and wetlands would also be sensitive to this development. Susceptibility rating: High-medium</p>	<p>Although the general absence of strong pattern reduces sensitivity to this typology, the openness of this upland landscape is an unusual feature in a context where adjacent foothills are extensively forested. This typology would detract from the landmark features of Loch Urr and Glenkiln Reservoirs if sited within the basins they sit in. Distinctive walled field enclosures and areas of more diverse native scrub, woodland and wetlands would also be sensitive to this development. Susceptibility rating: High-medium</p>
<p>Built environment This landscape is sparsely settled with isolated farms located within valleys and the Loch Urr basin. There is evidence of past settlement in remnant archaeology and distinctive walled field enclosures occur in places. The operational Blackcraig wind farm located in AU 20 is visible on containing skylines to the west. The consented Fell wind farm will increase this influence.</p>	<p>There would be very limited scope to locate this typology so as to avoid dominating the scale and setting of buildings and archaeology which although widely dispersed are highly visible features within this open landscape. Cumulative effects could occur with operational and consented wind farms in adjoining AUs. Susceptibility rating: High-medium</p>	<p>There would be very limited scope to locate this typology so as to avoid dominating the scale and setting of buildings and archaeology which although widely dispersed are highly visible features within this open landscape. Susceptibility rating: High-medium</p>
<p>Landscape context</p>	<p>Ridges which overlook adjacent valley types and hills which frame the heads</p>	<p>Ridges which overlook adjacent valley types and hills which frame the heads</p>

<p>These foothills are located close to well-settled dales and glens. Key hills and ridges are important in forming landmarks from surrounding valleys, for example Bishop Forest Hill which provides a backdrop to the valley of the Cairn Water (5) and widely seen across the <i>Drumlin Pastures</i> (13) or Big Morton Hill seen at the head of the three glens above Moniaive.</p>	<p>of glens, for example Big Morton Hill, and form landmark features are key sensitivities. Turbines of this size would be visible on the skyline of these landmark hills and higher ground seen from adjacent settled valleys and lowlands. Susceptibility rating: High</p>	<p>of glens, for example Big Morton Hill, and form landmark features are key sensitivities. This typology would be likely to be visible on the skyline of these landmark hills and higher ground seen from adjacent settled valleys and lowlands. Susceptibility rating: High</p>
<p>Perceptual qualities These foothills, which are sparsely settled and accessed by a few narrow single-track roads, can feel secluded. While a degree of naturalness can be experienced within the expansive open moorland and loch basins the Blackcraig wind farm has diminished this in places.</p>	<p>This typology would diminish the remaining sense of seclusion and naturalness that can be experienced in this landscape as tracks and built infrastructure were introduced. Susceptibility rating: Medium</p>	<p>This typology would diminish the remaining sense of seclusion and naturalness that can be experienced in this landscape as tracks and built infrastructure were introduced. Susceptibility rating: Medium</p>
<p>Views and visibility This is a sparsely settled landscape with narrow minor roads providing access across its interior. Footpaths are concentrated in the Glenkiln area and while many appear to offer fairly contained views there are more elevated paths to hills such as Bishop Forest Hill giving open views. Loch Urr is also a focus from the minor roads which provide access to this area. In terms of views to this landscape, the interior of these foothills is visually contained by perimeter hills and ridges, for example the undulating ridge of small hills north of the A75 centred on Larglanglee Hill. However many of these perimeter hills form highly visible foci in views from the surrounding well-settled lowland valleys (AU4+5) and <i>Drumlin Pastures</i> (13) and <i>Upland Glens</i> (10).</p>	<p>This typology would be visible from minor roads, footpaths and settlement sited within the generally open landscape of these foothills. The height of these large turbines limits scope to minimise visual impact on settlement in these foothills and in adjoining valleys. Turbines sited on more elevated ridges and higher hills within these foothills would be highly visible from the surrounding well-settled lowlands and valleys. Susceptibility rating: High</p>	<p>This typology would be visible from minor roads, footpaths and settlement sited within the generally open landscape of these foothills. The height of these large turbines limits scope to minimise visual impact on settlement in these foothills and in adjoining valleys. Turbines sited on more elevated ridges and higher hills within these foothills would be highly visible from the surrounding well-settled lowlands and valleys. Susceptibility rating: High</p>
<p>Landscape value The <i>Terregles Ridge</i> RSA covers a small part of this area encompassing Bishop Forest Hill and the Glenkiln Reservoir. The citation describes the attractive steep slopes, rocky heather moorland and wild character of these foothills and their juxtaposition with varied valley landscapes. The <i>Thornhill Uplands</i> RSA covers a small part of this area in the north</p>	<p>This typology would adversely affect the character of Bishop Forest Hill, Glenkiln Reservoir if sited close-by. The setting provided by the open sculptural ridges of these foothills to the Upland Glens of Dalwhat, Castlefairn and Moniaive would be adversely affected by this typology. Value rating: High-medium to Medium</p>	<p>This typology would adversely affect the character of Bishop Forest Hill and Glenkiln Reservoir if sited close-by. The setting provided by the open sculptural ridges of these foothills to the Upland Glens of Dalwhat, Castlefairn and Moniaive would be adversely affected by this typology. Value rating: High-medium to Medium</p>

around Big Morton Hill. The open sculptural ridges of the foothill landscapes are noted in the citation.		
Sensitivity	High	High

18.10 Fleet area

18.10.1 *Description*

The strongly contained upland valley of this landscape area has a diverse, often rugged landscape and an open and natural quality, which contrasts with adjacent extensively forested foothills. The knolly, south-western foothills form an enclosing edge and backdrop to the highly scenic Fleet Valley.

18.10.2 *Operational/consented wind farms and cumulative issues*

There are no operational or consented wind farms sited in this landscape and wind farm development sited in other landscapes has minimal influence on character and views.

18.10.3 *Key constraints*

- The rugged and open backdrop provided by these foothills to the small scale, highly patterned Fleet Valley and which contribute to the scenic diversity of the NSA.
- The rich archaeology of this upland valley recognised in the ASA designation.
- The openness of this valley which contrasts with the densely forested foothills nearby.
- A complex landform of the often craggy and well-defined hills which contain this valley.
- The limited extent of this landscape where larger wind turbines would be likely to dominate the scale of containing hills and the relatively narrow valley.

18.11 Sensitivity and guidance

There would be a **High** sensitivity to turbines >80m high.

Smaller wind turbines could be more successfully accommodated in this landscape area. The accompanying Sensitivity Assessment of Smaller Wind Turbines report provides guidance on the siting of wind turbines <80m high.

AU19 Foothills – Fleet area – Detailed sensitivity assessment of larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale This landscape unit is fairly limited in extent, comprising an upland valley edged by low hills rising to between 250-291m. Although the valley has an open character, it is strongly contained and this gives it a small-medium scale overall.</p>	<p>This typology would dominate the relatively low relief of the hills that contain this valley (there is only about a 100m differential between the valley floor and the hill tops). Multiple turbines of this size would also 'fill' the relatively narrow extent of this valley. Susceptibility rating: High</p>	<p>This typology would dominate the relatively low relief of the hills that contain this valley (there is only about a 100m differential between the valley floor and the hill tops). Multiple turbines of this size would also 'fill' the relatively narrow extent of this valley. Susceptibility rating: High</p>
<p>Landform The floor of the valley is relatively smooth and level in places although lower slopes are increasingly hummocky. A mix of smoother and more knolly hills contain the valley – all have well defined and often craggy tops. The hills to the west are particularly rugged and include Castramont and Fell of Laghead which form a 'pinch-point' in the valley.</p>	<p>There are no flatter or less complex broader hills able to accommodate this typology. Turbines of this size would significantly detract from the generally rugged character of these uplands. Susceptibility rating: High</p>	<p>There are no flatter or less complex broader hills able to accommodate this typology. Turbines of this size would significantly detract from the generally rugged character of these uplands. Susceptibility rating: High</p>
<p>Land cover Improved pastures enclosed by stone dykes extend across the valley floor and lower hill slopes. Patchy heather, grass and bracken cover hills. Small woodlands are associated with farms and are increasingly diverse on the smaller knolly hills that form the edge of the Fleet valley.</p>	<p>This typology would dominate the smaller scale pattern of woodlands and fields at the transition with the Fleet valley although it could relate to simpler land cover pattern in the upper valley. Susceptibility rating: Medium</p>	<p>This typology would dominate the smaller scale pattern of woodlands and fields at the transition with the Fleet valley although it could relate to simpler land cover pattern in the upper valley. Susceptibility rating: Medium</p>
<p>Built environment This landscape is sparsely settled with dispersed farms elevated just above the valley floor and in the lower hills on the edge of the Fleet valley. A narrow minor road is aligned through the lower part of the valley. The area is rich in archaeology with an ASA covering much of the area.</p>	<p>This typology could physically affect archaeology and/or the integrity of the ASA. It would also overwhelm the scale of farmsteads which although dispersed are readily visible as small point features in this landscape. Susceptibility rating: High</p>	<p>This typology could physically affect archaeology and/or the integrity of the ASA. It would also overwhelm the scale of farmsteads which although dispersed are readily visible as small point features in this landscape. Susceptibility rating: High</p>
<p>Landscape context The rugged western hills of this unit are important in providing the backdrop to the highly scenic Fleet Valley and the setting to Gatehouse of Fleet. This open and relatively unmodified valley is also important in the contrast it provides to surrounding extensively forested <i>Foothills with Forest</i> (20).</p>	<p>Turbines would be likely to be located on upper slopes and hill tops and as such would be highly visible from the Fleet valley detracting from its scenic qualities. This typology would dominate the limited extent of this landscape and thus diminish its openness and contrast with adjacent forested foothills. Susceptibility rating: High</p>	<p>Turbines would be likely to be located on upper slopes and hill tops and as such would be highly visible from the Fleet valley detracting from its scenic qualities. This typology would dominate the limited extent of this landscape and thus diminish its openness and contrast with adjacent forested foothills. Susceptibility rating: High</p>

<p>Perceptual qualities A distinct sense of naturalness can be experienced within this upland valley, heightened by the context of more modified densely forested foothills. It can feel secluded due to its strong containment by hills.</p>	<p>This typology would adversely affect the sense of seclusion and naturalness associated with this landscape. Permanent visible aviation lighting would extend significant adverse effects on perceptual qualities. Susceptibility rating: High</p>	<p>This typology would adversely affect the sense of seclusion and naturalness associated with this landscape. Susceptibility rating: High</p>
<p>Views and visibility This upland landscape is sparsely settled and accessed by a narrow minor road in the lower reaches of the valley. A track provides access through the upper valley connecting to a dismantled railway in <i>Cullendoch</i> area of (AU20) promoted as a cycle route. There is sense of surprise experienced when entering this open upland valley from the densely forested <i>Laurieston</i> Foothills (AU20) to the east. The minor road is used by classic car rallies. Although in general this landscape is not highly visible from key transport routes and more densely settled areas, the western hills form the edge to the Fleet Valley and the setting to Gatehouse of Fleet. The promoted viewpoint of Knocktinckle in this landscape unit focuses on the Fleet Valley NSA. Airie Hill is visible from the Loch Ken area.</p>	<p>This typology would be highly visible from settlement, minor roads and upland tracks within this landscape area. Turbines of this height would be likely to be sited on hill ground and would therefore be highly visible on the skyline in views from the Fleet Valley and potentially deflect from the focus of Gatehouse of Fleet seen in elevated views from monuments and promoted viewpoints to the west. Turbines of this size sited on hills within this area would also be likely to be visible from the east, including from viewpoints such as the monument at Barstobrick. Susceptibility rating: High</p>	<p>This typology would be highly visible from settlement, minor roads and upland tracks within this landscape area. Turbines of this height would be likely to be sited on hill ground and would therefore be highly visible on the skyline in views from the Fleet Valley and potentially deflect from the focus of Gatehouse of Fleet seen in elevated views from monuments and promoted viewpoints to the west. Turbines of this size sited on hills within this area would also be likely to be visible from the east, including from viewpoints such as the monument at Barstobrick. Susceptibility rating: High</p>
<p>Landscape value The western edge of this AU fall within the Fleet Valley NSA. The enclosure given by the ridge of small hills to the east of the Fleet valley which culminates in Barr Hill south of Gatehouse of Fleet is noted as a special quality of the NSA. All of this landscape also falls within the Galloway Hills RSA. The setting provided by the foothills landscapes to the Fleet Valley and the attractive upland character they have in their own right are noted in the citation.</p>	<p>This typology would be likely to have a significant effect on the Fleet Valley NSA. It would also significantly detract from the attractive upland character of this valley and the wider setting to the Fleet Valley in relation to the special qualities of the RSA. Value rating: High to High-medium</p>	<p>This typology would be likely to have a significant effect on the Fleet Valley NSA. It would also significantly detract from the attractive upland character of this valley and the wider setting to the Fleet Valley in relation to the special qualities of the RSA. Value rating: High to High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

18.12 Keir/Tynron

18.12.1 Description

The Keir/Tynron landscape areas comprise narrow bands of foothills lying between the Scar, Shinnel and Dalwhat glens. These foothills have an often complex, irregular landform with well-defined peaks. They provide the backdrop to these glens but also to the Cairn valley and middle Nithsdale, where their open rugged slopes are scenically juxtaposed with these more intricately patterned and settled landscapes. The proximity of these foothills to well-settled glens, valleys and dales also increases visual sensitivity from surrounding settlement, roads and footpaths within the hills themselves.

18.12.2 Operational/consented wind farms and cumulative issues

The northern extent of this Assessment Unit lies close to the operational Wether Hill wind farm located within the *Southern Uplands with Forest (22)* Assessment Unit. The operational Whiteside Hill and Twenty-Shilling Hill wind farms located in the *Nithsdale* area of the *Southern Uplands (21)* are also visible from upper slopes and summits within the Keir and Tyron hills. Large turbines sited on these hills could contribute to cumulative effects experienced from adjacent settled glens and valley.

18.12.3 Key constraints

- The irregular landform and occasional distinctive individual peaks, such as Tynron Doon.
- The setting and contrast these open rugged hills provide to the *Upland Glens (10)*, *Pastoral Valleys (5)* and *Lower/Middle Dales (6)* and to the small historic settlements of Moniaive and Tynron.
- Archaeologically rich with a number of landmark features including the extended policies of Maxwellton House and its Inventory listed designed landscape.
- A strong sense of naturalness and seclusion, particularly valuable in a context where these foothills lie close to well-settled valleys and dales.
- The RSA designation, which covers the whole of these foothill landscapes in recognition of the value of their open sculptural ridges and scenic juxtaposition with the upland glens.
- Recreational routes in these hills including footpaths up Tynron Doon which features spectacular views.

18.13 Sensitivity and guidance

Landscape sensitivity is **High** to wind turbines >80m high.

Smaller wind turbines could be more successfully accommodated in this landscape area. The accompanying Sensitivity Assessment of Smaller Wind Turbines report provides guidance on the siting of wind turbines <80m high.

AU 19 Foothills – Keir/Tynron areas – Detailed sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale A small group of well-defined hills (the two units separated by the narrow valley of the Shinnel Water) with Auchengibbert Hill rising to 372m. These hills are open and of medium scale.</p>	<p>This typology would overwhelm the scale of these hills, appearing very large in relation to the relatively low height of the hills and dominating their limited geographic extent. Susceptibility rating: High</p>	<p>This typology would overwhelm the scale of these hills, appearing very large in relation to the relatively low height of the hills and dominating their limited geographic extent. Susceptibility rating: High</p>
<p>Landform The Keir Hills form a broader topped outcrop but with steep and sometime irregular slopes with knolly lower tops. Two bands of small, shapely, rugged foothills separate the glens of the Dalwhat and the Shinnel Water; one of these terminated by the distinctive sheer-sided cone of Tynron Doon.</p>	<p>Steep hill slopes would be physically disrupted by infrastructure and construction of access tracks. This typology would detract from the irregular landform and distinctive rugged peaks of these foothills. Susceptibility rating: High</p>	<p>Steep hill slopes would be physically disrupted by infrastructure and construction of access tracks. This typology would detract from the irregular landform and distinctive rugged peaks of these foothills. Susceptibility rating: High</p>
<p>Landcover Rough grassland, patchy heather and bracken and occasional angular, coniferous plantations cover upper hill slopes. The policies of Maxwellton House extend on the lower slopes of the Keir Hills.</p>	<p>The predominantly simple land cover of grassy moorland and rough pasture covering much of these foothills would be less susceptible although this typology would detract from more diverse wooded policies on lower slopes. Susceptibility rating: Medium</p>	<p>The predominantly simple land cover of these foothills would be less sensitive to wind farm development although this typology would detract from more diverse policies on lower slopes. Susceptibility rating: Medium</p>
<p>Built environment Sparsely settled with dispersed farms associated with the narrow valleys which cut into lower hill slopes or at the foot of the hills. Rich in archaeology with, for example, the striking Iron Age fort on Tynron Doon, the Preaching Stone on the Keir Hills and numerous cairns and forts sited within these foothills. Maxwellton House sits at the foot of the south-western slopes of the Keir Hills.</p>	<p>Although sparsely settled overall, the narrowness of these bands of hills and their proximity to well-settled glens and valleys, with settlement occasionally extending up lower hill slopes, increases opportunity for adverse comparisons of scale between large turbines and small buildings in the landscape. This typology could also adversely affect the setting of archaeological and historic features. Susceptibility rating: High-medium</p>	<p>Although sparsely settled overall, the narrowness of these bands of hills and their proximity to well-settled glens and valleys, with settlement occasionally extending up lower hill slopes, increases opportunity for adverse comparisons of scale between large turbines and small buildings in the landscape. This typology could also adversely affect the setting of archaeological and historic features. Susceptibility rating: High-medium</p>
<p>Landscape context These hills lie adjacent to small scale settled <i>Upland Glens</i> (10), <i>Pastoral Valleys</i> (5) and <i>Lower/Middle Dales</i> (6) where the rugged and open upland backdrop they provide contributes to the rich scenic diversity of the wider landscape.</p>	<p>Wind farm development would significantly impact on the setting of the small settlements of Tynron and Moniaive, the designed landscape and house at Maxwellton and would adversely affect the rugged backdrop and contrast these hills provide to the small-scale diverse character of the upland glens, valleys and Nithsdale. Susceptibility rating: High</p>	<p>Wind farm development would significantly impact on the setting of the small settlements of Tynron and Moniaive, the designed landscape and house at Maxwellton and would adversely affect the rugged backdrop and contrast these hills provide to the small-scale diverse character of the upland glens, valleys and Nithsdale. Susceptibility rating: High</p>

<p>Perceptual qualities The open rugged character of these hills gives a sense of naturalness and they can feel secluded despite being close to settled and managed valleys and glens. The rich historical and archaeological dimension to these foothills can also heighten the sense of timelessness.</p>	<p>This typology would adversely affect the sense of naturalness and seclusion associated with these foothills. Susceptibility rating: High-medium</p>	<p>This typology would adversely affect the sense of naturalness and seclusion associated with these foothills. Susceptibility rating: High-medium</p>
<p>Views and visibility These foothills are sparsely settled. Footpaths and tracks provide access to some hill tops. A narrow minor road crosses the band of foothills between Tynron and Moniaive providing spectacular views over the 'three glens' and a close experience of these uplands. These hills are limited in extent and visible all round and in close proximity from settlement and roads in Nithsdale, the Cairn valley and the glens of the Shinnel and Scar Water.</p>	<p>The narrowness of these bands of foothills and their proximity to well-settled dales, valleys and glens increases sensitivity. This typology would be highly visible from roads, footpaths and settlement where it would interrupt presently open skylines. Susceptibility rating: High</p>	<p>The narrowness of these bands of foothills and their proximity to well-settled dales, valleys and glens increases sensitivity. This typology would be highly visible from roads, footpaths and settlement where it would interrupt presently open skylines. Susceptibility rating: High</p>
<p>Landscape value These foothills lie within the <i>Thornhill Uplands</i> RSA and are noted as having strong sculptural relief, being scenically juxtaposed with deep steep-sided glens and forming a contrast to main valleys. Maxwellton House is listed in the Inventory of Historic Gardens and Designed Landscapes. Tynron Doon is of national importance and there are many other valued archaeological features. There are some recreational routes.</p>	<p>This typology would impact on the special qualities of the RSA by adversely affecting the contrast these hills provide to glens and main valleys. This typology sited on the south-western slopes or summits of the Keir Hills would be likely to adversely affect the wider landscape setting to the designed landscape of Maxwellton House. The presence of archaeological features increases the value associated with this AU. Value rating: High-medium</p>	<p>This typology would impact on the special qualities of the RSA by adversely affecting the contrast these hills provide to glens and main valleys. This typology sited on the south-western slopes or summits of the Keir Hills would be likely to adversely affect the wider landscape setting to the designed landscape of Maxwellton House. The presence of archaeological features increases the value associated with this AU. Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

18.14 Nithsdale area

18.14.1 *Description*

The *Nithsdale Foothills* have a complex landform of small hills cut by narrow valleys. An intricate pattern of policy woodlands and small fields, interspersed with scrub and species-rich grassland on steep hill slopes, gives a diverse land cover while dispersed farms and houses, set within valleys and on lower hill slopes, have a distinctive ‘estate’ style. Although much of this landscape is hidden from view from adjacent areas, outer hill tops and ridges are highly visible from the adjacent *Middle/Lower Dale* of the Nith (6) and the *Upland Glen* (10) of the Scar Water.

18.14.2 *Operational/consented wind farms and cumulative issues*

Cumulative impacts could arise where operational and consented wind farm development sited in the adjacent *Nithsdale* area of the *Southern Uplands* (21) were seen together with any development located in these Foothills from hill tops popular with walkers (including routes within the Lowther Hills) and from the Scar and Shinnel Water glens.

18.14.3 *Key constraints*

- The complex landform of rolling hills cut by winding, narrow incised valleys.
- The predominantly small-scale of this landscape where landform and dense woodland cover combine to provide strong containment.
- A diverse land cover pattern of policy woodlands, scrub and small pastures enclosed by walls and hedges where the balance of open space to woodland is finely tuned.
- The settled and strong archaeological character of these foothills and the rich architectural integrity of estate influenced buildings.
- The nationally important designed landscape of Drumlanrig Castle which covers part of the *Nithsdale* area and the *Thornhill Uplands* RSA designation.
- The prominent hill tops and ridges of these foothills which are seen from settled dales and glens.

18.15 Sensitivity and guidance

Sensitivity would be **High** for turbines >80m.

Smaller wind turbines could be more successfully accommodated in this landscape area. The accompanying Sensitivity Assessment of Smaller Wind Turbines report provides guidance on the siting of wind turbines <80m high.

AU 19 Foothills – Nithsdale area – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale The Nithsdale Foothills range from 170m to 250m and comprise small scale complex rounded hills and ridges which limit openness and provide strong containment. Extensive woodland cover accentuates this containment and creates an intimate scale within valley floors. Scale increases slightly and the landscape becomes more open on the ridge of small hills which form the western boundary of this unit and at the transition with the <i>Southern Uplands</i> (21) to the north-west.</p>	<p>Turbines of this size would overwhelm the scale of small hills and narrow incised valleys and would dominate the relatively limited extent of this landscape unit. Susceptibility rating: High</p>	<p>Turbines of this size would overwhelm the scale of small hills and narrow incised valleys and would dominate the relatively limited extent of this landscape unit. Susceptibility rating: High</p>
<p>Landform The hills are generally smoothly rounded with occasional knolls and more rugged peaks on the western boundary. Long undulating ridges enclose narrow winding valleys. This area has a complex and tightly configured landform.</p>	<p>This typology would conflict with the complexity of the landform which is a consistent characteristic of this landscape area. Susceptibility rating: High</p>	<p>This typology would conflict with the complexity of the landform which is a consistent characteristic of this landscape area. Susceptibility rating: High</p>
<p>Landcover Land cover is richly diverse with obviously designed policy woodlands creating strongly interlocking patterns over ridges and hills. The balance of open space to woodland cover is critical to the landscape composition of these policies. Well defined hedges enclosing small pastures are a feature particularly on lower hill slopes. A diverse land use and settlement pattern adds richness and reinforces the small scale of this landscape.</p>	<p>Multiple turbines would fill open spaces, affecting the present balance between open space and woodland cover. This large typology would also conflict with the intricate pattern of woodlands, fields and settlement becoming a dominant feature within a landscape where complex and diverse land cover patterns are finely balanced. Susceptibility rating: High</p>	<p>Multiple turbines would fill open spaces, affecting the present balance between open space and woodland cover. This large typology would also conflict with the intricate pattern of woodlands, fields and settlement becoming a dominant feature within a landscape where complex and diverse land cover patterns are finely balanced. Susceptibility rating: High</p>
<p>Built environment The landscape is well settled with dispersed farms and individual houses located largely along lower hill slopes, tucked within hill folds or small valleys alongside a range of archaeological and historic features. There is a strong estate influence evident in the architectural style of buildings throughout the unit.</p>	<p>Large turbines would conflict with the scale and integrity of the strongly traditional architectural style of settlement and archaeological and historic features within this landscape. Susceptibility rating: High</p>	<p>Large turbines would conflict with the scale and integrity of the strongly traditional architectural style of settlement and archaeological and historic features within this landscape. Susceptibility rating: High</p>
<p>Landscape context</p>	<p>Turbines sited on upper slopes, ridges and hilltops would significantly impact</p>	<p>Turbines sited on upper slopes, ridges and hilltops would significantly impact</p>

<p>Although generally hidden from view and surrounded by higher hills to the west and south, these foothills form part of the wider setting to the <i>Upper Dale</i> of Nithsdale (AU9) and the designed landscape of Drumlanrig Castle and also to the <i>Upland Glen</i> (10) of the Scar Water.</p>	<p>on the setting of settlement within parts of Nithsdale, the Drumlanrig designed landscape and the Scar glen. Susceptibility rating: High</p>	<p>on the setting of settlement within parts of Nithsdale, the Drumlanrig designed landscape and the Scar glen. Susceptibility rating: High</p>
<p>Perceptual qualities The farmed and settled nature of this landscape limits the sense of remoteness although the intimate scale and absence of major roads can make it feel secluded in places. The absence of major built infrastructure gives an impression of a timeless quality and strong landscape integrity.</p>	<p>Although the sense of wildness is not pronounced in this landscape, large turbine development would introduce utilitarian structures into this landscape which could detract from its traditional and perceived 'undeveloped' character of these foothills. Susceptibility rating: Medium</p>	<p>Although the sense of wildness is not pronounced in this landscape, large turbine development would introduce utilitarian structures into this landscape which could detract from its traditional and perceived 'undeveloped' character of these foothills. Susceptibility rating: Medium</p>
<p>Views and visibility Views from roads and settlement within this area are often contained by landform and woodland although many properties are elevated on lower hill slopes and have more open views. The ridges and hill tops of this AU are prominent from Nithsdale.</p>	<p>Although landform and woodland limits views from within this landscape, large turbines sited on occasionally glimpsed ridges and hilltops would be likely to have a dominant and distracting effect on the viewer from settlement and roads within this landscape unit. This typology could detract from the focus of Drumlanrig Castle if visible on the skyline of western hills which provide a backdrop to the designed landscape. It could also be visually prominent in views from the Scar Valley if visible on the skyline. Susceptibility rating: High</p>	<p>Although landform and woodland limits views from within this landscape, large turbines sited on occasionally glimpsed ridges and hilltops would be likely to have a dominant and distracting effect on the viewer from settlement and roads within this landscape unit. This typology could detract from the focus of Drumlanrig Castle if visible on the skyline of western hills which provide a backdrop to the designed landscape. It could also be visually prominent in views from the Scar Valley if visible on the skyline. Susceptibility rating: High</p>
<p>Landscape value The <i>Thornhill Uplands</i> RSA covers this area. The Inventory listed designed landscape of Drumlanrig Castle extends to cover the eastern part of this area. This designed landscape is rated in the Inventory as outstanding against all assessment criteria. There are many recreational routes particularly on the Drumlanrig estate.</p>	<p>Sensitivity is increased where the RSA and designed landscape of Drumlanrig coincide. Value rating: High medium</p>	<p>Sensitivity is increased where the RSA and designed landscape of Drumlanrig coincide. Value rating: High medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

19 ASSESSMENT UNIT 20: FOOTHILLS WITH FOREST

19.1 Introduction

Nine landscape areas of the *Foothills with Forest* Assessment Unit are considered in this study. Although the predominantly dense coniferous forest cover of this landscape gives a strongly unified character, the scale and the context of some of these landscape units is distinctly different. The following areas are therefore considered individually in the sensitivity assessment:

- *Ae*
- *Cairnsmore*
- *Cullendoch*
- *Laurieston*
- *Rhinns of Kells*
- *Stroan*

The remaining landscape areas of *Castle Oer*, *Eskdale* and *Tinnisburn* are considered together in the sensitivity assessment.

19.1.1 *Cultural heritage overview*

This landscape is characterised as forestry with some relict pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes, as well as a few areas of pre-medieval features in the *Laurieston* unit, where there is an Archaeologically Sensitive Area. There are some archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit.

19.2 Ae area

19.2.1 *Description*

This area of the *Foothills with Forest* forms an expansive undulating upland plateau lying to the south and east of the Lowther Hills. The hills are generally smooth with rounded summits with few pronounced peaks although some more well-defined small hills occur on the southern and western edges of this landscape. Extensive coniferous forestry covers much of this landscape with open ground limited to some fringing hill pastures and wetter moorland areas in the west. Wind farm development is a key characteristic of this landscape and wind farm development located in neighbouring South Lanarkshire additionally influences character in the north. This landscape is very sparsely settled although Ae Forest is popular for recreation with promoted paths and cycle routes particularly well-used in the southern part of this unit. Extensive forest cover restricts views from within this landscape and, although these foothills border well-settled Nithsdale and Annandale, visibility of the interior plateau is limited.

19.2.2 *Operational/consented wind farms and cumulative issues*

The operational Dalswinton wind farm is located on open moorland pasture on the south-western edge of this landscape area. This wind farm is prominent in views over a wide area from Dumfries, Nithsdale and the surrounding area, due to its location on the outer edge of the *Ae Foothills*. The operational Harestanes development, in contrast, is much more set back into a more expansive upland area and is also partially contained by some higher hills to the south, limiting visibility from surrounding well-settled areas.

The operational Minnygap wind farm, although located in the adjacent Beattock area of the *Foothills* Assessment Unit (19), appears as an extension to the Harestanes wind farm from parts of Annandale.

The operational Clyde wind farm abuts the northern boundary of this landscape. This extensive development is a dominant feature seen from major transport routes and settlement within the Evan valley.

The following cumulative effects may arise if additional wind farm development were to be located in the *Ae Foothills*:

- An extension of the dominant ‘corridor’ effect of large wind turbines experienced from major transport routes and settlement within the Evan valley – this could also extend south into Annandale if development were also located in the northern parts of this landscape and in the *Annandale* area of the *Foothills* Assessment Unit (19) where the width of this generally broad dale reduces.
- An increase in the extent and accentuation of the prominence of the Dalswinton wind farm seen from the well-settled Nithsdale area if further large turbines were located on the western and southern edges of this landscape.
- Views from hill summits such as the Moffat Hills, where further development within the northern part of the *Ae Foothills* would consolidate wind farm development, appearing as a concentrated and, potentially conjoined, band of turbines extending along much of Annandale and the upper Clyde valley.
- The introduction of substantially larger turbines as part of new wind farm developments or extensions to operational wind farms which could incur cumulative effects with existing wind turbines which are around 125m high. These effects would comprise obvious differences in turbine size, spacing of turbines and blade rotation.

19.2.3 *Key constraints*

- Recreational use of the Forest of Ae by walkers and cyclists.
- The incised Water of Ae valley with its more diverse policy woodlands and focus of visitor facilities in the southern part of this landscape area.
- The pronounced conical summit of Queensberry Hill on the eastern edge of the Lowthers which forms a landmark feature, and the distinct rugged edge of the Lowther Hills extending north of this hill (including Harestanes Heights) which are visible across Annandale and which lie in the *Thornhill Uplands* RSA.
- The ‘pinch point’ of these foothills at the Evan valley where settlement and major transport routes lie in closer proximity to these foothills.
- The setting of the dramatic Devil’s Beef Tub landform feature which lies at the head of upper Annandale close to the northern boundary of this landscape area.
- Cumulative effects on character and on views with other wind farm development sited in the *Beattock Foothills* (19) in Foothill and Upland Assessment Units on the east side of Annandale and in neighbouring South Lanarkshire.
- The perimeter hills on the southern and western boundaries of the *Ae* landscape area which are prominent from Nithsdale, Annandale and from the Torthorwald Ridge and which also provide a degree of containment to the operational Harestanes wind farm in some views.

19.2.4 Opportunities

- The large scale and gently undulating plateau-like landform of this landscape.
- The higher ground of the adjacent *Lowther* unit of the *Southern Uplands* (21) lying to the north and west which restricts views of this lower-lying plateau-like landscape area from upper Nithsdale, where the *Thornhill Uplands* RSA and designed landscape of Drumlanrig greatly increase sensitivity.
- The predominantly simple land cover of managed coniferous forestry and the sparsely settled nature of this landscape area.
- The screening effects of intermediate woodland and localised rolling landform within lower slopes and the valley floor of Annandale which limits the extent of visibility of these foothills from settlement and roads.

19.3 Sensitivity and guidance

There would be a **High** sensitivity to wind turbines >150m high and a **High-medium** sensitivity to wind turbines 80-150m. The *Ae Foothills with Forest* are a geographically extensive landscape area stretching in a long band from lower Nithsdale to north of Moffat. The southern and northern parts of this area are addressed separately in the following guidance.

19.3.1 The southern part of the Ae Foothills with Forest

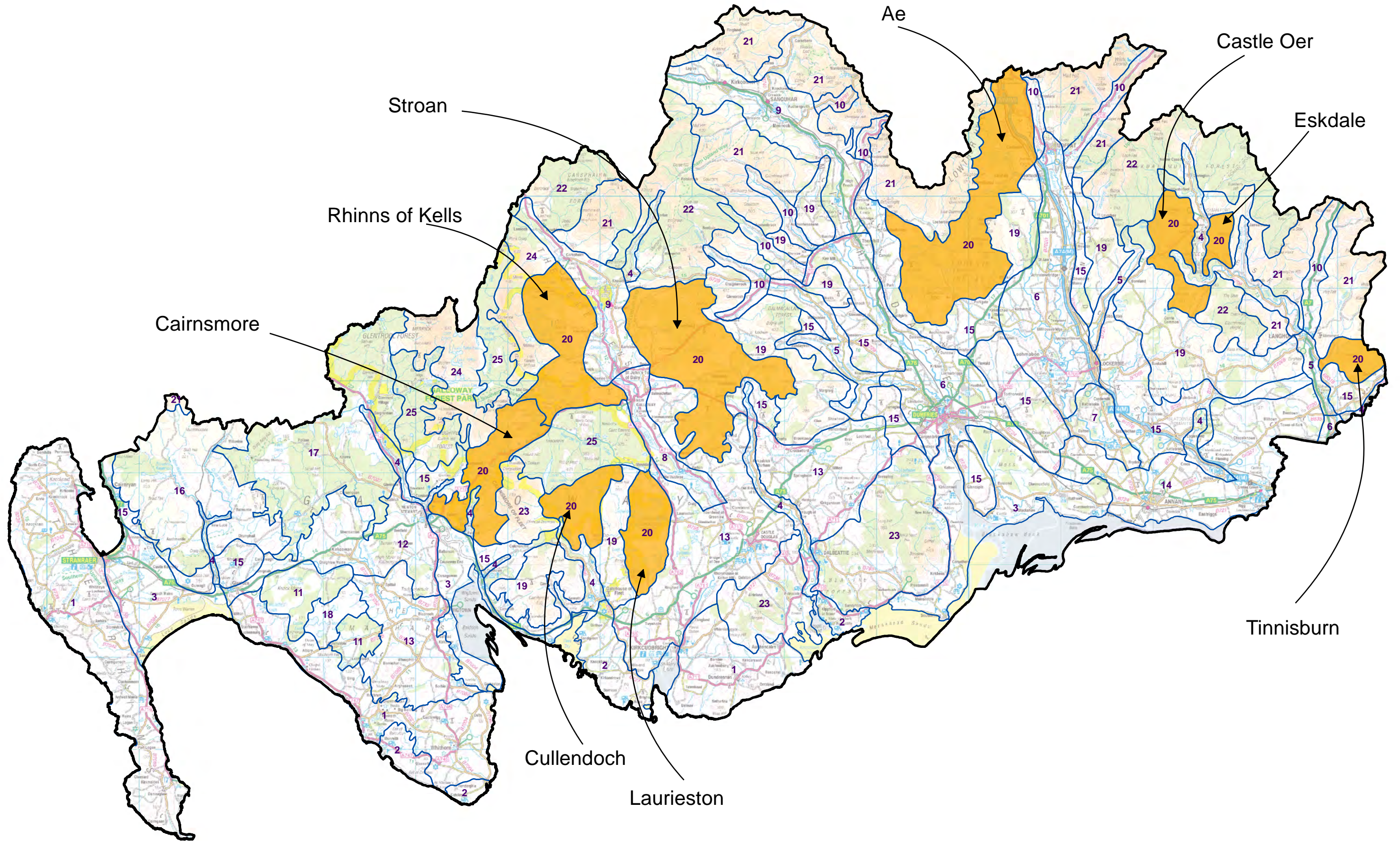
Operational wind farm development already occupies the less sensitive interior of these foothills and very large turbines sited on peripheral areas would be likely to incur significant effects on more sensitive surrounding landscapes and cumulative effects with operational wind farms. Repowering projects involving replacement of operational turbines with larger models would be likely to minimise landscape and visual effects provided that wind turbines were set well back from the more sensitive settled Annandale and Nithsdale areas and avoided overwhelming the landmark hill of Queensberry and the Lowther Hills (which both lie in the *Thornhill Uplands* RSA) in key views. In this respect, the Harestanes wind farm site offers greater scope than the Dalswinton wind farm site for potentially accommodating larger turbines.

Extensions to operational wind farms should be small and should avoid the more sensitive outer edges of this landscape area and open moorland. Any additional development should also not encroach on the steep upper slopes of Queensberry Hill and the rugged upland edge that extends north of this hill (both lying within the adjacent *Lowther* unit of the *Southern Uplands* 21) as this would further diminish their focus in views from Annandale.

19.3.2 The northern part of the Ae Foothills with Forest

Cumulative effects with operational wind farms sited in this and adjacent landscapes, together with effects on the dramatic open Lowther hills of the *Southern Uplands* (21), are a major constraint to development in this part of the *Ae Foothills*. Further development should not breach the strong visual containment provided by the Lowther Hills (the *Southern Uplands* AU 21) in order to both conserve their open and more natural character and to minimise landscape and visual impacts experienced within upper Nithsdale. Restricting the number of turbines within any new development or extension would ensure separation is retained between the operational Clyde and Harestanes wind farms which would minimise cumulative impacts on Annandale and the Evan valley.

Assessment Unit Key Map - 20. Foothills with Forest



AU 20 Foothills with Forest – Ae area – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very Large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale This landscape forms an expansive undulating upland plateau generally lying between 290-400m between the broad dales of Annandale and Nithsdale. It has a large scale although this is significantly reduced in tightly contained valleys such as the Water of Ae and its tributaries. Smaller well-defined hills occur on the southern and western edges of this landscape.</p>	<p>This typology could relate to the large scale of this landscape (although much of the more expansive interior plateau is already occupied by the Harestanes wind farm). Incised valleys and smaller hills lying on the outer edges of these foothills would be susceptible to very large turbines. Susceptibility rating: Medium</p>	<p>This typology could relate to the large scale of this landscape (although much of the more expansive interior plateau is already occupied by the Harestanes wind farm). Incised valleys and smaller hills lying on the outer edges of these foothills would be susceptible to large turbines. Susceptibility rating: Medium</p>
<p>Landform The hills are generally smooth with rounded summits. There are few pronounced peaks although some more well-defined small hills occur on the southern and western edges of this landscape. The landform is more subtly undulating to the north where broad wet basins are interspersed with more defined rounded ridges. Extensive forestry masks the underlying landform although steeply incised burns and more complex interlocking landform is evident particularly in the south</p>	<p>This typology could relate to the predominantly gently undulating landform of this landscape although occasional more well-defined small hills and complex topography has an increased susceptibility. Susceptibility rating: Medium-low</p>	<p>This typology could relate to the predominantly gently undulating landform of this landscape unit although occasional more well-defined small hills and complex topography has an increased susceptibility. Susceptibility rating: Medium-low</p>
<p>Landcover Extensive commercial forestry covers much of this landscape. There is little open ground within the forest although this unit includes some fringing hill pastures and wetter moorland areas which are important in providing diversity.</p>	<p>The simple land cover of extensive forest reduces sensitivity to wind farm development. Open moorland and fringing pastures would be more susceptible. Susceptibility rating: Medium</p>	<p>The simple land cover of extensive forest reduces sensitivity to wind farm development. Open moorland and fringing pastures would be more susceptible. Susceptibility rating: Medium</p>
<p>Built environment There is little settlement within this largely forested landscape. The small settlement of Ae sits on the southern boundary of the area and some buildings are associated with the valley of the Evan Water which cuts through the 'pinch point' formed by these foothills north-west of Moffat. The M74, electricity transmission lines and West Coast railway are aligned through this valley. Some cultural heritage features occur on the open hill fringes of this landscape. Wind farm development is a key characteristic of this landscape.</p>	<p>The less visually prominent interior plateau is already largely occupied by wind farm development and this typology could dominate the setting of Ae and other settlement and adversely affect the setting of archaeological features if sited in remaining undeveloped parts of this landscape. This size of wind turbine, and particularly those >200m high, could noticeably contrast with operational wind turbines. Susceptibility rating: High-medium</p>	<p>The less visually prominent interior plateau is already largely occupied by wind farm development and this typology could dominate the setting of Ae and other settlement and adversely affect the setting of archaeological features if sited in remaining undeveloped parts of this landscape. There may be scope to site a small number of turbines as an extension to an operational wind farm to minimise these effects. Susceptibility rating: Medium</p>

<p>Landscape context</p> <p>These foothills lie adjacent to the <i>Middle Dale</i> (6) of Annandale although views of the interior plateau are restricted. The dramatic and open Lowther Hills (<i>Southern Uplands</i> 19) abut this AU. The conical summit of Queensberry Hill is a landmark feature seen across Annandale.</p> <p>This landscape also abuts the smaller scale <i>Upland Fringe</i> (15) AU covering the Torthorwald Ridge and the eastern side slopes of Nithsdale.</p>	<p>Turbines of this size, and particularly those around 200m, would have a dominant effect on surrounding more diverse and smaller scale landscapes. The Torthorwald Ridge and Nithsdale would be especially susceptible given that remaining undeveloped areas in this landscape lie closer to these landscapes. The setting of the Lowther Hills and the landmark Queensberry Hill is already adversely affected by the Harestanes wind farm and very large turbines could exacerbate these effects, dominating the scale of these hills is sited nearby. Additional wind farm development sited to the north of the Harestanes wind farm could affect the narrower northern part of Annandale and the wider setting to Moffat.</p> <p>Susceptibility rating: High</p>	<p>The Torthorwald Ridge and Nithsdale would be especially susceptible to turbines of this size sited on the outer western and southern edges of this landscape. The setting of the Lowther Hills and the landmark Queensberry Hill is already adversely affected by the Harestanes wind farm and very large turbines could exacerbate these effects.</p> <p>Additional wind farm development sited to the north of the Harestanes wind farm could affect the narrower northern part of Annandale and the wider setting to Moffat.</p> <p>Susceptibility rating: High-medium</p>
<p>Perceptual qualities</p> <p>While the interior of these landscapes can feel remote due to the distance from settlement and public roads, the presence of extensive productive coniferous forestry and operational wind farm development in much of this area precludes a strong sense of wildness. Rare open areas of moorland lying close to the Lowther Hills have more natural qualities</p>	<p>This typology would a minimal effect on perceptual qualities providing open moorland was avoided.</p> <p>Susceptibility rating: Medium-low</p>	<p>This typology would a minimal effect on perceptual qualities providing open moorland was avoided.</p> <p>Susceptibility rating: Medium-low</p>
<p>Views and visibility</p> <p>Views within this landscape area are restricted by extensive forestry. It is very sparsely settled and there are few public roads. The SUW is aligned through the northern part of this area. Ae Forest is popular for recreation with promoted paths and cycle routes particularly well-used in the southern part of this area.</p> <p>These landscapes comprise gently rolling foothills surrounded by Nithsdale and Annandale and the 'Torthorwald' <i>Upland Fringe</i> (15). Views are restricted by the Lowther Hills to the north. Although these foothills are surrounded by well-settled landscapes, visibility is reduced in Annandale where they are set well back, separated by the <i>Foothills</i> (19) and where woodland cover, intermediate ridges and rising</p>	<p>Views from cycle and walking routes in Ae Forest are generally restricted by forest cover. The operational Harestanes wind farm occupies much of the less visually susceptible interior of this landscape. Turbines of this size sited on remaining undeveloped land in the west and south in closer proximity to Nithsdale and Annandale would be likely to have a significant and dominant impact on views from key transport routes and settlement.</p> <p>This typology would be highly visible, with 200m+ high turbines likely to be particularly prominent, from the M74 and from settlement if sited so visible on the skyline of forested hills seen from the Evan valley in the north of this landscape.</p> <p>Susceptibility rating: High</p>	<p>Views from cycle and walking routes in Ae Forest are generally restricted by forest cover restricts visibility. The operational Harestanes wind farm occupies much of the less visually susceptible interior of this landscape. Turbines of this size sited on remaining undeveloped land in the west and south in closer proximity to Nithsdale and Annandale would be likely to have a significant impact on views from key transport routes and settlement. The less visible interior of these foothills is of reduced susceptibility. This typology would be highly visible from the M74 and from settlement if sited so visible on the skyline of forested hills seen from</p>

<p>slopes contain views. The subdued plateau-like landform of this landscape area also serves to restrict visibility. The perimeter hills of this area in the south and west are more visible lying closer to settled landscapes.</p>		<p>the Evan valley in the north of this landscape. Susceptibility rating: High-medium</p>
<p>Landscape value This AU is substantially free of landscape designations although the <i>Thornhill Uplands</i> RSA extends slightly over the western boundary of Ae Forest where it forms...” <i>peripheral areas within the visual envelope of the upper section of the Nith Middle Dale</i>”. Open moorland and wetland on the western edges of this landscape are valuable in providing a contrast with dense forestry. The <i>Torthorwald Ridge</i> RSA lies relatively close to the southern part of this landscape area. Recreational use within the Forest of Ae increases the value associated with parts of these foothills. The SUW and Romans and Reivers Route are also aligned within these foothills.</p>	<p>Turbines of this size located on the western and southern peripheral parts of this landscape could affect the setting and special qualities of the RSAs and rare areas of open moorland. Value rating: Medium</p>	<p>Turbines of this size located on the western parts of this landscape could affect the setting of the RSA and rare areas of open moorland. Sensitivity is reduced elsewhere in this landscape. Value rating: Medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

19.4 Cairnsmore area

19.4.1 *Description*

The Cairnsmore landscape area of the *Foothills with Forest* comprises an upland glen where an often rugged landform combines with well-designed forest cover and open moorland to create a diverse and scenic character. The shapely massif of Cairnsmore of Fleet provides the backdrop to this landscape. This landscape lies within the Galloway Forest Park and the *Galloway Hills* RSA and accommodates well-used recreational facilities. The promoted tourist route of the A712 is also aligned through this landscape.

19.4.2 *Operational/consented wind farms and cumulative issues*

No wind farm development is located in this landscape area and wind farm development sited in surrounding landscapes does not significantly influence views and character due to the containment provided by landform and woodland.

19.4.3 *Key constraints*

- The high recreational use of this landscape which features cycle and walking trails and a number of promoted places of interest for visitors as part of the Galloway Forest Park including the Dark Sky Park.
- The relatively high visibility of this area which although largely forested, is seen from the A712 and in elevated views from Cairnsmore of Fleet.
- The steep slopes and characteristic craggy landforms of this landscape which increase sensitivity to wind farm development and are also important in containing the Bargaly Glen.
- Mature and diverse mixed woodlands which fringe productive coniferous forest and contribute to the attractiveness of the landscape.
- The proximity of this landscape to Cairnsmore of Fleet and its role in providing the wider setting and a visual contrast with this bold rugged and exposed massif.

19.5 Sensitivity and guidance

This landscape area would be of **High** sensitivity to larger wind turbines (>80m high).

Smaller wind turbines could be more successfully accommodated in this landscape area. The accompanying Sensitivity Assessment of Smaller Wind Turbines report provides guidance on the siting of wind turbines <80m high.

AU 20 Foothills with Forest – Cairnsmore area – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale This landscape area comprises the upland Bargaly Glen. The burn is incised to the south-west, constricted by steep hill slopes; its intimate scale accentuated by mature woodland. Scale increases to medium to large on broader, more open hill slopes although dense forest cover limits openness in many areas.</p>	<p>This typology, and particularly wind turbines upwards of 200m high, would overwhelm the scale of the glens and individual hills. Broader hill slopes would be less susceptible. Susceptibility rating: High-medium</p>	<p>This typology would 'fill' the width of the glen and dominate the scale of smaller peaks and the incised Bargaly Burn. It could however relate to the broader scale of hills set back from the more strongly contained glen and the lower west-facing slopes of Cairnsmore of Fleet. Susceptibility rating: Medium</p>
<p>Landform The glen is contained by steep-sided rugged hills rising to around 350m with slopes patterned with scree and rocky outcrops. The bold granite massif of Cairnsmore of Fleet abuts the glen to the south and east. The craggy hill tops of Murray's Monument, Craigdews and the Fell of Talnotry form intermediate peaks backed by the more extensive uplands of the Galloway Hills to the north.</p>	<p>This typology would detract from distinctive craggy hill tops, rugged irregular slopes and the strongly containing steep slopes of Cairnsmore of Fleet. It would significantly affect the dramatic landform of the 'pinch points' of Glen of the Bar and the Wild Goat Park. Susceptibility rating: High</p>	<p>This typology would detract from distinctive craggy hill tops, rugged irregular slopes and the strongly containing steep slopes of Cairnsmore of Fleet. It would significantly affect the dramatic landform of the 'pinch points' of Glen of the Bar and the Wild Goat Park. Susceptibility rating: High</p>
<p>Landcover The Cairnsmore area is notable for its diversity of forest cover, which although largely comprising plantation conifers, includes stately mature trees, Scots pine and broadleaves. Small pastures occur along the narrow floodplain of the Bargaly Glen and heather/grass moorland covers hill tops - both are important in providing a contrast with the forested area. Clatteringshaws Loch is a landmark feature.</p>	<p>This typology could affect the integrity of the forest cover which although comprises commercially managed spruce in many areas, also features mature retentions which complement the rugged upland character of this landscape. Areas of open ground would be particularly sensitive to development. Susceptibility rating: High-medium</p>	<p>This typology could affect the integrity of the forest cover which although comprises commercially managed spruce in many areas, also features mature retentions which complement the rugged upland character of this landscape. Areas of open ground would be particularly sensitive to development. Susceptibility rating: High-medium</p>
<p>Built environment Sparsely settled with small pockets of farmland and very dispersed isolated farms and cottages within extensive forest. There is a small range of archaeological sites outwith the forested land and Murray's Monument is a key landmark feature set on a craggy hill top. Existing wind farms do not influence this landscape area.</p>	<p>There are opportunities to locate this typology to avoid scale comparisons with buildings although it could impact on the setting of Murray's Monument if located within the upper section of the glen. Susceptibility rating: Medium</p>	<p>There are opportunities to locate this typology to avoid scale comparisons with buildings although it could impact on the setting of Murray's Monument if located within the upper section of the glen. Susceptibility rating: Medium</p>
<p>Landscape context This landscape area is important in providing a backdrop to Newton</p>	<p>This typology would overwhelm the intimate scale of the Palnure valley if located on the hill slopes which</p>	<p>This typology would overwhelm the intimate scale of the Palnure valley if located on the hill slopes which</p>

<p>Stewart and the <i>Narrow Wooded River Valley</i> of 'Palnure' (AU4). It also provides the setting to the dramatic bold granite outcrop hill of Cairnsmore of Fleet (AU23)</p>	<p>contain it. It could also impact on the setting the low Larg Hill provides to Newton Stewart. Large turbines situated on the lower forested hill slopes of Cairnsmore of Fleet would detract from the dramatically rugged form of this landmark hill. Susceptibility rating: High</p>	<p>contain it. It could also impact on the setting the low Larg Hill provides to Newton Stewart. Large turbines situated on the lower forested hill slopes of Cairnsmore of Fleet would detract from the dramatically rugged form of this landmark hill. Susceptibility rating: High</p>
<p>Perceptual qualities While parts of this landscape can feel secluded and the terrain is rugged in character, the dominance of intensively managed plantation forestry precludes a marked sense of wildness.</p>	<p>There may be some effects on the sense of seclusion and naturalness in less intensively managed areas. Permanent aviation lighting would impact on the dark skies which are recognised by the Dark Sky Park. Susceptibility rating: High-medium</p>	<p>There may be some effects on the sense of seclusion and naturalness in less intensively managed areas. Susceptibility rating: Medium</p>
<p>Views and visibility Kirkcubright Forest is popular with cyclists and walkers, although open views tend to be limited. The Queens Way (A712) is also a well-used tourist route with many points of interest located close-by providing elevated open views over this landscape.</p> <p>The forested lower hill slopes on the western side of Cairnsmore of Fleet are highly visible from Kirkcubright visitor centre, parts of Wigtown Bay and the Machars and also from the A75. This landscape is also visible from the Galloway Hills and Cairnsmore of Fleet.</p>	<p>Although this landscape is not widely visible in the surrounding area due to the containment of the Glen, high recreational use increases visual sensitivity to this typology which would be likely to be prominent in views from the A712 and from elevated viewpoints such as Murray's Monument. This typology would also be highly visible from elevated viewpoints on Cairnsmore of Fleet and the Merrick group of hills. Susceptibility rating: High</p>	<p>Although this landscape is not widely visible in the surrounding area due to the containment of the Glen, high recreational use increases visual sensitivity to this typology which would be likely to be prominent in views from the A712 and from elevated viewpoints such as Murray's Monument. This typology would also be highly visible from elevated viewpoints on Cairnsmore of Fleet and the Merrick group of hills. Susceptibility rating: High</p>
<p>Landscape value This landscape area lies within the <i>Galloway Hills</i> RSA. These forested foothills are described as being included in the RSA because they form the setting to the valued areas of the Galloway Hills, or have an attractive upland forested character in their own right. The Dark Sky Park designation and Galloway Forest Park apply to this landscape area.</p>	<p>This typology would affect the attractive upland forested character of this part of the RSA and the setting it provides to Cairnsmore of Fleet. Permanent visible aviation lighting could diminish the appreciation of dark skies. Value rating: High</p>	<p>This typology would affect the attractive upland forested character of this part of the RSA and the setting it provides to Cairnsmore of Fleet. Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

19.6 Cullendoch

19.6.1 *Description*

The *Cullendoch* area of the *Foothills with Forest* comprises a low, gently undulating and densely forested basin, contained by higher ground to the north, east and west. This landscape has a generally large scale and simple landform and is also predominantly covered with managed coniferous forestry. This landscape lies close to the landmark hill of Cairnsmore of Fleet and the diverse and highly scenic Fleet Valley.

19.6.2 *Operational/consented wind farms and cumulative issues*

There are no wind farms sited within this landscape. Visibility of wind farms located in surrounding landscapes is restricted in this visually contained landscape and there are therefore likely to be no significant cumulative landscape and visual issues arising.

19.6.3 *Key constraints*

- The proximity of this landscape to the bold, rugged massif of Cairnsmore of Fleet.
- The *Fleet Valley* NSA designation which includes the open hills of Doon of Culreoch and Rig of Drumruck, lying in the southern part of this landscape, which are important in providing a backdrop and contrast to the intimately scaled farmed and wooded valley.
- The close proximity of this landscape to the *Galloway Hills* RSA.
- The Galloway Forest Park and Galloway Dark Sky Park which covers much of this landscape.
- The Big Water of Fleet viaduct which forms a rare landmark feature on the western edge of this landscape area and various archaeological and historic sites that have survived afforestation.

19.6.4 *Opportunities*

- The simple, relatively low-lying landform of this landscape which is screened by higher hills such as Cairnsmore of Fleet to the west and the Fell of Fleet to the north. There is also some containment by slightly higher hills within the *Fleet* area of the *Foothills* (19).
- The sparse settlement and limited promoted recreational activity within this extensive area of productive coniferous forestry.
- Smoother and gentler hill slopes, basins and broad hill tops and the generally large scale of this landscape.
- The simple land cover of productive coniferous forestry.

19.7 Sensitivity and guidance

Sensitivity would be **High-medium** to wind turbines >150m high and **Medium** to wind turbines 80-150m high.

While larger wind turbines could relate to some key characteristics of this landscape, the *Cullendoch* landscape area is not extensive and wind turbines of this size would be likely to impact on views to and from the landmark hill of Cairnsmore of Fleet and could also adversely affect some of the special qualities of the *Fleet Valley* NSA and the

Galloway Hills RSA. Wind turbines <150m may be better able to minimise landscape and visual effects on adjoining more sensitive landscapes.

All wind turbines should minimise effects on the landmark hill of Cairnsmore of Fleet and the *Fleet Valley* NSA. They should not be sited close to key landmark features such as the Clints of Dromore and the Big Water of Fleet railway viaduct and should take account of the setting of archaeological and historic features. Care should also be taken to avoid visual intrusion on the adjacent *Fleet* landscape area of the *Foothills* (19) which comprises a sensitive and rare open valley surrounded by craggy hills between more densely forested uplands.

AU 20 Foothills with Forest – Cullendoch area – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very Large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale This gently undulating landscape has a medium to large scale, with subtle hills rising to around 200m which are dissected by broad river basins. Extensive forest cover limits the degree of openness. There are few scale references such as buildings and farmland in this sparsely settled landscape.</p>	<p>The large scale of broader hill slopes and basins within this landscape reduces susceptibility although this is not an extensive landscape and multiple turbines, and particularly those 200m+ high, could dominate its horizontal scale. Susceptibility rating: High-medium</p>	<p>This typology could relate to the scale of broader hill slopes and basins within this landscape. Multiple wind turbines could dominate the relatively limited horizontal extent of this landscape. Susceptibility rating: Medium</p>
<p>Landform Landform is gently undulating with elongated hills forming subtle rounded summits. Dense forest cover masks the detail of the landform. The Little Water of Fleet and the Benmeal Burn form broad basins on shallow hill slopes with complex fanned tributaries. The Clints of Dromore comprise a rare rocky scarp lying close to the western boundary of this area.</p>	<p>The gently undulating and simple landform could relate to this typology. Clear-felling of forestry to accommodate this typology may expose some under-lying complexities of the landform although these are not likely to form significant constraints. Susceptibility rating: Low</p>	<p>The gently undulating and simple landform could relate to this typology. Clear-felling of forestry to accommodate this typology may expose some under-lying complexities of the landform although these are not likely to form significant constraints. Susceptibility rating: Low</p>
<p>Landcover Dense coniferous forest covers much of this area with the only open space being the hill tops of Doon of Culreoch and the southern end of the Rig of Drumruck which lie at the head of the lower Fleet Valley.</p>	<p>The often uniform and intensively managed forest land cover of this landscape would be less sensitive although development on open hill tops would diminish the contrast these provide to densely forested areas. Susceptibility rating: Medium-low</p>	<p>The often uniform and intensively managed forest land cover of this landscape would be less sensitive although development on open hill tops would diminish the contrast these provide to densely forested areas. Susceptibility rating: Medium-low</p>
<p>Built environment This landscape is very sparsely settled with only occasional farms located on its fringes or within the valley of the Big and Little Water of Fleet valleys. There are a few archaeological and historic sites in unafforested areas, including the Big Water of Fleet viaduct which forms a landmark feature at Cullendoch.</p>	<p>While the sparsely settled nature of this predominantly forested landscape reduces sensitivity, this typology could dominate the scale of the Big Water of Fleet viaduct particularly if sited nearby and the setting of archaeological sites are also sensitive. Susceptibility rating: Medium-low</p>	<p>While the sparsely settled nature of this predominantly forested landscape reduces sensitivity, this typology could dominate the scale of the Big Water of Fleet viaduct particularly if sited nearby and the setting of archaeological sites are also sensitive. Susceptibility rating: Medium-low</p>
<p>Landscape context These forested foothills border the distinctive rugged hill of Cairnsmore of Fleet to the west. The southern hills of Doon of Culreoch and Rig of Drumruck lying within the Cullendoch landscape area also provide an upland backdrop to the</p>	<p>This typology, and particularly wind turbines >200m high, would be likely to impact on the wider setting to Cairnsmore of Fleet and could also intrude on the skyline of the highly sensitive Fleet valley. Susceptibility rating: High</p>	<p>This typology could impact on the wider setting to Cairnsmore of Fleet. There may be greater opportunities for smaller numbers of wind turbines of this size to be sited to minimise intrusion on key landform features, such as the Clints of Dromore and effects on more prominent skylines</p>

<p><i>Fleet Valley</i> (AU4). The Clints of Dromore lie close to the western boundary of this area.</p>		<p>seen above the highly sensitive Fleet Valley. Susceptibility rating: High-medium</p>
<p>Perceptual qualities While the absence of built development and public roads and forest cover can give a sense of seclusion, the perception of naturalness is limited by the presence of extensive productive forestry.</p>	<p>There may be some effects on the sense of seclusion although sensitivity is generally reduced in relation to the perception of wildness. Permanent aviation lighting could diminish the appreciation of dark skies. Susceptibility rating: High-medium</p>	<p>There may be some effects on the sense of seclusion although sensitivity is generally reduced in relation to the perception of wildness. Susceptibility rating: Medium</p>
<p>Views and visibility A number of promoted forest walks and cycle routes are aligned through this area. Dense forestry limits views from these routes and the area is also sparsely settled. The B796 is aligned on the southern edge of this landscape unit and a minor road provides access to the Cairnsmore of Fleet visitor centre and Big Water of Fleet viaduct at Dromore. Both routes provide open views over the south-western part of this landscape unit. Much of this landscape is visually contained from outside view by the higher ground of Cairnsmore of Fleet to the west and the higher ground of the <i>Fleet Foothills</i> (18) to the east. The southern hills of Doon of Culreoch and Rig of Drumruck are visible from the Fleet valley.</p>	<p>This typology would be highly visible from the B796 and visitor facilities at Dromore. It could impact on views from the Fleet valley depending on the location and height of turbines. Turbines of this size would be likely to significantly impact on views from footpaths on Cairnsmore of Fleet and would be likely to detract from the focus this hill provides in views from the B796. Susceptibility rating: High</p>	<p>This typology would be highly visible from the B796 and visitor facilities at Dromore. It may impact on views from the Fleet valley depending on the location of turbines. It would also be visible from footpaths on Cairnsmore of Fleet and could detract from the focus this hill provides in views from the B796. Susceptibility rating: High-medium</p>
<p>Landscape value The southern fringes of this area are designated as the <i>Fleet Valley</i> NSA. Special qualities include the open moorland and wilder feel of enclosing hills and their juxtaposition with the narrow farmed and wooded valley. The <i>Galloway Hills</i> RSA also covers part of this area. The forested foothills are described as being included in the RSA because they form the setting to the valued areas of the Galloway Hills, or have an attractive upland forested character in their own right. The reasons for designation of the part of the <i>Cullendoch</i> area covered by the RSA are not specifically noted in the</p>	<p>This typology could have a significant adverse effect on the hills which provide a backdrop and contrast to the diverse Fleet Valley. It could also adversely affect the setting of Cairnsmore of Fleet. The experience of recreational users could be adversely affected by wind farm development in this landscape. Permanent visible aviation lighting would be likely to diminish the experience associated with the Dark Skies Park. Value rating: High-medium</p>	<p>This typology could have a significant adverse effect on the hills which provide a backdrop and contrast to the diverse Fleet Valley. It could also adversely affect the setting of Cairnsmore of Fleet. The experience of recreational users could be adversely affected by wind farm development in this landscape. Value rating: High-medium</p>

citation. This landscape lies within the Galloway Forest Park and the Galloway Dark Skies Park.		
Sensitivity	High	High-medium

19.8 Laurieston area

19.8.1 *Description*

This landscape comprises gently rounded hills cut by occasional small valleys and punctuated with occasional knolly hill tops within the higher plateau area to the west. Landform is more complex on the eastern and southern fringes of this area where a cluster of craggy knolls and more defined steep-sided hills occur around Meikle Culcaigrie Hill. Much of this landscape is forested with productive spruce plantations predominating on the higher gently rolling upland plateau area although some remnant mixed policy woodland occurs on the eastern fringes of Laurieston Forest. Small pockets of pasture and moorland are present within the forest and more extensive pasture and wet moorland extends on the lower east-facing slopes; this patterned with scrubby mixed woodland. The elongated and strongly contained Woodhall Loch and Loch Mannoich lie on the eastern fringes of these foothills. This landscape is sparsely settled within the higher forested plateau but with small farms and cottages located within farmland and on the edge of moorland within the lower open areas below the forest. This area provides a backdrop to the *Drumlin Pastures* (AU 13) and to the *Flooded Valley* (AU 8) centred on Loch Ken where it is generally seen as a relatively low forested gently undulating plateau.

19.8.2 *Operational/consented wind farms and c*

19.8.3 *umulative issues*

There are no operational or consented wind farms located in this landscape. Operational and consented wind farms in the northern part of the *Stroan* area of the *Foothills with Forest* (20) are theoretically visible from east-facing slopes although these developments lie at distances >15km and dense forest cover will additionally limit views from this area.

19.8.4 *Key constraints*

- More complex landform found on the fringes of this landscape with a distinctive cluster of craggy knolls found in the south-east in the Meikle Culcaigrie Hill area.
- The recreational use of Laurieston Forest on its eastern fringes and around the area of Mannoich Loch.
- The presence of small-scale settlement and the richness of archaeological features and monuments (many offering elevated open views) particularly found in the south-eastern part of this landscape.
- Small lochs and areas of open moorland, wetlands and woodlands occurring on the eastern margins of the forested area which contribute to the diversity of the more open parts of this landscape.
- The visibility of the eastern edge of these foothills from Loch Ken (AU 8) and the *Drumlin Pastures* (AU13) and potential impacts on character and views from the highly sensitive *Fleet Valley* NSA.

19.8.5 *Opportunities*

- A broad gentle landform and uniform land-cover of productive forestry on the higher 'plateau' foothills of this area.

19.9 Sensitivity and guidance

Sensitivity would be **High** for wind turbines >150m high and **High-medium** for wind turbines 80-150m high.

All wind turbines should be sited on broader gently undulating forested areas but avoiding the open moorland, the setting of the lochs and the more complex topography which are key attributes of this landscape. Development should be limited in extent (numbers of wind turbines) and set well back from the sensitive north-eastern edge of the higher forested plateau of this landscape in order to minimise adverse effects on prominent skylines seen from the highly sensitive Loch Ken area. Effects on the adjacent small-scale *Drumlin Pastures* (AU 13) should also be minimised by setting wind turbines back from the eastern and southern edges of these foothills.

AU 20 Foothills with Forest – Laurieston area – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale This landscape has a generally medium to large scale with hills rising to around 300m although scale is reduced where the landform is more complex and contained on the eastern and southern fringes of the area.</p>	<p>This typology could relate to the scale of broader hill slopes although turbines closer to 200m and over could overwhelm the relief of more defined hills. This area is not extensive and multiple turbines of this size could quickly dominate this area of foothills. This typology would dominate the scale of more complex knolly hills and the settled fringes of this landscape. Susceptibility rating: High-medium</p>	<p>This typology could relate to the scale of broader hill slopes although these are not extensive and the number of turbines that could be accommodated in these areas would be limited. This typology would dominate the scale of more complex knolly hills and the settled fringes of this landscape. Susceptibility rating: Medium</p>
<p>Landform Landform is more complex on the lower hill slopes on the eastern and southern fringes of this unit with a cluster of craggy knolls and more defined steep-sided hills occurring to the south around Meikle Culcaigrie Hill. Broader upper hill slopes and rounded tops are interspersed with occasionally more interlocking small-scale valleys and knolly hill tops within the higher plateau area to the west.</p>	<p>This typology would conflict with more complex landform on the lower fringes of this landscape and would overwhelm the scale of small but distinctive knolls in the south- east even if sited in smoother topography nearby. It would also detract from more irregular topography occasionally found within the higher foothills. It could relate to slacker hill slopes within the lower-lying forested upland plateau although these are not extensive which would limit the number of turbines that could be accommodated. Susceptibility rating: High-medium</p>	<p>This typology would conflict with more complex landform on the lower fringes of this landscape and would overwhelm the scale of small but distinctive knolls in the south- east even if sited in smoother topography nearby. It would also detract from more irregular topography occasionally found within the higher foothills. It could relate to slacker hill slopes within the lower-lying forested upland plateau although these are not extensive which would limit the number of turbines that could be accommodated. Susceptibility rating: High-medium</p>
<p>Landcover Much of this landscape is forested and largely comprises managed spruce mainly on the higher gently rolling upland plateau area. Some remnant mixed policy woodlands occur on the eastern fringes of Laurieston Forest. Small pockets of pasture and moorland occur within the forest. More extensive pasture and, often wet, moorland extends on the lower east-facing slopes; this patterned with scrubby mixed. The elongated and strongly contained Woodhall Loch and Loch Mannoich lie on the eastern fringes of these foothills.</p>	<p>This typology would disrupt the integrity of moorland and wetland and adversely affect the setting of the landmark lochs if sited on the open eastern hill slopes. It would also affect the intricate pattern of small woodlands and scrub and the policy woodlands which occur on the settled fringes of this landscape. Commercially managed forest cover would be less susceptible. Susceptibility rating: Medium</p>	<p>This typology would disrupt the integrity of moorland and wetland and adversely affect the setting of the landmark lochs if sited on the open eastern hill slopes. It would also affect the intricate pattern of small woodlands and scrub and the policy woodlands which occur on the settled fringes of this landscape. Productive forest cover would be less susceptible. Susceptibility rating: Medium</p>
<p>Built environment Sparsely settled within the higher forested plateau but with small farms and cottages located within</p>	<p>While there are opportunities to locate this typology within less settled areas of forestry to avoid scale comparisons with domestic buildings, small farms</p>	<p>While there are opportunities to locate this typology within less settled areas of forestry to avoid scale comparisons with domestic buildings,</p>

<p>farmland and on the edge of moorland within the lower open areas below the forest where there are also archaeological and historic sites. An ASA lies within this area. The small settlement of Laurieston sits at the eastern foot of this landscape.</p>	<p>and the settlement of Laurieston increase sensitivity on the northern and eastern fringes of this landscape, particularly to the very tall turbines towards the top of the height band (150m) as does the ASA and the setting of other archaeological features. Susceptibility rating: High-medium</p>	<p>small farms and the settlement of Laurieston increase sensitivity on the northern and eastern fringes of this landscape, particularly to the very tall turbines towards the top of the height band (150m) as does the ASA and the setting of other archaeological features. Susceptibility rating: High-medium</p>
<p>Landscape context This area provides a backdrop to the <i>Drumlin Pastures</i> (13) and to the <i>Flooded Valley</i> (Loch Ken) (AU8) where it is generally seen as a relatively low forested gently undulating plateau. The southern forested slopes of Glengap Forest form a distant backdrop to Gatehouse of Fleet (visible from the monument lying west of the town) with the Hill of Bengray being particularly noticeable.</p>	<p>Development within the southern parts of this area would impact on the highly sensitive small-scale knolly landform which extends into AU 13 and includes the Neilson Monument at Barstobrick and archaeological features between Back Fell and Meikle Culcaigrie Hill. This typology may also be seen in relatively close proximity from open elevated locations within the <i>Fleet Valley</i> NSA if sited in the Glengap Forest and could adversely affect the contrast provided by the backdrop of hills to this intimately scaled and diverse landscape. Turbines visible on the edge of the adjacent <i>Fleet</i> area of AU19 would dominate the scale and diminish the notable seclusion of this valley. Susceptibility rating: High</p>	<p>Development within the southern parts of this area would impact on the highly sensitive small-scale knolly landform which extends into AU 13 and includes the Neilson Monument at Barstobrick and archaeological features between Back Fell and Meikle Culcaigrie Hill. This typology may also be seen in relatively close proximity from open elevated locations within the <i>Fleet Valley</i> NSA if sited in the Glengap Forest and could adversely affect the contrast provided by the backdrop of hills to this intimately scaled and diverse landscape. Turbines visible on the edge of the adjacent <i>Fleet</i> area of AU19 would dominate the scale and diminish the notable seclusion of this valley. Susceptibility rating: High</p>
<p>Perceptual qualities While parts of this landscape can feel secluded, the presence of plantation forestry and settled farmland precludes a sense of wildness. The more diverse areas of lochs, policy woodlands and moorland have a more naturalistic feel.</p>	<p>The sense of naturalness perceived in parts of this landscape could be diminished by development. Permanent visible aviation lighting could further diminish perceptual qualities. Susceptibility rating: High-medium</p>	<p>The sense of naturalness perceived in parts of this landscape could be diminished by development. Susceptibility rating: Medium</p>
<p>Views and visibility There is some recreational use within the forest and former policy woodlands on the eastern edge of Laurieston Forest. Footpaths are aligned around Loch Mannoich and the monuments in the south-east of this unit. The A762 is aligned close to the eastern boundary of this landscape area. Views are fairly contained from this road to the north where steep slopes and vegetation provide containment but are more open to the south of Laurieston. A</p>	<p>The proximity of these foothills to settled lowland landscapes and valleys increases visual sensitivity. This typology would be likely to be highly visible from settlement, roads and footpaths across a wide area to the south and east. It could also be visible from the Fleet Valley to the south-west. Susceptibility rating: High</p>	<p>The proximity of these foothills to settled lowland landscapes and valleys increases visual sensitivity. This typology would be likely to be visible from settlement, roads and footpaths across a wide area to the south and east. It could also be visible from the Fleet Valley to the south-west although the careful siting of smaller wind turbines could minimise the degree of intrusion on sensitive skylines. Susceptibility rating: High-medium</p>

<p>narrow minor road provides access through Laurieston Forest to the Fleet valley with views presently restricted by forestry.</p> <p>Views of the forested higher plateau of this area are limited from the village of Laurieston although there are more open views from dispersed settlement across the <i>Drumlin Pastures</i> (AU13) from the east and south. There is visibility from the B795 and from sections of the A75 to the south.</p>		
<p>Landscape value</p> <p>The northern part of this landscape area lies within the <i>Galloway Hills</i> RSA. The forested foothills are described as being included in the RSA because they form the setting to the valued areas of the Galloway Hills, or have an attractive upland forested character in their own right. Parts of this landscape contain popular recreational facilities including footpaths, bird watching locations and monuments. There is an ASA and a number of promoted archaeological features in this landscape.</p>	<p>The presence of the RSA, archaeological features and recreational facilities increases the valued associated with this landscape.</p> <p>Value rating: High-medium</p>	<p>The presence of the RSA, archaeological features and recreational facilities increases the valued associated with this landscape.</p> <p>Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

19.10 Rhinns of Kells area

19.10.1 *Description*

The broad rolling hills of this landscape lie between 200 and 380m AOD and merge with the open upper slopes of the high Rhinns of Kells ridge. They have a medium to large scale although scale is reduced within the many incised valleys which cut through often steep slopes. Hill tops are generally rounded and slopes fairly broad and gentle but with occasional craggy hill tops and steep slopes (some of these masked by forestry) reflecting the more dramatic granite geology and ruggedness of the adjacent Rhinns of Kells. The extensive forest cover of this area limits the degree of openness and views from this landscape. Grass moorland covers lower hill slopes and small woodlands and shelterbelts are prominent features within the lower reaches of the Polharrow Burn. Occasional small lochs sit within the folds of these foothills while the impounded Clatteringshaws Loch is a key landmark feature in the south-western part of this area.

19.10.2 *Operational/consented wind farms and cumulative issues*

The operational Torrs Hill wind turbines are located within this landscape area. This development comprises two wind turbines, 100m high to blade tip. The operational Wether Hill and Windy Standard wind farms are located approximately 12km to the north-east of this area. The Wether Hill wind farm is generally more visible from this landscape than Windy Standard due to the screening provided to the latter by the hill of Cairnsmore of Carsphairn from lower elevations. The operational Blackcraig and the consented Fell, Margree, Trostan Loch and Glenshimmeroch wind farms, sited in the *Stroan* area of the *Foothills with Forest* (20) to the east of the Ken valley, are/will be visible particularly from the more open hill slopes west of St Johns Town of Dalry. Glenshimmeroch wind farm is likely to be the most prominent of these developments seen in views from these foothills.

A concentration of larger wind turbines located close to the transition of this landscape area with the *Glenkens* area of the *Upper Dale* (9) (and seen together with operational and consented wind farms to the east) could result in significant cumulative landscape and visual effects on views and on the setting of settlements such as Dalry and New Galloway.

19.10.3 *Key constraints*

- The dramatic backdrop of the long shapely ridge of the Rhinns of Kells which is a landmark feature seen across the Glenkens and on entering Dumfries and Galloway from Ayrshire on the A713. This ridge lies within the *Galloway Hills* RSA.
- Clatteringshaws Loch and the scenic backdrop of hills that surround it.
- Key recreational access routes through these forested foothills to the Rhinns of Kells, including the SUW, and in the vicinity of Clatteringshaws Loch.
- Small lochans, corries and areas of more complex landform.
- The incised diverse lower valley of the Polharrow Burn which features a mix of policy and native woodlands.
- Archaeological and historic sites that have survived afforestation.

19.10.4 *Opportunities*

- The predominantly medium-large scale of this landscape and its simple land cover of productive coniferous forestry.

19.11 **Sensitivity and guidance**

Sensitivity would be **High** to wind turbines >150m high and **High-medium** to wind turbines 80m to 150m high.

Although these forested foothills have a medium to large scale and simple land cover which could relate to larger wind turbines, the proximity of this landscape to the dramatic ridge of the Rhinns of Kells and effects on the special qualities of the *Galloway Hills* RSA increase sensitivity. More distinctive craggy-topped hills should be avoided and care should be taken to site wind turbines to avoid impacting on the setting and key views to and from the dramatic Rhinns of Kells ridge.

AU 20 Foothills with Forest – Rhinns of Kells area – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale The broad rolling hills of this landscape lie between 200 and 380m and merge with the upper slopes of the Rhinns of Kells ridge. They have a medium to large scale although scale is reduced within the many incised valleys which cut through often steep slopes. Extensive forest cover limits the degree of openness.</p>	<p>This typology, and particularly wind turbines towards 200m high and over, would appear overly large in relation to the scale of these foothills. They would also dominate the narrower incised valleys. Susceptibility rating: High-medium</p>	<p>This typology could relate to the medium to large scale found within the majority of this landscape although it would dominate the narrower incised valleys. Susceptibility rating: Medium</p>
<p>Landform These rolling foothills are dissected by incised river valleys that fan out from the Polharrow and Polmaddy Burns. The hills have a stronger interlocking character south-west of Forrest Lodge. Hill tops are generally rounded and slopes fairly broad and gentle but with occasional craggy hill tops and steep slopes (some of these masked by forestry) reflecting the more dramatic granite geology and ruggedness of the adjacent Rhinns of Kells.</p>	<p>Occasional steep slopes and craggy hill tops would be highly sensitive although the smoother and broader hill tops and slacker hill slopes would relate better to this typology. Susceptibility rating: Medium</p>	<p>Occasional steep slopes and craggy hill tops would be highly sensitive although the smoother and broader hill tops and slacker hill slopes would relate better to this typology. Susceptibility rating: Medium</p>
<p>Land cover Dense coniferous forest covers the majority of this area, extending high onto the upper slopes of the Rhinns of Kells ridge, within the Polmaddy valley to the north and on the west-facing slopes of Bennan Hill north-east of Clatteringshaws Loch. Grass moorland covers lower hill slopes and small woodlands and shelterbelts are prominent features within the lower reaches of the Polharrow Burn. Occasional small lochs sit within the folds of hills while the impounded Clatteringshaws Loch is a key landmark feature due to its size and location.</p>	<p>Occasional open hill tops within dense forestry provide interest and contrast with the uniformity of commercially managed spruce plantation. Development which was sited upon, or visually intruded on, these hill tops would diminish this contrast. The setting of landmark lochs and more naturalistic pattern of wooded river valleys which increase diversity could also be affected by nearby development. This typology could however relate to the overall simple pattern of moorland and commercial forestry which dominates this landscape. Susceptibility rating: Medium</p>	<p>Occasional open hill tops within dense forestry provide interest and contrast with the uniformity of commercially managed spruce plantation. Development which was sited upon, or visually intruded on, these hill tops would diminish this contrast. The setting of landmark lochs and more naturalistic pattern of wooded river valleys which increase diversity could also be affected by nearby development. This typology could however relate to the overall simple pattern of moorland and commercial forestry which dominates this landscape. Susceptibility rating: Medium</p>
<p>Built environment This landscape area is sparsely settled with buildings associated with the Forrest estate concentrated at the head of the main Polharrow valley and very occasional farms and extant historic / archaeological features associated with lower reaches of the</p>	<p>The sparsely settled nature of this predominantly forested upland landscape reduces sensitivity to wind farm development in general but the setting of archaeological sites in unafforested areas remains sensitive. This typology would be likely to contrast with the size of the Torrs Hill</p>	<p>The sparsely settled nature of this predominantly forested upland landscape reduces sensitivity to wind farm development in general but the setting of archaeological sites in unafforested areas remains sensitive. Susceptibility rating: Medium-low</p>

<p>Polharrow valley and other minor valleys. The Torrs Hill wind turbines are located on these slopes.</p>	<p>wind turbines which are 100m high and could create a cluttered effect. Susceptibility rating: Medium</p>	
<p>Landscape context These forested hill slopes lie in close proximity to the dramatically rugged and highly scenic long ridge of the Rhinns of Kells and are important in providing the landscape setting to these highly sensitive uplands. The more settled landscape of the <i>Upper Dale</i> (9) of the <i>Upper Glenkens</i> lies to the east of this landscape area.</p>	<p>This typology would impact on the setting of the Rhinns of Kells ridge and could further diminish the integrity of the wider upland area of the Galloway Hills. Susceptibility rating: High</p>	<p>This typology would impact on the setting of the Rhinns of Kells ridge and could further diminish the integrity of the wider upland area of the Galloway Hills. Susceptibility rating: High</p>
<p>Perceptual qualities Although the perception of naturalness is compromised by extensive managed forestry in this area, the proximity of the Rhinns of Kells and the Merrick Wild Land Area increases the sense of wildness particularly in less modified open upper hill slopes.</p>	<p>The proximity of these landscapes to uplands with a pronounced sense of wildness increases susceptibility particularly to larger wind turbines which would be more intrusive and may additionally feature permanent visible aviation lighting. Susceptibility rating: High</p>	<p>The proximity of these landscapes to uplands with a pronounced sense of wildness increases susceptibility. Susceptibility rating: High-medium</p>
<p>Views and visibility The Rhinns of Kells are a popular destination for walkers and access to the ridge is possible through the Forrest Estate. Dense forest limits open views from footpaths. The SUW is also aligned on the north shore of Clatteringshaws Loch and along the Garroch Burn in the southern part of this unit. Clatteringshaws Loch is an important focus for recreation within the Galloway Forest Park. The A712, 'The Queen's Way', provides open views across Clatteringshaws Loch. The craggy-topped Bennan Hill (381m) lying on the south-western edge of this character type is a key feature in these views. This landscape area is highly visible from the B7000, which allows elevated open views across to the Rhins of Kells, and from settlement within the Glenkens. It is also visible at distance from the A712 (Balmaclellan) and intermittently from the A713. The landscape unit is visually contained by the Rhinns of Kells to the west although is visible in close proximity from the ridge itself.</p>	<p>This typology could impact on views from footpaths to the Rhinns of Kells and the SUW. It would have significant visual impacts from visitor facilities and the A712 if sited on the south-western hills which contain Clatteringshaws Loch or if seen on the skyline (if sited on hill slopes to the north-east). Tall turbines would interrupt or detract from the distinctive profile and backdrop of the Rhinns of Kells which are a focus in views mainly seen from the east. They would also impact on the Rhinns of Kells if located so visible from the A713 to the north on the approach to Dumfries and Galloway from East Ayrshire where these hills form an important threshold feature and key focus. Susceptibility rating: High</p>	<p>This typology could impact on views from footpaths to the Rhinns of Kells and the SUW. It would have significant visual impacts from visitor facilities and the A712 if sited on the south-western hills which contain Clatteringshaws Loch or if seen on the skyline (if sited on hill slopes to the north-east). Tall turbines would interrupt or detract from the distinctive profile and backdrop of the Rhinns of Kells which are a focus in views mainly seen from the east. They would also impact on the Rhinns of Kells if located so visible from the A713 to the north on the approach to Dumfries and Galloway from East Ayrshire where these hills form an important threshold feature and key focus. Susceptibility rating: High</p>
<p>Landscape value The <i>Galloway Hills</i> RSA covers all this landscape unit. The citation describes</p>	<p>This typology would have a significant and adverse effect on the special qualities of the RSA and in particular</p>	<p>This typology would have a significant and adverse effect on the special qualities of the RSA and in particular</p>

<p>the forested foothills as being included in the RSA because they form the setting to the valued areas of the Galloway Hills, or have an attractive upland forested character in their own right. It notes that parts of this area along the A712 'Queensway' through the Galloway Forest Park are included on their own merits. The Galloway Forest Park and Dark Skies Park extends across part of this AU and the Merrick WLA lies close to these foothills. Walking routes to the Rhinns of Kells ridge are aligned through these foothills.</p>	<p>on the wider setting of the dramatic and scenic Rhinns of Kells ridge. Wind farm development could affect the experience of people using recreational facilities within the Galloway Forest Park and could diminish the appreciation of dark skies Value rating: High-medium</p>	<p>on the wider setting of the dramatic and scenic Rhinns of Kells ridge. Wind farm development could affect the experience of people using recreational facilities within the Galloway Forest Park. Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

19.12 Eskdale, Castle Oer and Tinnisburn

19.12.1 Description

These foothills generally form gently undulating plateaux, fringing the higher Southern Uplands (21) and Southern Uplands with Forest (22) in the east of Dumfries and Galloway. These uplands are substantially covered with productive coniferous forest cover with relatively small areas of grassy moorland occurring on higher hill tops, lower slopes (where they merge with pasture on the upper slopes of surrounding valleys) and in valleys. The *Castle O'er* area is more extensive and its scale is perceived as being more expansive particularly where it imperceptibly merges with the expansive *Southern Uplands with Forest* (22) in the north.

19.12.2 Operational/consented wind farms and cumulative issues

The operational wind farm of Crossdykes is partially located in the *Castle Oer* landscape area. The operational Minsca, Solwaybank, Ewe Hill and Carlesgill wind farms are located within the adjacent *Annandale* area of the *Foothills* (19) and the *West Langholm* area of the *Southern Uplands with Forest* (22). Potential cumulative effects of multiple developments would be principally likely to affect character and views from roads, recreational routes, settlement and valued archaeological features within Annandale and the Esk valley.

Key cumulative effects that may arise include:

- Creation of a 'corridor' effect of wind farms affecting Annandale if extensive development were to occur in the *Castle Oer* area of this Assessment Unit, the *Annandale* area of the *Foothills* (19) and the *Eskdalemuir* area of the *Southern Uplands with Forest* (22) and seen in combination with the operational Minnygap and Harestanes wind farms. Wind farm development located in the more remote interior of the *Castle Oer* area would reduce sensitivity in terms of effects on surrounding more sensitive landscapes.
- Cumulative effects with the operational Carlesgill wind farm affecting sensitive skylines above the Esk valley and also seen from open hill tops, for example popularly accessed walks within the *Langholm Hills* RSA and from the Malcolm monument on Whita hill near Langholm.

19.12.3 Key constraints

- More pronounced rounded forested hills lying on the periphery of these landscape areas which provide a strong containing edge and visual focus on the edges of the Esk valley.
- The more complex landform of well-defined hills on the western boundary of the *Castle Oer* area at the transition with the *Annandale* area of the *Foothills* (19).
- Archaeological features within the *Castle Oer* and *Eskdale* area of this Assessment Unit which commonly lie at the transition with the Esk valley and the *Annandale* area of the *Foothills* (19) and include a number of valued hill forts some of which form part of the Eskdale Archaeological Trail.
- Views of these foothills from the promoted Langholm Walks and from Malcolm's monument, a popular viewpoint on Whita Hill.
- Visibility of the *Tinnisburn* area from the more settled open landscapes within neighbouring Cumbria and from key viewpoints in the Langholm Hills.

- Cumulative effects with operational wind farms sited in the *Annandale* area of the *Foothills* (19) and the *Southern Uplands with Forest* (22).

19.12.4 Opportunities

- The large scale of these areas and their predominantly simple, gently rolling landform.
- The sparsely settled nature of this landscape.
- The relatively simple landcover of extensive productive coniferous forestry which covers much of these landscapes.

19.13 Sensitivity and guidance

Sensitivity would be **High-medium** for wind turbines >150m high and **Medium** for wind turbines 80-150m high.

The northern part of the more extensive *Castle Oer* landscape area, where it abuts the large scale *Southern Uplands with Forest* (22), offer the greatest opportunity to locate very large wind turbines while minimising effects on more sensitive surrounding valleys, dales and uplands. The *Tinnisburn* area is of increased susceptibility due to its close relationship to the *Langholm Hills* RSA and the more settled valley of the Liddel Water.

Development should avoid the more pronounced forested hills which lie on the edge of the Esk valley and provide an important backdrop and contrast with the small-scale farmed valley sides and floor. The more complex landform which occasionally occurs at the transition with the *Annandale* area of the *Foothills* (19) should also be avoided. These 'edge' hills often feature hill forts and other valued archaeological features.

AU 20 Foothills with Forest – Eskdale, Oer and Tinnisburn areas – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very Large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale These landscape areas of the <i>Foothills with Forest</i> form undulating upland plateaux lying between 290-330m high. Scale is reduced in more contained valleys and where the landform is more complex on the western boundaries of the unit. Openness is limited by dense forestry.</p>	<p>Although the absence of scale references reduces sensitivity, multiple turbines towards 200m and over would dominate the limited extent of some of these foothill areas and the small but pronounced hills lying on outer edges. Susceptibility rating: High-medium</p>	<p>Larger turbines within this height band would dominate the limited extents of the <i>Tinnisburn</i> and <i>Eskdale</i> areas although in general this typology could relate to the scale of these foothills. Susceptibility rating: Medium</p>
<p>Landform These foothills are generally smooth with subtle rounded summits and elongated ridges. Extensive forestry masks the underlying landform although more complex interlocking ridges and valleys are evident particularly close to the western boundary of the <i>Castle Oer</i> area at the transition with the <i>Annandale Foothills</i> (19). More defined rounded hills border <i>Eskdale</i> (4) in places.</p>	<p>This typology could relate to the predominantly gently undulating landform of this AU although more pronounced rounded hills at the edge of <i>Eskdale</i> and the more complex smaller scale landform on the western boundaries of the <i>Castle Oer</i> area are more susceptible. Susceptibility rating: Medium</p>	<p>This typology could relate to the predominantly gently undulating landform of this AU although more pronounced rounded hills at the edge of <i>Eskdale</i> and the more complex smaller scale landform on the western boundaries of the <i>Castle Oer</i> area are more susceptible. Susceptibility rating: Medium</p>
<p>Landcover Extensive productive forestry covers much of this landscape. There is some open space mainly along water courses and small areas of hill pasture fringe lower hill slopes.</p>	<p>The uniformity of extensive forest cover reduces sensitivity to wind farm development. Open ground and pasture which provides an important contrast to uniform forestry would be more susceptible to development. Susceptibility rating: Medium-low</p>	<p>The uniformity of extensive forest cover reduces sensitivity to wind farm development. Open ground and pasture which provides an important contrast to uniform forestry would be more susceptible. Susceptibility rating: Medium-low</p>
<p>Built environment There is little settlement within this AU. However, a number of Iron Age hill forts and other archaeological features occur on the edge of these foothills adjacent to <i>Eskdale</i> (4) and the <i>Annandale Foothills</i> (19). Wind farm development is present in the southern part of the <i>Castle Oer</i> area and in some adjoining uplands.</p>	<p>There is scope for this typology to be accommodated without conflicts of scale and impacts on settlement although archaeological features, generally lying on the edge of the Esk valley, increase susceptibility. Cumulative effects could occur with operational wind farms on <i>Annandale</i> and the <i>Esk Valley/Langholm Hills</i> particularly if wind turbines were sited close to the western edges of these foothills. Susceptibility rating: Medium</p>	<p>There is scope for this typology to be accommodated without conflicts of scale and impacts on settlement although archaeological features generally lying on the edge of the Esk valley increases susceptibility. Cumulative effects could occur with operational wind farms on <i>Annandale</i> and the <i>Esk Valley/Langholm Hills</i> particularly if wind turbines were sited close to the outer edges of these foothills. Susceptibility rating: Medium</p>
<p>Landscape context These uplands tend to be set back from more sensitive small-scale valleys although some hills on the edge of these areas of the <i>Foothills with Forest</i> are visible from the <i>Narrow Valleys</i> (4) of <i>Eskdale</i> and the <i>Dryfe Water</i> (5) where open and more pronounced 'edge' hills form a backdrop and contrast to these settled farmed valleys. There is a gradual</p>	<p>Turbines towards and over 200m high, could dominate surrounding small-scale valleys and the well-settled <i>Annandale Foothills</i> (19) particularly if sited closer to these more sensitive landscapes. Turbines sited in the interior of the more expansive northern part of the <i>Castle Oer</i> area (close to AU 22) would be</p>	<p>While development sited in the more sensitive outer edges of these areas could dominate the scale of adjacent settled valleys and glens, there is increased scope for smaller wind turbines within this typology to minimise intrusion on adjoining more sensitive landscapes. Susceptibility rating: Medium</p>

<p>merging of the <i>Castle Oer</i> area with the <i>Southern Uplands with Forests</i> (22) to the north. The <i>Tinnisburn</i> area forms a forested plateau providing an indistinct and foreshortened backdrop to the <i>Liddel Water valley</i> (4) and the upper slopes of the Tarras valley. More pronounced rounded forested hills occasionally occur along the western boundary of the <i>Castle Oer</i> area at the transition with the <i>Annandale</i> area of the <i>Foothills</i> (19).</p>	<p>likely to have a reduced effect on surrounding landscapes. Susceptibility rating: High-medium</p>	
<p>Perceptual qualities Although the interior of these landscapes can feel remote due to the distance from settlement and public roads, the presence of extensive productive forestry precludes a sense of naturalness.</p>	<p>This typology would be likely to have no significant adverse effect on perceptual qualities. Susceptibility rating: Low</p>	<p>This typology would be likely to have no significant adverse effect on perceptual qualities. Susceptibility rating: Low</p>
<p>Views and visibility Views within these landscape areas are restricted by extensive forestry. It is very sparsely settled and there are few public roads. The B723 is aligned through Oer Forest and allows some views into the forested interior. There are footpaths to the hill forts of Castle Oer and Bessie on the fringes of Oer Forest and these provide vantage points over parts of these landscapes. The Langholm Hills Walks also offer views to these landscapes. These uplands comprise gently undulating plateaux set back from settled valleys and glens. Views to these areas are generally very limited. Tinnisburn Forest is visible from more elevated footpaths and settlement in the Liddel Water valley and particularly from the north-west facing valley sides within neighbouring Cumbria but not from the incised, well-wooded valley floor. There are also views of Tinnisburn Forest from Whita Hill. Views from settlement and roads within the Esk valley (AU4) to the <i>Eskdale</i> and <i>Castle Oer</i> area are limited by the perimeter hills which contain the valley.</p>	<p>There may be some very limited scope for this typology to be located within the remote 'interior' of the more extensive <i>Castle Oer</i> area to limit visibility. Turbines of this size located in the less extensive <i>Eskdale</i> and <i>Tinnisburn</i> areas would be likely to more visible from adjacent settled valleys. More defined perimeter hills bordering valleys and glens and the <i>Annandale Foothills</i> to the west would be highly susceptible to this typology as turbines would be dominant features seen on the skyline above smaller scale settled landscapes. Susceptibility rating: High-medium</p>	<p>There is scope for this typology to be located within the more remote 'interior' of the <i>Castle Oer</i> and <i>Eskdale</i> area without widespread significant visual intrusion occurring due to the sparse population, absence of roads and limited visibility from more settled areas. This typology sited on more defined perimeter hills bordering valleys and glens and the <i>Annandale Foothills</i> to the west would be visually dominant however as it would be likely to be seen on the skyline above smaller scale settled landscapes. The <i>Tinnisburn</i> area is more susceptible and this typology would be visible in relative proximity from key recreational viewpoints in the Langholm Hills and from parts of the Liddel Water valley. Susceptibility rating: Medium</p>
<p>Landscape value No landscape designations apply to the <i>Castle Oer</i> and <i>Eskdale</i> areas. The north-western part of the <i>Tinnisburn</i> area is covered by the <i>Langholm Hills</i> RSA. Recreational use of these forested foothills is relatively limited.</p>	<p>The absence of formal landscape designations across much of these foothills reduces value although direct and indirect effects on the nearby <i>Langholm Hills</i> RSA could occur. Value rating: Medium</p>	<p>The absence of formal landscape designations across much of these foothills reduces value although direct and indirect effects on the nearby <i>Langholm Hills</i> RSA could occur. Value rating: Medium</p>
<p>Sensitivity</p>	<p>High-medium</p>	<p>Medium</p>

19.14 Stroan area

19.14.1 Description

The *Stroan* area of the *Foothills with Forest* forms an undulating upland plateau of generally smoothly rounded hills which is punctuated by occasional, higher and more well-defined ridges and hills. The long south-east facing slopes of the Blackcraig ridge, which lies at the centre of this area, cumulate in a shallow basin around Monybuie Flow. Numerous water course cut shallow channels into this landscape and small lochans sit at the foot of hills. More complex, small scale hummocky landform occurs on the south-western fringes of this area close to the *Drumlin Pastures* (13). This landscape is predominantly forested although areas of moorland and moss occur in places with some walled semi-improved pastures present on lower slopes at the transition with surrounding more settled lowland landscapes. The A702 and A712 are aligned through this landscape and a few narrow minor roads provide access to isolated farms. This landscape is sparsely settled particularly in the more densely forested area north of the Blackcraig ridge. Operational and consented wind farm development is/will be a key characteristic of this landscape.

19.14.2 Operational/consented and cumulative issues

The operational Blackcraig wind farm is located in this landscape area as are the consented Fell, Magree, Trostan Loch and Glenshimmeroch windfarms. The operational Wether Hill wind farm is located approximately 4km to the north-east of this landscape area within the adjacent *Ken* area of the *Southern Uplands with Forest* (22). Operational and consented wind farms within the *Nithsdale*, *Ken* and *Carsphairn* areas of the *Southern Uplands* (21) and *Southern Uplands with Forest* (22) Assessment Units lying to the north of this area are theoretically visible although landform and extensive forestry, together with the sparsely settled nature of these foothills, limits/will limit intrusion.

Key cumulative effects are likely to include:

- A concentrated build-up of wind farms within this landscape which could form a dominant feature seen on the skyline of low hills which backdrop the sensitive smaller scale and relatively well-settled *Flooded Valley* (8), *Upper Glenkens* (9) and *Drumlin Pastures* (13) Assessment Units.
- Sequential views from major roads including the A713, A712, A762 and A702.
- Cumulative effects on key views including those from recreational areas and settlement with multiple wind farm developments likely to be seen from more open elevated areas including hill summits popular with walkers.
- Cumulative effects on the setting and on views to and from the *Galloway Hills* RSA in combination with other operational and consented wind farms located in Assessment Unit 22.
- Concentrated wind farm development located in the less developed southern part of this area would contrast with the predominant pattern of more extensive wind farm development associated with larger upland landscapes remote from more settled areas.

19.14.3 Key constraints

- The narrowness of the southern parts of these forested foothills and their proximity to more settled and small-scale landscapes in the lowlands of Dumfries and Galloway, increasing sensitivity to larger wind turbines.
- The small-scale knolly landform which occurs on the fringes of these foothill landscapes particularly at the transition with the adjacent *Drumlin Pastures* (13) Assessment Unit and which increases susceptibility to larger wind turbines.
- The visibility of these foothills from the adjacent more settled landscapes of the *Drumlin Pastures* (13) and *Upper Dales* (9) of the Ken valley to the west and the Castlefairn unit of the *Upland Glens* (10) to the north-east.
- Potential effects on the special qualities of the *Galloway Hills* RSA particularly where it covers the Loch Ken and Upper Glenkens area.
- Cumulative effects with the operational Blackcraig and consented Fell, Magree, Trostan Loch and Glenshimmeroch wind farms.
- Recreational routes including the SUW which offers spectacular views across the Glenkens to the Rhinns of Kells and Cairnsmore of Carsphairn.

19.14.4 Opportunities

- The medium to large scale of this landscape and the limited diversity of productive coniferous forest cover which covers much of this area.
- The relatively sparse population and absence of well-used recreational routes which reduces susceptibility in relation to views and effects on visual amenity.

19.15 Sensitivity and guidance

This landscape would be of **High-medium** sensitivity to wind turbines >150m high and **Medium** sensitivity to wind turbines 80-150m.

Wind turbines should be sited on broader less prominent hills and ridges and within interior basins set well back from the edge of more settled landscapes including the *Drumlin Pastures* (13), *Flooded Valley* (8), *Upper Dale (Glenkens)* (9) and *Upland Glens* (10) Assessment Units. The less susceptible densely forested interior in the northern part of these foothills is/will be already occupied by operational and consented wind farms and this limits scope for additional development. Wind turbines should also avoid areas of more complex smaller scale landform commonly found at the transition with the *Drumlin Pastures* (13) and the *Narrow Valley* (4) of the Urr Water and more sensitive mosses and remnant broadleaved woodlands and other planted features. Construction access should utilise existing forestry tracks and avoid modification of the highly sensitive network of narrow minor roads within the adjacent *Drumlin Pastures* (13).

AU 20 Foothills with Forest – Stroan area – Sensitivity assessment for larger turbines		
Topics and description	Assessment: Very Large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale A medium to large scale undulating upland plateau generally lying between 200-320m but with occasional higher hills. Extensive forestry limits the openness of this landscape. Scale is reduced within more incised valleys and where the landform forms complex knolls generally to the west and south.</p>	<p>Very tall turbines closer to 200m tall and over would dominate the scale of small hills and the narrow extent of the southern part of these foothills. This typology would also have a dominant effect on more well-defined small hills and areas of more complex landform although more extensive shallow basins would be less susceptible in terms of scale. Susceptibility rating: High-medium</p>	<p>This typology could relate to the scale of broader rounded hills and shallow basins although tall turbines would dominate valleys and well-defined small hills and the more complex knolly landscape that occurs on the fringes of this unit if sited on or close-by these features. Susceptibility rating: Medium</p>
<p>Landform This area forms an undulating upland plateau of generally smoothly rounded hills but with the more distinctly rugged Blackcraig ridge extending from the prominent cone of Fell Hill (417m) to Troquhain Hill (340m) in the centre of the landscape area and the distinct peak of Mochrum Fell (317m) in the south. The long south-east facing slopes of the Blackcraig ridge cumulate in a shallow basin around Monybuie Flow. The area is cut by numerous water courses, the Blackmark Burn forming the most incised valley between the elongated Stroan Hill and Blackcraig Ridge. More complex, small scale hummocky landform occurs on the eastern fringes of this unit close to the <i>Drumlin Pastures</i> (AU13).</p>	<p>Turbines sited on or close to well-defined hills would detract from their distinctive form and diminish the appreciation of their vertical scale. Slacker hill slopes and gently undulating broader basins are of reduced susceptibility. More complex hummocky landform has an increased susceptibility. Susceptibility rating: Medium</p>	<p>Turbines sited on or close to well-defined hills would detract from their distinctive form and diminish the appreciation of their vertical scale. Slacker hill slopes and gently undulating broader basins are of reduced susceptibility. More complex hummocky landform has an increased susceptibility. Susceptibility rating: Medium</p>
<p>Landcover Land cover is generally simple with extensive coniferous forestry covering the majority of the unit but with some broad areas of grass moorland, wetter moss areas and occasional walled pastures fringing forestry more prominent at the transition with the <i>Drumlin Pastures</i> (AU13) and the <i>Narrow River Valley</i> of the Urr (AU4). Remnant broadleaved field trees and beech copses are evident on the fringes of forestry or partially subsumed into conifer plantations. Small lochans sit at the foot of hills although are largely hidden by forestry.</p>	<p>The absence of a strong vegetation pattern and presence of uniform coniferous forestry reduces susceptibility. The setting of lochans and areas of moss, heather moorland and remnant broadleaves which enrich landscape character would be of increased susceptibility. Susceptibility rating: Medium</p>	<p>The absence of a strong vegetation pattern and presence of uniform coniferous forestry reduces susceptibility. The setting of lochans and areas of moss, heather moorland and remnant broadleaves which enrich landscape character would be of increased susceptibility. Susceptibility rating: Medium</p>

<p>Built environment This landscape is sparsely settled with isolated farms and archaeological / historic sites in unafforested areas located within valleys and along the minor roads which cross the area. Extensive operational and consented wind farms occupy much of the forested plateau in the north of this area and the more open Blackcraig ridge south of the A702.</p>	<p>The less settled area north of the Blackcraig Ridge is of reduced susceptibility although cumulative effects could arise with operational and consented wind farms. This size of wind turbine would dominate the scale and setting of more settled fringes of these foothills generally found in the southern part of the area. Susceptibility rating: High-medium</p>	<p>The less settled area north of the Blackcraig Ridge is of reduced susceptibility. These smaller turbines could reduce effects on the more settled fringes of the southern part of this area. Cumulative effects could arise with operational and consented wind farms. Susceptibility rating: High-medium</p>
<p>Landscape context These foothills are located close to the settled lowlands and key hills and ridges are important in forming landmarks from surrounding populated valleys, for example Fell Hill which is a prominent feature seen along the length of Castlefairn Glen and Blackcraig ridge backing the <i>Drumlin Pastures</i> (AU13). The Mochrum Fell area in the south-west of this area provides a low forested backdrop in close proximity to the <i>Flooded Valley</i> (AU8) of Loch Ken and the <i>Drumlin Pastures</i> (AU13).</p>	<p>The narrow extent of the southern part of these foothills and proximity to smaller scale settled landscapes increases susceptibility. Turbines of this size would adversely affect the often rugged backdrop and contrast these foothills provide to settled small scale glens, valleys and drumlin farmland. Turbines of this size would affect the simple backdrop and contrast these foothills provide to the diverse Loch Ken and Upper Glenkens area and would dominate smaller scale landscapes such as the <i>Drumlin Pastures</i> (AU13). Susceptibility rating: High</p>	<p>The narrow extent of the southern part of these foothills and proximity to smaller scale settled landscapes increases susceptibility. Turbines sited on or close to landmark hills and ridges would adversely affect the rugged backdrop and contrast they provide to settled small scale glens. This typology located on the outer edges of this landscape or forming a consistent feature seen on the skyline of containing ridges would clutter the simple backdrop and contrast to the diverse Loch Ken and Glenkens area and could dominate adjoining smaller scale landscapes. There is increased scope to site the smaller wind turbines within this typology to minimise effects on adjoining more sensitive landscapes. Susceptibility rating: High-medium</p>
<p>Perceptual qualities These foothills are sparsely settled and accessed by a few narrow, single-track roads. Extensive commercially managed forest and wind farm development limits naturalness and there is not a strong sense of wildness associated with much of this landscape. Less modified lochans, wetland and open hills tops are more natural in character.</p>	<p>There would be little effect on wildness within areas influenced by forestry and wind farm development. Open hill tops, lochans, ridges and wetland/moorland would be more susceptible. Susceptibility rating: Medium-low</p>	<p>There would be little effect on wildness within areas influenced by forestry and wind farm development. Open hill tops, lochans, ridges and wetland/moorland would be more susceptible. Susceptibility rating: Medium-low</p>
<p>Views and visibility This landscape is sparsely settled. The A702 and a few minor roads are aligned through this landscape although views tend to be restricted by landform and forestry. A Core Path around Mochrum Fell and other recreational routes are present in this landscape and the SUW crosses open northern slopes. In terms of visibility</p>	<p>Larger wind turbines located in the outer edges and narrow southern part of these foothills (areas which are not already occupied by operational and consented wind farms) and on higher more pronounced hills would be visually prominent from surrounding roads and well-settled landscapes. Susceptibility rating: High</p>	<p>Turbines located on sensitive ridges or focal hills seen at the heads of glens would be visually prominent from roads and settlement. There may be some limited opportunities to site this typology away from more visually prominent ridges and hills and set well back from the skyline of backdrop hills which lie close to more settled areas, for example the <i>Drumlin Pastures</i> (13)</p>

<p>from outside this landscape area, Fell Hill forms a focus in views from the A702 and from Castlefairn Glen and the 'Blackcraig' Ridge is highly visible from the A712 and from the settled <i>Drumlin Pastures</i> (13) to the south-west. Mochrum Hill is also a focus in views from Loch Ken and the surrounding well-settled <i>Drumlin Pastures</i> (13).</p>		<p>and Loch Ken area, to minimise visual impact. Susceptibility rating: High-medium</p>
<p>Landscape value No landscape designations apply to this landscape area. The <i>Galloway Hills</i> RSA lies to the west of this landscape. The SUW and other recreational routes are present.</p>	<p>Sensitivity is generally reduced in relation to landscape values although wind turbines sited on the western fringes of this landscape could impact on the special qualities of the RSA. Value rating: Medium-low</p>	<p>Sensitivity is generally reduced in relation to landscape values although wind turbines sited on the western fringes of this landscape could impact on the special qualities of the RSA. Value rating: Medium-low</p>
<p>Sensitivity</p>	<p>High-medium</p>	<p>Medium</p>

20 ASSESSMENT UNIT 21: SOUTHERN UPLANDS

20.1 Introduction

The *Southern Uplands* Assessment Unit predominantly occurs on the northern and eastern fringes of Dumfriesshire and extends into neighbouring Scottish Borders, East Ayrshire and South Lanarkshire. There are nine landscape areas considered within this Assessment Unit in this study. There is a strong consistency across the following landscape areas which are considered together in a single sensitivity assessment and collectively called the '*Distinctive Rugged Hills*':

- *North Moffat*
- *East Moffat*
- *North Langholm*
- *West Langholm*
- *Tarras*
- *Lowther*
- *Carsphairn*
- *Beneraird*

Two landscape areas called *Nithsdale/NW Lowthers* are considered together in a separate sensitivity assessment due to the generally lower elevation and simpler landform of these hills and their different context to the above landscape areas.

20.1.1 *Cultural heritage overview*

These uplands are characterised as moorland/rough grazing with some forestry in the east, along with relict land-uses. There are areas of pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes, as well as industrial landscapes. There are a number of archaeological sites of outstanding significance and distinctiveness, a few of which are promoted for public benefit.

20.2 Nithsdale/NW Lowthers - Description

These landscape areas of the *Southern Uplands* Assessment Unit extend into neighbouring South Lanarkshire and East Ayrshire. These uplands are generally lower than those found in the other areas of the *Southern Uplands* Assessment Unit in Dumfries and Galloway and form more of an undulating upland plateau with occasional pronounced summits. While the large scale, generally subtle landform and simple land cover (which is particularly found in the western parts of these areas) could relate to larger wind turbines, the extent of operational and consented wind farm development already sited in the Nithsdale area and in adjacent landscapes in the Upper Nithsdale area, greatly increase susceptibility. The more well-defined hills which occur in the south-eastern part of the *Nithsdale* unit make an important contribution to the scenic diversity of adjacent glens and valleys.

20.2.1 *Operational/consented wind farms and cumulative issues*

There are several operational and consented wind farms in the *Nithsdale* landscape area of the *Southern Uplands* Assessment Unit. The more successfully located wind farm developments, in terms of minimising landscape and visual effects, are those

which are set well back from the edges of these uplands. Siting larger wind turbines into the more interior areas of these uplands reduces effects on surrounding smaller scale and more sensitive landscapes such as the *Upper Nithsdale* area of the *Upper Dales* (9) and the *Upland Glens* (10). This is because of the greater distance of development from these landscapes and also because intervening undulating landform often provides some screening of wind turbine bases thus reducing their perceived scale. The operational Whiteside and operational and consented Sanquhar I and II wind farms demonstrate this preferential siting rationale, particularly when seen from upper Nithsdale, while the Twenty-Shilling wind farm occupies a more prominent location with the full height of turbines being appreciated and consequently having a greater influence on views from this well-settled upper dale.

The operational Sandyknowes wind farm is located partially in the *Nithsdale* area of the *Southern Uplands* (21) and partially in the adjacent *Upper Nithsdale* area of the *Upper Dale* (9). This development comprises similarly large wind turbines to the developments described above but contrasts with these by being associated with a more settled lowland landscape where it has a stronger influence on character and views.

The consented Glenmuckloch wind farm will lie in the *NW Lowthers* area of AU 21 and, along with the Hare Hill wind farm and its consented extension, will significantly affect character and views within upper Nithsdale.

Key cumulative issues that may arise within the *Southern Uplands – Nithsdale and NW Lowther* (21) landscape areas are likely to include:

- The potential exacerbation of effects on the *Upper Nithsdale* area (9) in combination with other wind farms including the operational developments of Sandyknowe and Sunnyside already sited in this area.
- Sequential effects experienced from the A76, particularly if additional wind farm development was located closer to the edges of these uplands, and/or seen either side of the valley creating a dominant corridor effect.
- Overwhelming effects on views from recreational routes in upper Nithsdale as a result of the combination of operational and consented large wind turbines sited within this landscape, the adjacent *Ken* unit of the *Southern Uplands with Forest* (22) and the *Upper Dales* (9) - *Upper Nithsdale* landscape area.
- Further intrusion of very large wind turbines on the skyline of hills containing the intimately scaled valleys of the Euchar and Scar Water.

20.2.2 Key constraints

- The large number of operational and consented wind farms in the *Nithsdale* and *NW Lowthers* areas of this Assessment Unit – many of these developments already occupy the less sensitive interior parts of these uplands with remaining undeveloped areas generally lying closer to more sensitive upland glens and the settled valley of Upper Nithsdale.
- Cumulative landscape and visual effects with the many operational, under-construction and consented wind farms located in this and adjoining landscapes, including contrasts of scale between different sizes of wind turbine.

- The more complex landform associated with the deeply incised valleys of the Kello and Euchar Water and the more defined, rugged hills bordering the *Upland Glens* (10) of the Scar and Shinnel Water.
- The distinctive landmark hills of Blackcraig, Merkland, Cairn Kinney and Cairnkinna; the latter particularly important in providing a backdrop to Drumlanrig Castle and its designed landscape seen from the Thornhill and Durisdeer areas.
- The high visibility of these uplands from the north-western area of the *Upper Dale* (9) - *Upper Nithsdale*, where long hill slopes and generally fairly smooth skyline ridges provide a backdrop and focus in views from settlement and roads.
- Productive forestry within adjacent upland areas in Dumfries and Galloway and neighbouring East Ayrshire and extensive operational and consented wind farm development which increases the value of the less modified parts of these hills and their open character.
- The important contribution the dramatic sculptural open hills of the southern part of the *Nithsdale* area make to wider scenic quality as recognised in the RSA designations that cover part of these uplands.
- Recreational use of these hills by walkers using tracks, minor roads and the SUW which increase visual sensitivity.

20.2.3 Opportunities

- The generally simple landform and gently undulating upland plateaux within the less visually prominent interior of these uplands.
- The sparsely settled nature of these uplands which reduces visual sensitivity.

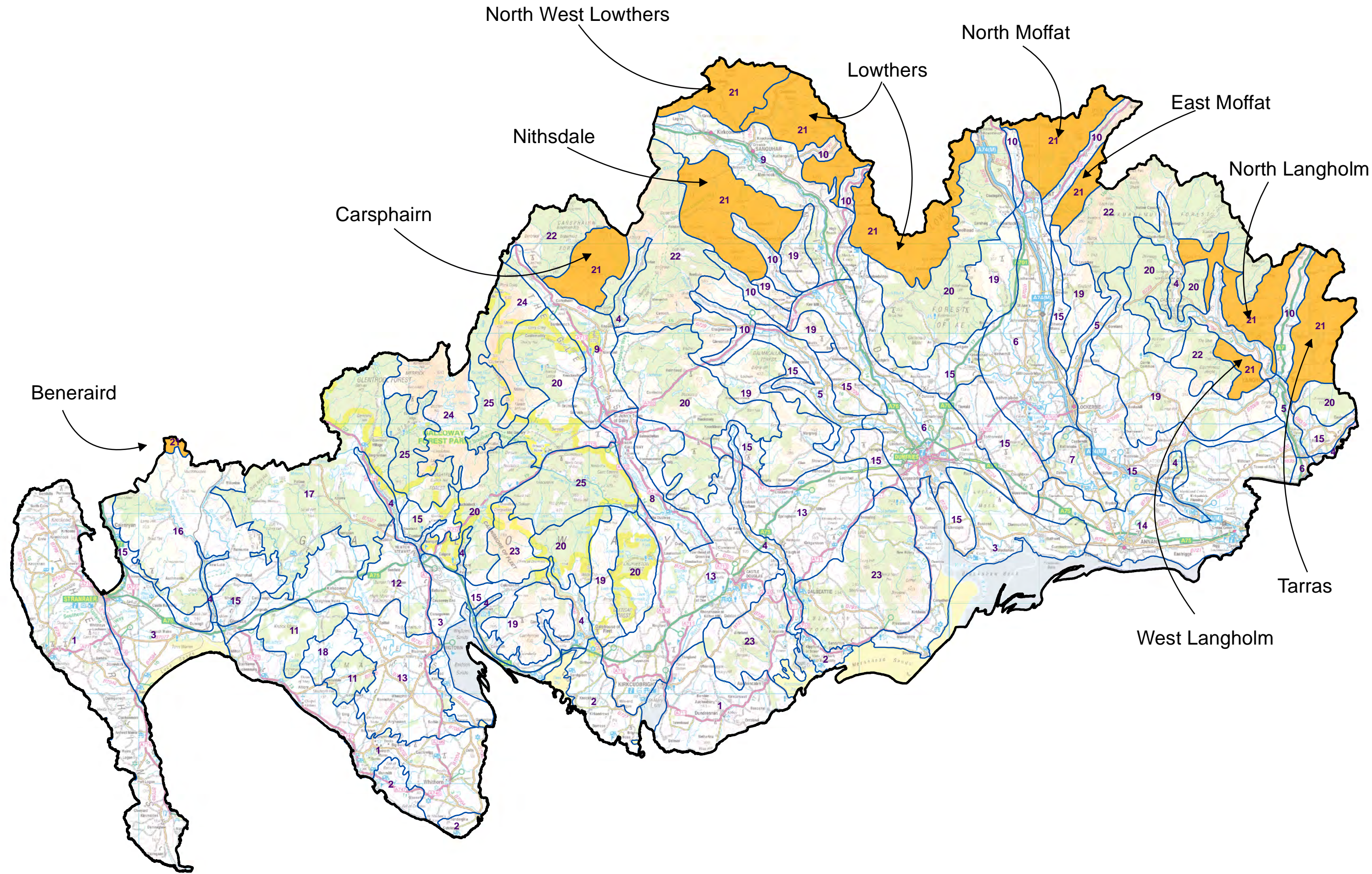
20.3 Sensitivity and guidance

The *Nithsdale* and *NW Lowthers* landscape areas of the *Southern Uplands* Assessment Unit have a **High** sensitivity to Very Large turbines (150m+) and a **High-medium** sensitivity to Large turbines (80-150m).

Wind turbines and associated development should be sited in the interior parts of these uplands, set well back from outer edges so as to minimise effects on sensitive glens and dales and to take advantage of undulating landform to provide screening of turbine bases (this is more difficult to do if turbines are sited closer to the outer edges of these uplands). This siting strategy may assist in reducing contrasts of scale and significant cumulative effects with older, smaller operational wind turbines and minimising intrusion. The extent of operational and consented wind farm development already occupying these generally less sensitive interior locations is a major constraint. Small extensions to existing well-sited wind farms are more likely to minimise landscape and visual effects.

While the less visually prominent interior plateau of the *NW Lowthers* area is of reduced visual sensitivity the undeveloped and open character of these uplands provide a valued contrast to extensive forestry and wind farm development in nearby upland areas. Any wind turbines located in this area would need to be carefully sited to avoid significant intrusion on views from settlement and roads within Upper Nithsdale and to minimise effects on the special qualities of the *Thornhill Uplands* RSA.

Assessment Unit Key Map - 21. Southern Uplands



AU 21 Southern Uplands – Nithsdale/NW Lowther areas – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)
<p>Scale These areas of the <i>Southern Uplands</i> predominantly range between 400 and 500m height. They have an open and expansive character although scale is reduced in narrow valleys.</p>	<p>Very tall turbines 200m+ tall would dominate the height of these hills where they are seen from areas like <i>Upper Nithsdale</i> (AU9) although there may be some limited scope to site this typology within the interior of these uplands and set well back from narrow valleys to minimise effects on scale. Susceptibility rating: High-medium</p>	<p>Tall turbines could relate to this generally open and large-scale landscape without dominating the height of hills. Expansiveness is reduced however within the narrow valleys which frequently cut into these hills. Susceptibility rating: Medium</p>
<p>Landform The <i>NW Lowthers</i> area generally comprises gently undulating plateaux with subtly rounded hills and few pronounced peaks. In the <i>Nithsdale</i> unit, long gentle hill slopes rise from <i>Upper Nithsdale</i> (9) to form broad ridges and more extensive gently undulating plateau areas. Deeply incised valleys such as the <i>Crawick</i>, <i>Kello</i> and <i>Euchan Water</i>, more irregular knolly topography between the latter two valleys and pronounced steep-sided rugged, often conical hills found in the southern <i>Nithsdale</i> unit are more complex. Notably distinctive, and often higher, hills occasionally occur and these include <i>Cairnkinna Hill</i> (554m) in the <i>Nithsdale</i> unit, <i>Blackcraig Hill</i> in neighbouring <i>East Ayrshire</i> and <i>Cairn Kinney</i>.</p>	<p>While this typology could relate to the simple gently undulating plateaux which is particularly found in the core of these uplands, operational and consented wind farm development already occupies these areas within the <i>Nithsdale</i> area. Parts of the less developed <i>NW Lowthers</i> area are less susceptible in this respect. This typology would impact on more complex irregular landform, which tends to occur on the edges of these uplands and, in particular, close to deeply incised glens and in the southern part of the <i>Nithsdale</i> area. Turbines of this size sited on or close to the distinctive hills would detract from their prominence and the visual containment they often provide to lower more gently undulating plateaux. Susceptibility rating: High-medium</p>	<p>While this typology could relate to the simple gently undulating plateaux which is particularly found in the core of these uplands, operational and consented wind farm development already occupies these areas within the <i>Nithsdale</i> area. Parts of the less developed <i>NW Lowthers</i> area are less susceptible in this respect. This typology would impact on more complex irregular landform, which tends to occur on the edges of these uplands and, in particular, close to deeply incised glens and in the southern part of the <i>Nithsdale</i> area. Turbines of this size sited on or close to the distinctive hills would detract from their prominence and the visual containment they often provide to lower more gently undulating plateaux. Susceptibility rating: High-medium</p>
<p>Landcover These uplands have a simple land cover of grass moorland with occasional patchy heather. Conifer plantations generally occur on lower hill slopes and these often have an angular form. The mining industry within <i>Upper Nithsdale</i> has resulted in some disturbed land and spoil heaps on lower hill slopes.</p>	<p>The simple land cover pattern would theoretically be less sensitive to wind farm development although the openness of these uplands contrasts with the densely forested <i>Southern Uplands with Forest</i> (22) and additional wind turbines would diminish this quality. Wind turbines could add to the visually cluttered appearance of former mining sites. Susceptibility rating: Medium</p>	<p>The simple land cover pattern would theoretically be less sensitive to wind farm development although the openness of these uplands contrasts with the densely forested <i>Southern Uplands with Forest</i> (22) and additional wind turbines would diminish this quality. Wind turbines could add to the visually cluttered appearance of former mining sites. Susceptibility rating: Medium</p>
<p>Built environment Sparsely settled with small farms set in valleys and accessed by narrow no through roads. There is a range of archaeological and historic sites.</p>	<p>The sparsely settled character of these uplands generally reduces susceptibility. The large number of operational and consented wind farms sited in the <i>Nithsdale</i> area</p>	<p>The sparsely settled character of these uplands generally reduces susceptibility. Turbines of this size would have a better scale</p>

<p>Many operational and consented wind farm developments are sited in this AU, particularly in the Nithsdale landscape area, and in nearby landscapes and adjoining authorities.</p>	<p>increases susceptibility however particularly in relation to the contrast between this typology and smaller operational wind turbines and the limited extent of remaining undeveloped areas lying in the core or interior of these uplands where distance and localised screening by landform could reduce apparent height and cumulative effects with smaller operational wind turbines. Susceptibility rating: High</p>	<p>relationship with existing development. Susceptibility rating: High-medium</p>
<p>Landscape context The more well-defined and rugged hills of the southern parts of the <i>Nithsdale</i> area of the <i>Southern Uplands</i> (21) contribute to the highly scenic landscape composition centred on the <i>Upland Glens</i> (10) of the Scar and Shinnel Water. Where these uplands border the NW section of <i>Upper Nithsdale</i> (9), the broadness of the dale and presence of long gentle lower hill slopes increase scale and limit visibility from roads and settlement into the lower-lying plateaux within the interior of these uplands. The narrower SE section of <i>Upper Nithsdale</i> has a reduced scale and diverse land cover and the hills on the southern edge of these uplands are important in providing a scenic backdrop to this landscape. The landmark Cairnkinna Hill is particularly important in views from <i>Upper Nithsdale</i> (9) and forms a backdrop to Drumlanrig designed landscape as well as the small-scale <i>Nithsdale</i> area of the <i>Foothills</i> (19).</p>	<p>This typology could exacerbate intrusion on the adjacent <i>Upland Glens</i> (10) and diminish the role of more distinctive landform and landmark hills in providing a rugged, open backdrop and contrast to these glens and other more intricately patterned and settled landscapes, including the SE section of the <i>Nithsdale Upper Dales</i> (9) and <i>Foothills</i> (19). This typology could also dominate the setting these uplands provide to <i>Upper Nithsdale</i> (9). The extent of operational and consented wind farms already occupying the less sensitive interior of the <i>Nithsdale</i> area increases susceptibility in relation to effects on adjoining AUs. Susceptibility rating: High</p>	<p>This typology could exacerbate intrusion on the adjacent <i>Upland Glens</i> (10) and diminish the role of more distinctive landform and landmark hills in providing a rugged, open backdrop and contrast to these glens and other more intricately patterned and settled landscapes, including the SE section of the <i>Nithsdale Upper Dales</i> (9) and <i>Foothills</i> (19). This typology could also dominate the setting these uplands provide to <i>Upper Nithsdale</i> (9). The extent of operational and consented wind farms already occupying the less sensitive interior of the <i>Nithsdale</i> area increases susceptibility in relation to effects on adjoining AUs. Susceptibility rating: High</p>
<p>Perceptual qualities The large number of operational and consented wind farm developments located in this and adjoining landscapes, commercial forestry and evidence of past mining activity in some areas limits the sense of naturalness and remoteness that can be experienced across much of these uplands. The southern hills of the <i>Nithsdale</i> area and the core upland plateau of the <i>NW Lowthers</i> are less strongly influenced by development.</p>	<p>Further wind farm development in the less developed southern part of the <i>Nithsdale</i> area and the core uplands of the <i>NW Lowthers</i> area could affect the sense of naturalness and seclusion, which although not strong, provides relief from the emerging dense pattern of wind farm developments found elsewhere in this landscape. Perceptual qualities would be likely to be less affected if development were concentrated within more developed uplands. Susceptibility rating: Medium</p>	<p>Further wind farm development in the less developed southern part of the <i>Nithsdale</i> area and the core uplands of the <i>NW Lowthers</i> unit could affect the sense of naturalness and seclusion, which although not strong, provides relief from the emerging dense pattern of wind farm developments found elsewhere in this landscape. Perceptual qualities would be likely to be less affected if development were concentrated within more developed uplands. Susceptibility rating: Medium</p>

<p>Views and visibility</p> <p>These uplands are sparsely settled with settlement and minor roads generally located in narrow valleys thus limiting the extent of visibility. The uplands appear to be well-used by walkers and feature a number of long-established hill tracks and the SUW which is aligned through the <i>Nithsdale</i> area.</p> <p>There are extensive views of these uplands from settlements and roads within <i>Upper Nithsdale</i> (AU9). Existing wind farm development features in these views. These uplands are also highly visible where they abut the <i>Upland Glens</i> (AU10) of the Scar and Shinnel Water and where the southern hills provide a rugged backdrop to the designed landscape of Drumlanrig Castle and the SE section of <i>Upper Nithsdale</i>.</p>	<p>While the core of the <i>NW Lowthers</i> area is less visually prominent, turbines upwards of 200m would be likely to significantly extend beyond the visual containment offered by peripheral hills. The outer hills within this area and the remaining undeveloped parts of the <i>Nithsdale</i> area (which largely lie on the edges of these uplands) are more visible. Turbines of this size visible on sensitive skylines or seen at the head of narrow glens would have a very dominant effect on views. There would be likely to be extensive visibility of this typology from elevated hill tracks in the high Lowther Hills and the SUW</p> <p>Susceptibility rating: High</p>	<p>The interior of the <i>NW Lowthers</i> area is less visually prominent and wind turbines towards the lower height band of this typology may be able to be sited to minimise intrusion on settlement, roads and recreation routes. The outer hills of this area and the remaining undeveloped parts of the <i>Nithsdale</i> area are more visible however and turbines of this size located on sensitive skylines or seen at the head of narrow side glens would have a dominant effect on views.</p> <p>Susceptibility rating: High-medium</p>
<p>Landscape value</p> <p>The southern part of the <i>Nithsdale</i> area lies in the <i>Thornhill Uplands</i> RSA. The citation notes that southern sections of the Southern Uplands have been included in the RSA where they have particularly strong sculptural relief and are scenically juxtaposed with deep steep-sided valleys. The North Lowther SSSI largely covers the <i>NW Lowthers</i> area (upland habitats, birds and geological interest). There are some recreational routes in these hills including the SUW.</p>	<p>Turbines of this size sited so visible in close proximity to the RSA would be likely to significantly detract from the scenic juxtaposition that occurs between these uplands and adjacent smaller scale valleys and upland glens. Development in the <i>NW Lowthers</i> would affect the integrity of valued upland habitats.</p> <p>Value rating: High-medium</p>	<p>This typology would adversely affect the scenic value of these uplands and reduce their contrast with adjacent valleys and upland glens if sited so visible in close proximity from the RSA. Development in the <i>NW Lowthers</i> would affect the integrity of valued upland habitats.</p> <p>Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

20.4 Southern Uplands – ‘Distinctive Rugged Hills’ areas (21) – description

This assessment covers the more rugged and undeveloped areas of the *Southern Uplands* (21), comprising the landscape areas of *Berneraird*, *Carsphairn*, *Lowther*, *North Moffat*, *East Moffat*, *West Langholm*, *North Langholm* and *Tarras*. These uplands have a generally consistent and homogenous character within Dumfries and Galloway, forming high hills with an often, dramatic sculptural landform. These uplands have an expansive scale and a distinctive landform, where hills are pronounced and often form steep, rugged edges to adjacent dales and upland glens. These uplands have a simple landcover of grass and heather moorland and their openness and absence of built development and large-scale forestry provides a valuable contrast with nearby forested uplands.

20.4.1 Operational/consented wind farms and cumulative issues

The Windy Rig windfarm and some of the Windy Standard turbines lie in the *Carsphairn* area. None of the other landscape areas accommodates operational or consented wind farms although a number of developments lie close-by these uplands. These comprise:

- The Harestanes, Minnygap and Clyde wind farms which lie close to the *Lowthers* area. The North Moffat area also lies relatively close to the Clyde wind farm.
- The Ewe Hill and Carlesgill wind farms which lie close to the *West Langholm* area
- The Benbrack and consented Shepherd’s Rig wind farms which are sited close to the *Carsphairn* area.
- The Arecleoch and Glen App wind farms and the consented Stranoch wind farm which lie close to the *Berneraird* area.

Key cumulative effects that could arise with further wind farm development include:

- Any additional wind farm development in the *Carsphairn* area and in the adjacent *Southern Uplands with Forest* (22) would have significant cumulative effects on the landmark hill of Cairnsmore of Carsphairn.
- The operational Carlesgill wind farm is located within the *West Langholm* area of the *Southern Uplands* (21). This small development of 4 turbines occupies a prominent position above the Esk valley. Any further extension to this development would be likely to accentuate adverse effects on the dramatic landform of steep scarp slopes above the Esk and on the small-scale character and views from this settled *Narrow Wooded Valley* (4).
- The *Berneraird* area lies very close to the operational Arecleoch, Glen App and Stranoch wind farms. The setting of this hill is already significantly affected by wind farm development although further development could exacerbate cumulative effects on walkers and on views to this hill from the coast of South Ayrshire.
- There are views of the operational Clyde wind farm from parts of the *North Moffat Southern Uplands*. The *North Moffat* area falls within the *Moffat Hills* RSA and the *Talla-Hart Fell* Wild Land Area and additional wind farm development in this and surrounding Assessment Units could cumulatively affect the character and value associated with this landscape.

20.4.2 Key constraints

- The often dramatic landform where high and shapely peaks, steep scarp slopes, crags and deeply incised valleys are interspersed with smoother rolling upland plateaux.
- The backdrop provided by these uplands to adjoining settled areas such as the upland glens of Moffat and Langholm and the broad dales of Nithsdale, the Glenkens and Annandale which increases visual susceptibility.
- Areas of extensive heather moorland that notably occur within the *Lowther, Langholm* and *North and East Moffat Hills*.
- Extensive forestry within adjacent upland areas in Dumfries and Galloway which increases the value of these open, less modified hills and increases the sense of naturalness experienced.
- The important contribution these sculptural and open uplands make to wider scenic quality, particularly forming dramatic backdrops to well-settled dales, as recognised in the RSA designations that cover the majority of these uplands.
- Recreational use of these uplands which include a number of ‘Corbett’ hills and other celebrated features such as the Devil’s Beef Tub in upper Annandale and the setting for the Grey Mare’s Tail waterfall, and which increase visual susceptibility.

20.5 Sensitivity and guidance

These areas of the *Southern Uplands* Assessment Unit have a **High** sensitivity to wind turbines >80m. The dramatic landform, undeveloped character and value associated with these uplands are major constraints to all scales of wind turbine development.

These areas of the Southern Uplands are also highly sensitive to wind energy developments located in adjacent landscapes. Close-by wind turbines (and particularly very large wind turbines) could intrude on key views to prominent hills and adversely affect the contribution these uplands make to wider scenic composition (as recognised in the RSA designations covering the majority of these landscapes). This relates to any future proposals for extensions to the operational wind farms but also to any new developments in nearby Assessment Units.

AU 21 Southern Uplands – ‘Distinctive Rugged Hills’ areas – Sensitivity assessment for larger wind turbines

Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale These areas of the <i>Southern Uplands</i> generally range between 400 and 500m height. The Moffat and Lowther Hills within Dumfriesshire are distinctly higher with peaks between 500 and 700m and include some ‘Corbetts’ over 800m in the Moffat and Lowther Hills. These uplands have an open character although scale is reduced in narrow valleys.</p>	<p>This typology could relate to the generally open and large-scale rolling plateaux but could diminish the apparent scale of more pronounced hills. Expansiveness is reduced within the narrow valleys which frequently cut into these hills and where the more pronounced peaks provide enclosure, thus limiting scope to site large numbers of turbines. Susceptibility rating: High-medium</p>	<p>Tall turbines could relate to this generally open and large-scale landscape without dominating the height of hills. Expansiveness is reduced however within the narrow valleys which frequently cut into these hills and where the more pronounced peaks provide enclosure, thus limiting scope to site large numbers of turbines. Susceptibility rating: Medium</p>
<p>Landform These hills are generally smooth with rounded summits although distinctive craggy and shapely peaks and deeply folded slopes, corries and dramatically incised valleys also occur, for example Cairnsmore of Carsphairn and some of the Moffat Hills. The isolated conical Queensberry Hill and Beneraid hills form distinctive landmarks seen from Annandale/Nithsdale and at the head of Glen App respectively. Dramatically steep slopes occur where the Langholm, Lowthers and Moffat Hills about the trough-like <i>Upland Glens</i> (10) producing notable features such as the deep scoop of the Devil’s Beef Tub, the Dalveen Pass and Mennock Glen.</p>	<p>Turbines would detract from the irregular landform and landmark status of distinctive rugged peaks and key landform features. They would diminish the drama of sheer slopes abutting deeply incised glens and dales especially if located close to these ‘scarp’ edges or seen above them on the skyline. The complexity of the landform and the presence of many prominent well-defined hills increases susceptibility. Susceptibility rating: High</p>	<p>Turbines would detract from the irregular landform and landmark status of distinctive rugged peaks and key landform features. They would diminish the drama of sheer slopes abutting deeply incised glens and dales especially if located close to these ‘scarp’ edges or seen above them on the skyline. The complexity of the landform and the presence of many prominent well-defined hills increases susceptibility. Susceptibility rating: High</p>
<p>Landcover Land cover is simple, largely comprising grass moorland giving a bare smooth appearance where the landform is apparent. Heather moorland is notable in the <i>Moffat</i>, <i>Lowther</i> and <i>Langholm</i> Hills. There is little woodland or commercial forestry apart from native trees and shrubs within narrow valleys.</p>	<p>There is an absence of pattern which would theoretically be less sensitive to wind farm development although the openness of these uplands contrasts with the surrounding densely forested <i>Southern Uplands with Forest</i> (21) and <i>Foothills with Forest</i> (20) and wind turbines would compromise this quality. Large developments could adversely affect the integrity of heather moorland where this is a notable feature. Susceptibility rating: Medium</p>	<p>There is an absence of pattern which would theoretically be less sensitive to wind farm development although the openness of these uplands contrasts with the surrounding densely forested <i>Southern Uplands with Forest</i> (21) and <i>Foothills with Forest</i> (20) and wind turbines would compromise this quality. Large developments could adversely affect the integrity of heather moorland where this is a notable feature. Susceptibility rating: Medium</p>
<p>Built environment While most of these landscape areas are unsettled, the small settlement of Wanlockhead lies within the <i>Lowther Hills</i>. There are a range of archaeological features as well as</p>	<p>The sparsely settled nature of these uplands generally reduces susceptibility although the setting of the historic settlement of Wanlockhead and other cultural heritage features are locally susceptible.</p>	<p>The sparsely settled nature of these uplands generally reduces susceptibility although the setting of the historic settlement of Wanlockhead and other cultural heritage features are locally susceptible.</p>

<p>historic routes and industrial heritage sites in the Lowther Hills.</p>	<p>Susceptibility rating: Medium-low</p>	<p>Susceptibility rating: Medium-low</p>
<p>Landscape context These uplands provide a distinctive backdrop to adjoining settled areas such as the upland glens of Moffat and Langholm and the broad dales of Nithsdale, the Glenkens and Annandale where they contribute to the rich scenic diversity of the wider landscape. The Lowther Hills form part of the wider setting to designed landscapes such as Drumlanrig in Nithsdale while Beneraird forms a distinctive backdrop to Glen App and <i>Plateau Moorlands</i> (16). These open uplands are important in the wider Dumfries and Galloway context where extensive forestry covers much of the upland area and can reduce scenic interest.</p>	<p>This typology could dominate adjacent settled landscapes and diminish the role of these areas of the <i>Southern Uplands</i> in providing a dramatic backdrop to settled landscapes, thus adversely affecting wider landscape composition and scenic qualities. Susceptibility rating: High</p>	<p>This typology could dominate adjacent settled landscapes and diminish the role of these areas of the <i>Southern Uplands</i> in providing a dramatic backdrop to settled landscapes, thus adversely affecting wider landscape composition and scenic qualities. Susceptibility rating: High</p>
<p>Perceptual qualities Evidence of past mining activity, reservoirs and radar installations reduces the sense of naturalness in parts of the Lowther Hills. Elsewhere, a general absence of built development within the majority of this upland area gives a strong sense of naturalness. A degree of seclusion can also be experienced in parts of these uplands although roads prevent a true sense of remoteness. Extensive forestry within adjacent upland areas within Dumfries and Galloway increases the value of these open, less modified hills.</p>	<p>The Southern Uplands occurring within Dumfries and Galloway are relatively small in extent and this typology could impact on much of the area thus significantly diminishing the sense of naturalness and remoteness experienced. Wind farm development would introduce man made elements into landscapes which are notable for their relative lack of modification given the presence of extensive forestry in surrounding uplands. Susceptibility rating: High</p>	<p>The Southern Uplands occurring within Dumfries and Galloway are relatively small in extent and this typology could impact on much of the area thus significantly diminishing the sense of naturalness and remoteness experienced. Wind farm development would introduce man made elements into landscapes which are notable for their relative lack of modification given the presence of extensive forestry in surrounding uplands. Susceptibility rating: High</p>
<p>Views and visibility These uplands form a backdrop seen from the settled Nithsdale, upper Annandale and upland glens where the hills are distinctive and definable as individual named peaks. Roads such as the A701, A702 and A708 also provide views of dramatic features such as the Devil's Beef Tub and Dalveen Pass and the scarp of the Lowthers. Footpaths provide access and views from these uplands with the area around Grey Mare's Tail and the Corbett of White Coomb and Cairnsmore of Carsphairn being notably popular with walkers.</p>	<p>This typology would be likely to impact on key views to these uplands from adjacent settled valleys where skylines are characteristically open and uncluttered by built development. Development would also be likely to have a significant impact on views from popularly accessed hills within this AU. Susceptibility rating: High</p>	<p>This typology would be likely to impact on key views to these uplands from adjacent settled valleys where skylines are characteristically open and uncluttered by built development. Development would also be likely to have a significant impact on views from popularly accessed hills within this AU. Susceptibility rating: High</p>

<p>Landscape value</p> <p>RSA designations cover the majority of the Lowther Hills, all of the Moffat, Tarras and Carsphairn areas, West and North Langholm areas. The citations describe the Langholm Hills RSA Southern Uplands as “<i>smooth rounded multi-ridged peaks...covered with extensive areas of unenclosed heather moorland</i>”. The Southern Uplands within the Moffat Hills RSA are noted as being. “<i>..dramatic, sculptural examples of this landscape type in this otherwise extensively forested part of the uplands</i>”. The Lowther Hills fall within the Thornhill Uplands RSA and are described as displaying ‘<i>particularly strong sculptural relief and concentrations of heather moorland...scenically juxtaposed with deep, steep-sided valleys</i>’. The relationship of the “<i>..dramatic sculptural forms of Cairnsmore of Carsphairn and associated peaks</i>”... with the Glenkens are noted within the citation for the Galloway Hills RSA.</p> <p>Part of the North Moffat Hills falls within the Hart-Talla Wild Land Area. Many parts of these uplands accommodate well-used recreational routes.</p>	<p>The majority of these uplands are covered by an RSA designation. The RSA citations note the important role of these uplands in providing dramatic sculptural landform and contrast with adjacent valleys which contributes to the scenic quality of the wider landscape. The value of these open and less modified uplands is also noted in relation to the presence of extensive forested uplands. This typology would be likely to adversely affect the scenic value of these uplands and reduce their contrast with the surrounding extensively forested uplands of character types 18a and 19a.</p> <p>This typology would significantly compromise the qualities of wildness if sited within or close-by the Hart-Talla Wild Land Area. It could also affect the value associated with recreational routes located in these uplands.</p> <p>Value rating: High-medium</p>	<p>The majority of these uplands are covered by an RSA designation. The RSA citations note the important role of these uplands in providing dramatic sculptural landform and contrast with adjacent valleys which contributes to the scenic quality of the wider landscape. The value of these open and less modified uplands is also noted in relation to the presence of extensive forested uplands. This typology would be likely to adversely affect the scenic value of these uplands and reduce their contrast with the surrounding extensively forested uplands of character types 18a and 19a.</p> <p>This typology would significantly compromise the qualities of wildness if sited within or close-by the Hart-Talla Wild Land Area. It could also affect the value associated with recreational routes located in these uplands.</p> <p>Value rating: High-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

21 ASSESSMENT UNIT 22: SOUTHERN UPLANDS WITH FOREST

21.1 Introduction

The *Southern Uplands with Forest (22)* Assessment Area predominantly occurs on the northern and eastern fringes of Dumfriesshire and extends into neighbouring East Ayrshire and Scottish Borders. The following landscape areas are considered together in a single sensitivity assessment within this study:

- *Carsphairn*
- *Ken*
- *Eskdalemuir*
- *Ewe Hill*

21.1.1 Cultural heritage overview

A landscape characterised as forestry with very little evidence of relict land-uses although there are a few archaeological sites of outstanding significance and distinctiveness.

21.1.2 Operational/consented wind farms

The operational wind farms OF Benbrack, Windy Standard and South Kyle are sited in the *Carsphairn* area. The operational Wether Hill, part of Sandyknowe and Sanquhar I wind farms and the consented Lorg, Sanquhar II Cornharrow and Shepherd's Rig wind farms are located in the *Ken* area. The operational Ewe Hill and Carlesgill wind farms and the consented Hopsrig and Loganhead wind farms are located in the *Ewe Hill* area.

A number of wind farms sited in adjoining Assessment Units also have/will have a strong influence on all landscape areas of the *Southern Uplands with Forest (22)*. These include the Hare Hill, Windy Standard and Afton wind farms which are sited close to the *Ken* and *Carsphairn* areas in the west, the Whiteside Hill wind farm also lying close to the *Ken* area and the Solwaybank, Minsca and Crossdykes wind farms which influence the *Ewe Hill* area.

21.2 Description

The *Southern Uplands with Forest (22)* comprises expansive, gently undulating upland plateaux of smoothly rounded hills. A similar landscape extends into neighbouring Scottish Borders in the Craik Forest area and into East Ayrshire north of the *Carsphairn* area. Occasional more well-defined hills occur close to the Moffat and Dalwhat Glens on the outer edges of these uplands and these are more prominent in views from surrounding roads and settlement than the more distant and more simple gently undulating interior of these uplands. Extensive productive coniferous forestry masks landform and there is little open ground with this largely confined to areas of grass moorland within valleys and the higher hill tops and ridges. Operational wind farm development is a key feature within the *Carsphairn*, *Ken* and *Ewe Hill* areas of this Assessment Unit.

21.2.1 Cumulative issues

Cumulative effects would be more likely to arise with operational and consented wind farms in the *Ken*, *Carsphairn* and *Ewe Hill* areas and adjacent landscapes. Key cumulative effects that could occur include:

- The potential creation of a concentrated band of wind farm development visually linking wind farms located in the *Ken* area with the Blackcraig and Fell wind farms located in the *Stroan* area of the *Foothills with Forest* (20) to the south, cumulatively affecting character and views in the Upper Glenkens and extending the influence of wind farms into the well-settled lowlands of Dumfries and Galloway.
- While the sparsely settled character the relatively low recreational use of the *Southern Uplands with Forest* (22) reduces visual susceptibility, cumulative effects would arise on more elevated views from nearby popularly accessed hills such as Cairnsmore of Carsphairn, the Rhinns of Kells, the Langholm Hills and Culmark and Benbrack hills crossed by the SUW.
- Cumulative effects with other operational and consented wind farms on the setting and on views to and from the landmark hill of Cairnsmore of Carsphairn, which makes an important contribution to the scenic qualities of the *Galloway Hills* RSA.
- Cumulative effects with other operational and consented wind farms on prominent skylines seen above the Esk valley and potentially affecting the special qualities of the *Langholm Hills* RSA.

The absence of wind farm development in the *Eskdalemuir* area, together with the visual containment and separation of this landscape by higher hills to the north-west, currently precludes potential for cumulative effects to occur.

21.2.2 *Key constraints*

- The arc of hills which includes Benbrack, Cairn and Blackcraig which form a key focus at the head of the *Upper Glen* (10) of the Dalwhat Water within the *Ken* area. The presence of the SUW and the landmark sculptures of Striding Arches add to the sensitivities of this area.
- The rim of open-topped rugged higher hills extending from Loch Fell (688m) north-west of the *Eskdalemuir* area, which are prominent in views from the Corbetts of White Coombe and Hart Fell in the Moffat Hills.
- The proximity of the dramatic sculptural hill of Cairnsmore of Carsphairn to parts of the *Ken* and *Carsphairn* areas.
- The open hills of the *West Langholm* AU 21, lying on the eastern edge of the *Ewe Hill* area, which form prominent skylines and are important in providing a backdrop to Eskdale. The contrast between the settled valleys and backdrop of hills contribute to the scenic qualities of the *Langholm Hills* RSA.
- Occasional areas of more complex landform and deeply incised valleys which are often masked by extensive forest.
- Potential for cumulative effects to arise with additional wind farm development sited within the *Ken*, *Carsphairn* and *Ewe Hill* landscape areas.

21.2.3 *Opportunities*

- The expansive scale of this Assessment Unit and its predominantly simple, gently undulating landform.
- The sparsely settled nature of this Assessment Unit and its distance from more populated lowland areas.

- Extensive productive coniferous forestry which covers a large proportion of these uplands, and which precludes a strong sense of wildness.
- The relatively lower landscape value associated with much of these uplands.

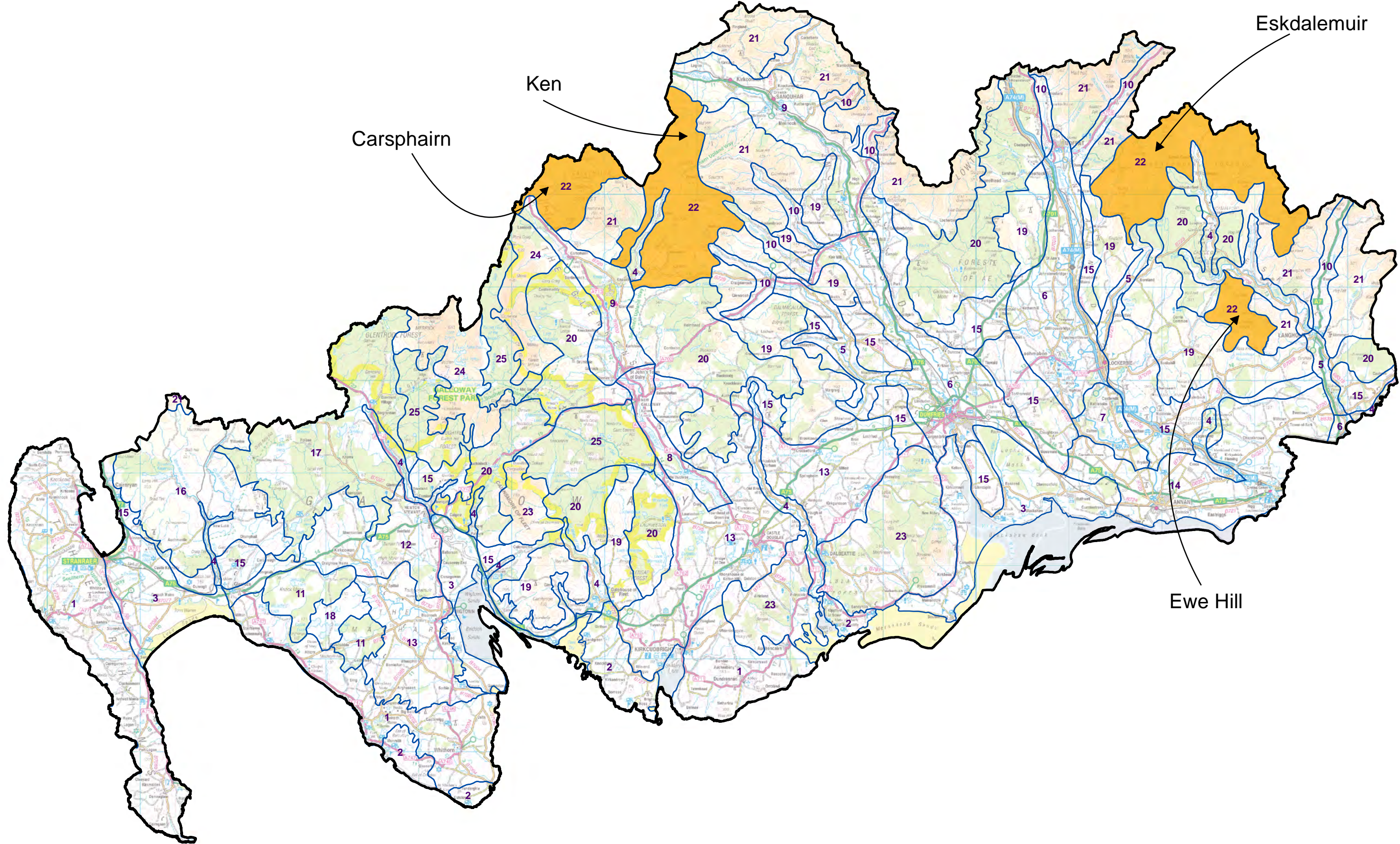
21.3 Sensitivity and guidance

Sensitivity would be **High-medium** for wind turbines > 150m high and **Medium** for wind turbines 80-150m high.

The *Eskdalemuir* area offers the greatest potential to accommodate larger wind turbines whilst minimising landscape and visual effects. This is because of the extensive scale of these uplands, their generally simple landform and landcover, sparse population and distance from more settled areas (which reduces visual sensitivity). The extent of operational and consented development already generally occupying the less sensitive interior of the *Carsphairn*, *Ken* and *Ewe Hill* areas of this Assessment Unit increases the potential for significant effects to arise on sensitive nearby dales, valleys and glens and on the landmark hill of Cairnsmore of Carsphairn. Cumulative effects with other operational and consented wind farms are also a key constraint to siting very large wind turbines in these areas.

All development should avoid the more pronounced open-topped hills which are present on the outer edges of this Assessment Unit as these provide an important backdrop and containing edge to smaller scale valleys, glens and upper dales. Areas of more complex landform also have an increased susceptibility. Wind turbines should be sited to avoid impacting on the site and landscape setting of significant and distinctive archaeological sites.

Assessment Unit Key Map - 22. Southern Uplands with Forests



Carsphair

Ken

Eskdalemuir

Ewe Hill

AU 22 Southern Uplands with Forest – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very Large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale The <i>Southern Uplands with Forests</i> comprises expansive undulating upland plateaux generally between 350-500m high although a few individual peaks exceed this height. The <i>Eskdalemuir</i>, <i>Ken</i> and <i>Carsphairn</i> areas abut similar large scale upland areas (some of these extending into neighbouring authorities) increasing the extensiveness of the landscape. Smaller hills occur on the western and southern edges of this landscape. Scale is significantly reduced within the narrow valleys which cut deeply into these uplands.</p>	<p>Very tall turbines, and particularly those closer to 200m and over, would dominate the height of the hills found on the outer edges of these landscapes where they abut valleys and where effects on scale would be appreciated from roads and settlement. The more expansive interior upland plateaux and more extensive areas of the <i>Southern Uplands with Forests</i> would be less sensitive. Susceptibility rating: Medium</p>	<p>This typology could relate to the general expansiveness of this landscape although it would dominate smaller hills, areas of more complex landform and incised valleys. Susceptibility rating: Medium-low</p>
<p>Landform The hills are generally smooth with rounded summits. There are few pronounced peaks although a distinct ridge of open-topped higher hills rising above 600m separates the <i>Upland Glen</i> (10) of Moffat and the lower, gently undulating upland plateau of <i>Eskdalemuir</i>. The hills of Benbrack, Cairn and Blackcraig within the <i>Ken</i> area are also distinctive in their steep-sided slopes, defined summits, open ridges and tight arc formed at the head of the upper Dalwhat valley. Extensive forestry masks the underlying landform although steeply incised burns, occasional crags and more complex interlocking landform are evident in some areas.</p>	<p>This typology could relate to the predominantly gently undulating landform of this Assessment Unit although pronounced open hills at the head of the <i>Upland Glen</i> (10) of the Dalwhat Water and Moffat Glen and occasional areas of more complex landform and notably incised valleys are of increased susceptibility. Susceptibility rating: Medium-low</p>	<p>This typology could relate to the predominantly gently undulating landform of this AU although pronounced open hills at the head of the <i>Upland Glen</i> (10) of the Dalwhat Water and Moffat Glen and occasional areas of more complex landform and notably incised valleys are of increased susceptibility. Susceptibility rating: Medium-low</p>
<p>Landcover Extensive coniferous and uniform productive forestry covers much of this landscape and this generally has a poor relationship with landform. Rides, forest roads, compartment and ownership boundaries create a stark angular pattern highlighted by the strong contrast between pale grass moorland and dark conifers. Felling coupes and new planting add</p>	<p>The uniformity of extensive forest cover reduces susceptibility to wind farm development. Wind energy development could exacerbate the angularity and fragmented character woodland as it is felled to accommodate infrastructure. Open hill tops and pasture on lower hill slopes would be highly susceptible to this typology due to their rarity and</p>	<p>The uniformity of extensive forest cover reduces susceptibility to wind farm development. Wind energy development could exacerbate the angularity and fragmented character woodland as it is felled to accommodate infrastructure, Open hill tops and pasture on lower hill slopes would be highly sensitive to this typology due to their rarity and</p>

<p>transitional textural contrasts across this landscape. Some small areas of hill pasture fringe the lower hill slopes and a few higher open hill tops are present.</p>	<p>the contrast they provide to densely forested areas. Susceptibility rating: Medium-low</p>	<p>the contrast they provide to densely forested areas. Susceptibility rating: Medium-low</p>
<p>Built environment There is little settlement within this Assessment Unit but archaeological sites are often sited on the outer fringes of these uplands at the transition with valleys. Hill forts are an important feature of many of the small hills aligning Eskdale. Wind farms are a key characteristic of the <i>Ken</i>, <i>Carsphairn</i> and <i>Ewe Hill</i> areas.</p>	<p>There is some scope for this typology to be accommodated in the core of the more extensive <i>Eskdalemuir</i> area to minimise effects on the scale and setting of settlements and archaeological sites and minimising cumulative effects with other wind farm developments. Susceptibility is increased in other areas. Susceptibility rating: High-medium</p>	<p>There is some scope for this typology to be accommodated in the core of the more extensive <i>Eskdalemuir</i> area to minimise effects on the scale and setting of settlements and archaeological sites and minimising cumulative effects with other wind farm developments. Susceptibility is increased in other areas. Susceptibility rating: High-medium</p>
<p>Landscape context These uplands tend to be set back from more sensitive small-scale valleys and glens although some hills on the edge of the <i>Southern Uplands with Forests</i> are visible from the adjoining <i>Upland Glens</i> (10) of Dalwhat, Shinnel and Moffat, the <i>Narrow Valleys</i> (4) of the <i>Ken</i> and <i>Eskdale</i> where they form a backdrop and contrast to these sparsely settled farmed valleys. The dramatic sculptural hill of Cairnsmore of Carsphairn within the <i>Southern Uplands</i> (21) lies between the <i>Ken</i> and <i>Carsphairn</i> area.</p>	<p>While development sited in the more sensitive outer hills would dominate the scale of adjacent settled valleys, glens and upper dales, susceptibility is reduced within the interior upland plateaux of the more extensive <i>Eskdalemuir</i> landscape area. Turbines of this size would impact on the setting and key views of Cairnsmore of Carsphairn and Loch Doon if sited in the few remaining undeveloped parts of the <i>Ken</i> and <i>Carsphairn</i> areas. The more elevated parts of the <i>Ewe Hill</i> area have an increased susceptibility due to potential visibility from the Esk valley. Susceptibility rating: High-medium</p>	<p>While development sited in the more sensitive outer hills would dominate the scale of adjacent settled valleys, glens and upper dales, susceptibility is reduced within the interior upland plateaux of the more extensive <i>Eskdalemuir</i> landscape area. Turbines of this size would impact on the setting and key views of Cairnsmore of Carsphairn and Loch Doon if sited in the few remaining undeveloped parts of the <i>Ken</i> and <i>Carsphairn</i> areas. The more elevated parts of the <i>Ewe Hill</i> area have an increased susceptibility due to potential visibility from the Esk valley Susceptibility rating: High-medium</p>
<p>Perceptual qualities While the interior of these landscapes can feel remote due to the distance from settlement and public roads, the presence of extensive commercially managed forestry precludes a strong sense of naturalness.</p>	<p>This typology would be likely to have no significant adverse effect on perceptual qualities. Susceptibility rating: Low</p>	<p>This typology would be likely to have no significant adverse effect on perceptual qualities. Susceptibility rating: Low</p>
<p>Views and visibility This Assessment Unit is very sparsely settled and there are few public roads. The SUW is aligned through the <i>Ken</i> unit. Views from within this Assessment Unit are generally restricted by extensive forestry. In terms of views to this Assessment Unit, these gently undulating upland plateaux are set back from sparsely settled upland valleys and glens with views generally restricted. There are sensitivities associated with the arc of hills Benbrack, Cairn and Blackcraig</p>	<p>Susceptibility is reduced within the interior of the extensive <i>Eskdalemuir</i> area as widespread significant visual impact could be minimised due to the sparse population, absence of roads and limited visibility of this generally subdued upland plateaux from more settled areas. The outer hills bordering glens or valleys are of increased susceptibility to turbines of this size. This typology would be visible from elevated views on popular hill</p>	<p>Susceptibility is reduced within the interior of the extensive <i>Eskdalemuir</i> area as widespread significant visual impact could be minimised due to the sparse population, absence of roads and limited visibility of this generally subdued upland plateaux from more settled areas. The outer hills bordering glens or valleys are of increased susceptibility although the use of turbines of this size provides greater scope to minimise intrusion.</p>

<p>within the <i>Ken</i> area which form a key focus at the head of the upper Dalwhat Water. The SUW is aligned along the ridge of these hills as are the landmark sculptures of Striding Arches. The <i>Ken</i> and <i>Carsphairn</i> areas are visible from the summit and ridges of Cairnsmore of Carsphairn and Rhinns of Kells while the rim of higher hills extending from Loch Fell (688m) on the north-western edge of the <i>Eskdalemuir</i> unit is visible from the Corbetts of White Coombe and Hart Fell within the Moffat Hills. The open hills on the eastern edge of the <i>Ewe Hill</i> area form a prominent backdrop to Eskdale.</p>	<p>summits including Cairnsmore of Carsphairn and the Rhinns of Kells if located in the <i>Ken</i> and <i>Carsphairn</i> areas. Visual intrusion from wind turbines sited in the <i>Eskdalemuir</i> area could be reduced by siting development on lower ground to benefit from some screening by the higher ridge extending from Loch Fell on the north-east boundary of this area although turbines 200m + would still be likely to be prominent from popular hill routes.</p> <p>Susceptibility is increased in the higher parts of the <i>Ewe Hill</i> area due to its relatively limited extent and proximity to settlement, roads and footpaths in the Esk valley and Langholm Hills.</p> <p>Susceptibility rating: High-medium</p>	<p>This typology would be visible from elevated views on popular hill summits including Cairnsmore of Carsphairn and the Rhinns of Kells if located in the <i>Ken</i> and <i>Carsphairn</i> areas. Visibility of this typology could potentially be minimised from the Moffat Hills if turbines were located on lower ground below the ridge extending from Loch Fell on the north-east boundary of this area. Susceptibility is increased in the higher parts of the <i>Ewe Hill</i> area due to its relatively limited extent and proximity to settlement, roads and footpaths in the Esk valley and Langholm Hills.</p> <p>Susceptibility rating: High-medium</p>
<p>Landscape value</p> <p>This Assessment Unit is largely free of landscape designations. The <i>Galloway Hills</i> RSA extends slightly over the western boundary of the <i>Ken</i> and <i>Carsphairn</i> areas. These areas have been included in the RSA as they form part of the visual envelope of the Glenkens and the wider setting to the main Rhinns of Kells ridge. The ‘<i>dramatic sculptural forms of Cairnsmore of Carsphairn and associated peaks as they relate to Glenkens and its main attractive tributary valleys plus areas forming part of the setting to the Merrick, Loch Doon and the Glenkens</i>’ are also noted in the RSA description.</p> <p>The eastern part of the <i>Ewe Hill</i> area is covered by the <i>Langholm Hills</i> RSA designation.</p>	<p>The remaining undeveloped parts of the <i>Ken</i> and <i>Carsphairn</i> areas lie closer to the Galloway Hills RSA Operational and consented wind energy development already influences these areas.</p> <p>Turbines sited on the open east-facing hills of the <i>Ewe Hill</i> area would be likely to have a significant effect on the special qualities of the <i>Langholm Hills</i> RSA although the operational Carlesgill wind turbines are already located on sensitive ridgelines within this designated area these are significantly smaller than this typology.</p> <p>Value rating: Medium-low</p>	<p>There is scope to locate wind farm development to avoid significant intrusion on the Glenkens and impacts on the setting of the main Rhinns of Kells ridge and therefore minimise effects on the special qualities of the Galloway Hills RSA. Operational and consented wind energy development already influences these areas.</p> <p>Turbines sited on the open hills of the <i>West Langholm</i> unit would have a significant effect on the key qualities of the Langholm Hills RSA although the operational Carlesgill wind turbines are already located on sensitive ridgelines within this designated area.</p> <p>Value rating: Medium-low</p>
<p>Sensitivity</p>	<p>High-medium</p>	<p>Medium</p>

22 ASSESSMENT UNIT 23: COASTAL GRANITE UPLANDS

22.1 Introduction

Three landscape areas are defined within the *Coastal Granite Uplands*. These differ considerably in terms of their scale, context and degree of settlement and they are therefore individually assessed in the study. They are as follows:

- *Cairnsmore*
- *Bengairn Coastal Granite*
- *Dalbeattie Coastal Granite*

22.1.1 *Cultural heritage overview*

The landscape areas of *Bengairn* and *Dalbeattie* are characterised by a mix of post-improvement (c19th-20th century) fields, farming, woodlands and rough grazing as well as some small, designed landscapes, with evidence for relict land-uses. There are areas of pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes, as well as areas of prehistoric features. Historically and archaeologically the *Cairnsmore* landscape area is different, with its rough grazing/moorland land-use and little evidence of relict land-uses. Archaeological sites of outstanding significance and distinctiveness occur across the type.

22.1.2 *Operational/consented wind farms*

The three Plascow wind turbines are located within the *Dalbeattie* area although there is no wind farm development sited elsewhere in this character type. Operational and consented wind farms located in other landscapes are particularly visible from elevated areas within the *Cairnsmore* area but seen at distance. The offshore operational Robin Rigg wind farm influences views from elevated and coastal parts of the *Bengairn* and *Dalbeattie* areas.

22.2 Cairnsmore - Description

This landscape area covers Cairnsmore of Fleet, a bold rounded granite massif which rises steeply from the surrounding lowland coastal area at the head of Wigtown Bay. The smoothly sculpted corries and sinuous ridges of the massif are highlighted dramatically in side light. Rocky outcrops accent steep ridge slopes and the Clints of Dromore form a long craggy arc of cliffs on the eastern side of the hill. The generally smooth cover of grass and heather moorland and some blanket bog is broken by occasional rocky crags and dense coniferous forest covers lower slopes. Cairnsmore of Fleet forms a landmark feature which is highly visible from surrounding settled lowland landscapes. The open rugged character of this upland area contrasts with surrounding extensive forestry, settled farmland and coastal areas and makes a strong contribution to wider scenic quality. A strong sense of naturalness is associated with this upland landscape; this especially pronounced given its location within more populated and modified lowland landscapes.

22.2.1 Cumulative issues

While some operational wind farms are visible from more elevated areas they are seen at distance and do not significantly influence character or views.

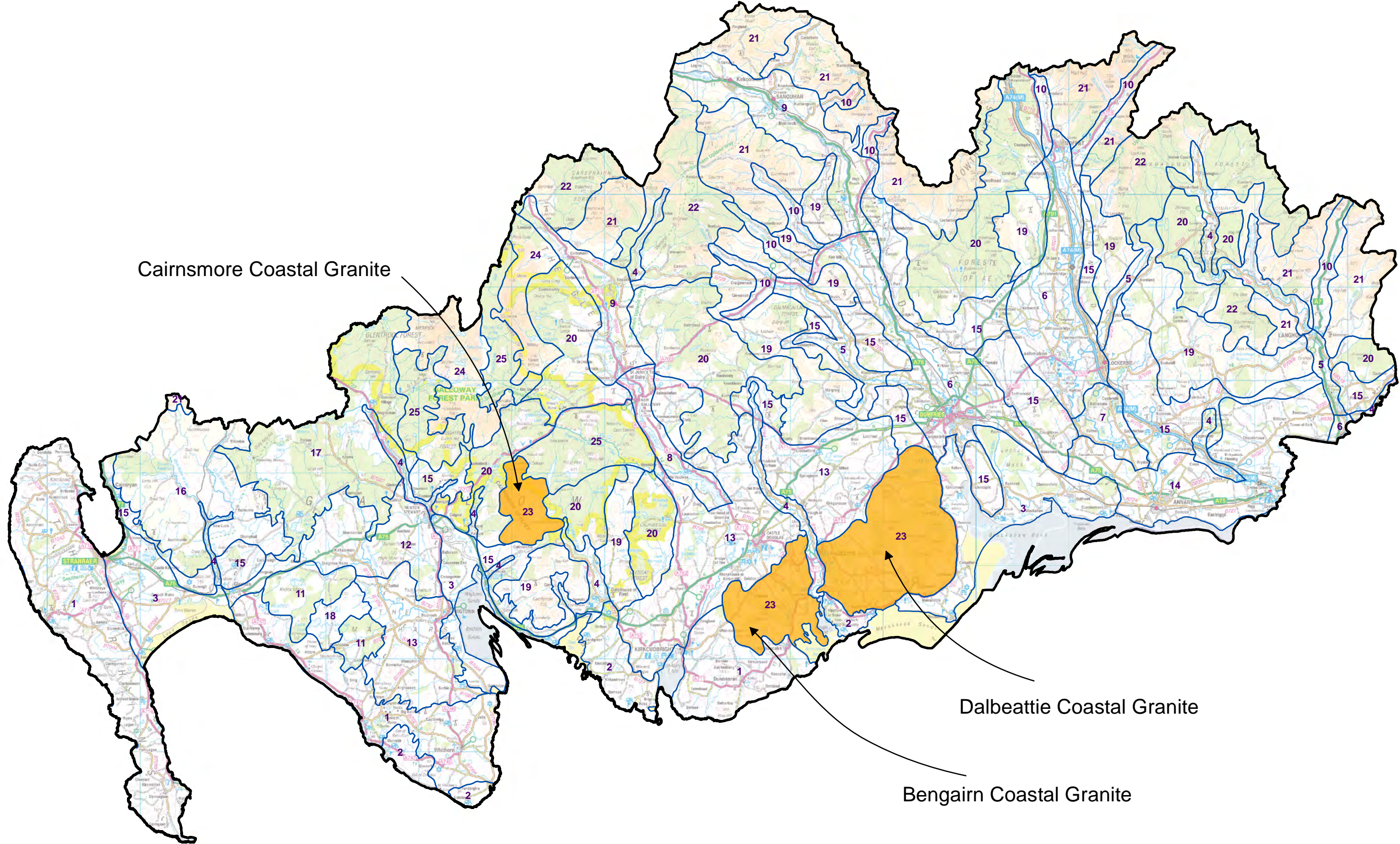
22.2.2 Key constraints

- The high visibility of the landmark hill of Cairnsmore of Fleet due to its proximity to and semi-isolation within settled lowland and coastal areas.
- The sculptural landform of curving ridges, scooped corries, steep slopes and rocky outcrops which give Cairnsmore of Fleet a distinctly rugged character and visual drama.
- A strong sense of naturalness and seclusion associated with this landscape, heightened by the integrity of heather/grass moor and bog vegetation cover.
- The popularity of Cairnsmore of Fleet for walkers, the presence of a nationally important nature conservation designation and the *Galloway Hills* RSA which increase the value of this landscape.

22.3 Sensitivity and guidance

There would be a **High** sensitivity to larger wind turbines >80m high in this landscape. This is principally because of the distinctive landform of the Cairnsmore of Fleet hill and its prominence, and the high value associated with this landscape. The introduction of larger wind turbines to the *Coastal Granite Uplands* would be contrary to the predominant association of this scale of wind farm development with the sparsely settled and more expansive, and often extensively forested, uplands of Dumfries and Galloway.

Assessment Unit Key Map - 23. Coastal Granite Uplands



Cairnsmore Coastal Granite

Dalbeattie Coastal Granite

Bengairn Coastal Granite

AU 23 Coastal Granite Uplands - Cairnsmore – Sensitivity assessment for larger turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale Cairnsmore of Fleet is a large-scale isolated massif rising to 711m with broad open tops and ridges. Scale is reduced on some lower slopes and within valleys.</p>	<p>The large scale and open character of this landscape reduces susceptibility although this AU is not geographically extensive and multiple very large turbines would dominate the area. Susceptibility rating: High-medium</p>	<p>The large scale and open character of this landscape reduces susceptibility although this AU is not geographically extensive and multiple turbines could dominate Susceptibility rating: Medium</p>
<p>Landform A bold rounded granite massif which rises steeply from the surrounding lowland coastal area. Smoothly sculpted corries and sinuous ridges, occasionally 'toothed' with boulders, are highlighted dramatically in side light. Rocky outcrops accent steep ridge slopes and the Clints of Dromore form a long craggy arc of cliffs on the eastern side of the hill.</p>	<p>The landform of Cairnsmore of Fleet is dramatic and bold. This typology would impact on steep uncluttered slopes and the skyline arcs of ridges. It would detract from more complex rocky crags and corries of the massif. Susceptibility rating: High</p>	<p>The landform of Cairnsmore of Fleet is dramatic and bold. This typology would impact on steep uncluttered slopes and the skyline arcs of ridges. It would detract from more complex rocky crags and corries of the massif. Susceptibility rating: High</p>
<p>Landcover A generally smooth simple land cover of grass/ heather moorland and some blanket bog is broken by occasional rocky crags which form landmark features. The close-cropped vegetation allows underlying geology to be appreciated. The surrounding area is largely forested and this extends in places onto upper slopes.</p>	<p>While the simple land-cover and absence of strong vegetation pattern reduces sensitivity to wind farm development, the visual integrity of blanket bog and heather moorland would be affected by turbines and associated development. Susceptibility rating: Medium</p>	<p>While the simple land-cover and absence of strong vegetation pattern reduces sensitivity to wind farm development, the visual integrity of blanket bog and heather moorland would be affected by turbines and associated development. Susceptibility rating: Medium</p>
<p>Built environment This upland landscape is no longer settled although there is a range of archaeological sites. A memorial cairn to the crew of crashed WW2 aircraft is located at the summit.</p>	<p>The uninhabited nature of this landscape would enable this typology to be sited without dominating the scale of domestic buildings but the setting of archaeological sites remains sensitive. Susceptibility rating: Medium-low</p>	<p>The uninhabited nature of this landscape would enable this typology to be sited without dominating the scale of domestic buildings but the setting of archaeological sites remains sensitive. Susceptibility rating: Medium-low</p>
<p>Landscape context Cairnsmore of Fleet forms a key backdrop to surrounding settled lowland landscapes. The open rugged character of this upland area contrasts with surrounding extensive forestry, settled farmland and coastal areas and makes a strong contribution to wider scenic quality.</p>	<p>Turbines of this size sited within this upland area would be highly visible from surrounding landscapes and would significantly diminish the contrast and contribution Cairnsmore of Fleet makes to wider scenic quality. Susceptibility rating: High</p>	<p>Turbines of this size sited within this upland area would be highly visible from surrounding landscapes and would significantly diminish the contrast and contribution Cairnsmore of Fleet makes to wider scenic quality. Susceptibility rating: High</p>
<p>Perceptual qualities A strong sense of naturalness is associated with this upland landscape; this especially pronounced given its location within</p>	<p>Wind farm development would significantly affect the strong sense of wildness associated with this largely unmodified upland landscape. Turbine lighting if on permanently</p>	<p>Wind farm development would significantly affect the strong sense of wildness associated with this largely unmodified upland landscape. Susceptibility rating: High</p>

<p>more populated and modified lowland landscapes. It can feel elemental and remote due to the absence of settlement.</p>	<p>would be likely to extend the duration of significant effects on perceptual qualities. Susceptibility rating: High</p>	
<p>Views and visibility Cairnsmore of Fleet is popular with walkers and offers panoramic views from ridges and hill tops. This upland area also forms a focus seen over a wide area. It is highly visible from the A75 and the A712 and forms a backdrop in views over the Fleet valley and from the Wigtown Bay area.</p>	<p>This typology would be highly visible from the well-used ridge paths and summits from within the landscape area. Development would also be highly visible over a wide area from populated lowland and coastal areas. Permanent aviation lighting of wind turbines would be likely to extend the duration of significant effects on views. Susceptibility rating: High</p>	<p>This typology would be highly visible from the well-used ridge paths and summits from within the landscape area. Development would also be highly visible over a wide area from populated lowland and coastal areas. Susceptibility rating: High</p>
<p>Landscape value Cairnsmore of Fleet is covered by the Galloway Hills RSA. The southern part of this RSA centres on the scenic Coastal Granite Uplands of Cairnsmore of Fleet. It states that the...<i>relationship between the hills and the adjacent lowlands gives rise to sweeping and dramatic views of the hills</i>". The Cairnsmore of Fleet National Nature Reserve also covers much of this area and the hill is popular with walkers and cyclists.</p>	<p>Wind farm development would significantly affect the scenic quality of this core part of the <i>Galloway Hills</i> RSA. It would also affect sweeping and dramatic views of the hills and diminish the experience of walkers and cyclists. Value rating: High</p>	<p>Wind farm development would significantly affect the scenic quality of this core part of the <i>Galloway Hills</i> RSA. It would also affect sweeping and dramatic views of the hills and diminish the experience of walkers and cyclists. Value rating: High</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

22.4 Bengairn area (AU 23) - description

This landscape area of the *Coastal Granite Uplands* varies greatly in scale. It comprises complex, intimately scaled coastal promontories, knolly 'foothills' and narrow valleys but also larger pronounced hills, such as Bengairn and Screel Hills, which have a distinctive form. The dramatic steep slopes, craggy ridges and summits of these hills make a strong contribution to wider scenic diversity. This landscape is visually prominent from settlements, major roads and the higher landmark hills and knolly 'foothills' are additionally visible from an extensive area to the north-west.

22.4.1 Cumulative issues

There would be potential cumulative landscape and visual impacts associated with the offshore Robin Rigg wind farm which lies approximately 9km from Almorness Point at the closest location within this landscape unit. This wind farm is highly visible from hill summits such as Screel Hill and from the A711 at Auchencairn Bay.

22.4.2 Key constraints

- The intimately scaled complex landform of small knolly hills cut by narrow valleys between Gelston and the Urr valley and the irregular rocky coastal promontories which separate Auchencairn Bay and the Rough Firth.
- Screel Hill and Bengairn which rise abruptly from the coast and the *Drumlin Pastures* (4) and form landmark features seen over an extensive area and instantly recognisable by their elongated craggy ridges and the summit cone of Bengairn.
- Steep, rocky and forested southern hill slopes which provide a backdrop to Auchencairn and Orchardton Bays and the Urr Valley and contribute to the contrast between more managed farmland, coastal features and the rugged uplands.
- Policy woodlands and parkland, hill forts and settlement which reflect and accentuate the complexity and small scale of the landform of knolly hills on the north-western edge of this landscape unit between Gelston and the Urr valley.
- Patterns of archaeological and historic land-use features and specific sites.
- The high recreational use of this landscape with key hills such as Screel Hill offering panoramic views.
- The *East Stewartry Coast* NSA and *Solway Coast* RSA which cover much of this landscape area.
- The introduction of larger wind turbines to the *Coastal Granite Uplands* which would be contrary to the predominant association of this scale of wind farm development with the sparsely settled and more expansive, and often densely forested, uplands of Dumfries and Galloway.

22.5 Sensitivity and guidance

Landscape sensitivity would be **High** for wind turbines >80m high.

Smaller wind turbines would be likely to be more successfully accommodated in this landscape area but only in very limited areas. The accompanying Sensitivity Assessment for Smaller Wind Turbines provides guidance on the siting of wind turbines <80m high.

AU 23 Coastal Granite Uplands – Bengairn area – Sensitivity assessment for larger turbines		
Topics and description	Assessment: Very large turbines (150m-250m)	Assessment: Large turbines (80-150m)
<p>Scale Scale varies within this landscape. Smaller knolly hills, cut by narrow valleys, give an intimate scale between Gelston and the Urr valley on the northern edge of this landscape while the larger hills of Galgrie, Screeel and Bengairn (391m) are more open and larger in scale. The complex rocky coastal promontories of this area are often small scale in character.</p>	<p>Turbines of this size would dominate the small scale of coastal promontories, lower knolly hills and valleys and more confined hill tops. Turbines towards the higher height band of this typology would appear to diminish the vertical scale of the higher hills within this landscape area. Susceptibility rating: High</p>	<p>This typology would dominate the small scale of coastal promontories and lower knolly hills and valleys. While this typology could relate to the scale of broader lower hill slopes in the north-west of the area (but not the generally more confined hill tops), turbines would appear large in comparison with the vertical scale of the higher hills. Susceptibility rating: High-medium</p>
<p>Landform There is a pronounced north-west/south-east grain to this landscape. Screeel and Bengairn Hills have elongated ridges with rocky outcrops; Screeel Hill forming a distinctive toothed skyline in long views. Steep rocky hill slopes provide a dramatic backdrop to Auchencairn Bay to the south; accentuated by the abrupt junction with the flat floodplain backing Auchencairn Bay. The landform fragments at the coast forming a series of rocky peninsulas extending into this bay. Knolly 'foothills' form an edge to these hills between the Urr valley and Gelston while slacker slopes occur on the fringes of Bengairn and Barcloy Hill. Narrow valleys cut between the hills and are often strongly contained by steep slopes.</p>	<p>This typology would impact on the irregular and complex landform of lower hills, narrow valleys and coastal promontories. Slacker lower hill slopes could provide a better association with wind farm development although large turbines would detract from the focus of dramatic steep rocky hill slopes and long craggy ridges which back these slopes and the coastal fringe. Susceptibility rating: High</p>	<p>This typology would impact on the irregular and complex landform of lower hills, narrow valleys and coastal promontories. Slacker lower hill slopes could provide a better association with wind farm development although large turbines would detract from the focus of dramatic steep rocky hill slopes and long craggy ridges which back these slopes and the coastal fringe. Susceptibility rating: High</p>
<p>Landcover Coniferous forestry covers much of the steep upper hill slopes. Mature conifers and broadleaves form an attractive woodland character within narrow valleys while smaller broadleaved and policy woodlands accentuate the intimately scaled knolly landform around Gelston. Small fields within narrow valleys and on lower hills are enclosed by a mix of stone walls and hedges and patterned by occasional patchy scrub and rocky outcrops. Larger fields occur on less undulating ground</p>	<p>Turbines and access tracks would disrupt the strong and diverse small scale pattern of woodlands, policies and small fields characteristic of the lower hills, valleys and coastal promontories. While this typology could relate to the simpler land cover of plantation forestry and upland pasture found in some parts of this landscape it could impact on the integrity of more mature and sensitively designed forest. Susceptibility rating: High-medium</p>	<p>Turbines and access tracks would disrupt the strong and diverse small scale pattern of woodlands, policies and small fields characteristic of the lower hills, valleys and coastal promontories. While this typology could relate to the simpler land cover of plantation forestry and upland pasture found in some parts of this landscape it could impact on the integrity of more mature and sensitively designed forest. Susceptibility rating: High-medium</p>

backing the coast and saltmarsh fringes Auchencairn and Ochardton Bays.		
<p>Built environment Small settlements cluster at the foot of steep south-east facing slopes and within the folds of the intimately scaled knolly hills on the north-western edge of this landscape. Farms occupy higher ground raised above the flat pastures bordering Auchencairn Bay. Occasional masts are prominent on some hill tops within these knolly hills. A series of hill forts form landmark features in the Gelston area and at Dungarry while there are a range of pre-improvement and prehistoric sites across the area.</p>	<p>There is no scope to locate this scale of development without impacting on settlement and/or archaeological features. Susceptibility rating: High</p>	<p>There is no scope to locate this scale of development without impacting on settlement and/or archaeological features. Susceptibility rating: High</p>
<p>Landscape context The <i>Bengairn</i> area of the <i>Coastal Granite Uplands</i> are prominent in views from the lower lying <i>Drumlin Pastures</i> (13) to the north-west. Steep forested slopes and occasionally dramatically craggy hills form an important backdrop and scenic contrast to the floodplain of the lower <i>Urr Valley</i> (4) and the <i>Peninsula</i> landscapes (1) and wider seascape.</p>	<p>This typology would impact on the dramatic rugged wooded backdrop and contrast provided by the higher hills to farmland within the floodplain of the Urr valley and the intricate coastline and wider seascape of the Solway Firth. Susceptibility rating: High</p>	<p>This typology would impact on the dramatic rugged wooded backdrop and contrast provided by the higher hills to farmland within the floodplain of the Urr valley and the intricate coastline and wider seascape of the Solway Firth. Susceptibility rating: High</p>
<p>Perceptual qualities Although the settled, farmed and forested nature of this landscape precludes a sense of wildness, richly diverse farmland has a traditional feel and some natural qualities. Less managed coastal areas have an elemental and natural quality and can feel secluded.</p>	<p>This typology would impact on the sense of wildness experienced in less managed coastal areas and also on the more subtle naturalness of diverse farmland. Permanent visible aviation lighting would extend the duration of effects on perceptual qualities. Susceptibility rating: High-medium</p>	<p>This typology would impact on the sense of wildness experienced in less managed coastal areas and also on the more subtle naturalness of diverse farmland. Susceptibility rating: High-medium</p>
<p>Views and visibility Landform and woodland limit views from within this landscape from settlement and the minor roads aligned through narrow valleys. Views are more open from the A711 and these focus on the dramatic steep south-east facing hill slopes and the rocky peninsulas and Firth of Auchencairn Bay. The hill ridges and summits offer extensive views over this landscape and the Solway Firth. Scree Hill is particularly popular with</p>	<p>This typology would be highly visible from the A711 and coastal settlements and footpaths if located on hill tops, south-facing slopes and coastal areas. It would also significantly impact on views from key hill tops and ridges which are popular with walkers. This typology would be highly visible if located on the higher hills which form key foci in extensive views from AUs 4 and 13. It would also significantly detract from views of the</p>	<p>This typology would be highly visible from the A711 and coastal settlements and footpaths if located on hill tops, south-facing slopes and coastal areas. It would also significantly impact on views from key hill tops and ridges which are popular with walkers. This typology would be highly visible if located on the higher hills which form key foci in extensive views from AUs 4 and 13. It would also significantly detract from views of the</p>

<p>walkers and is promoted in a number of guides. Scree Hill forms a focus landmark seen from wide area of <i>Drumlin Pastures</i> (13) and the coast. The north-west facing edge of smaller complex knolly ‘foothills’ are also highly visible from roads such as the A745. The steep wooded slopes of these <i>Coastal Granite Uplands</i> are highly visible from the lower Urr valley and Dalbeattie.</p>	<p>lower knolly hills on the north-western edge of this unit seen from the adjacent <i>Drumlin Pastures</i> (13). Susceptibility rating: High</p>	<p>lower knolly hills on the north-western edge of this unit seen from the adjacent <i>Drumlin Pastures</i> (13). Susceptibility rating: High</p>
<p>Landscape value The <i>East Stewartry</i> NSA includes the summits and south-east facing slopes of Bengairn and Scree Hill and Auchencairn Bay with its rocky promontories. The special qualities of the NSA include the diversity of landform including the indented coastline and rugged hills, the variety of landcover and contrast between managed farmland and ‘wildness’. Scree Hill and Bengairn are noted as key landmarks within the NSA. The <i>Solway Coast</i> RSA covers all but the north-western fringes of this landscape unit. The citation describes the...“<i>steep sided, rocky granite hills....contrasting with areas of smoother topography and improved pastures, plus considerable, generally sympathetically designed forestry</i>”. This landscape includes valued nature conservation and archaeological and historic assets. There are a large number of promoted recreational routes.</p>	<p>This typology would adversely affect the contrast between the rugged hills and surrounding coast and farmland and would detract from the key landmark hills of Scree Hill and Bengairn. It could also diminish the integrity of sympathetically designed forestry and the variety of landcover in some parts of the NSA/RSA.</p> <p>This typology may also affect the setting of the landmark hills if located in undesignated parts of this landscape area of the <i>Coastal Granite Uplands</i>. The experience of using recreational routes would be diminished. Value rating: High</p>	<p>This typology would adversely affect the contrast between the rugged hills and surrounding coast and farmland and would detract from the key landmark hills of Scree Hill and Bengairn. It could also diminish the integrity of sympathetically designed forestry and the variety of landcover in some parts of the NSA/RSA.</p> <p>This typology may also affect the setting of the landmark hills if located in undesignated parts of this landscape area of the <i>Coastal Granite Uplands</i>. The experience of using recreational routes would be diminished. Value rating: High</p>
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

22.6 Dalbeattie (AU 23) – description

The Dalbeattie landscape unit of the *Coastal Granite Uplands* comprises a large-scale upland core of shapely hills covered with forestry and moorland, but also smaller scale, rolling craggy hills often featuring an intricate pattern of small, enclosed pastures, scrub and woodlands. The dramatically steep hill slopes of these Coastal Granite Uplands which abut the coastal edge, the iconic form of Criffel and the richly diverse eastern hill slopes with their associated settlement, policy landscapes and landmark historical features, make a strong contribution to wider scenic quality. This landscape is visually prominent from nearby settlements, coastal recreation areas and major roads and also over an extensive area to the north.

22.6.1 Cumulative issues

The operational Plascow turbines are located in this landscape although this is a discrete development of three smaller wind turbines. The offshore Robin Rigg wind farm is visible from the coast and elevated areas. The distance of this development limits potential for significant cumulative effects to arise with onshore developments.

22.6.2 Key constraints

- The core of higher upland hills including the distinctive cone of Criffel which is a landmark feature seen across an extensive part of Dumfries and Galloway and north Cumbria.
- The small-scale lower rolling hills and ridges which fringe the eastern edge of the upland core and have a richly diverse pattern of policy woodlands, parkland, small, enclosed pastures and settlement.
- The craggy, tightly interlocking small hills and narrow valleys with their coarse-textured pattern of small walled fields, scrub and woodland and settlement in the south-west of this area.
- Patterns of archaeological and historic land-use features and specific sites.
- The steep slopes of Criffel and rugged lower hill slopes between Caulkerbush and Sandyhills which form a distinctive backdrop and contrast with the *Coastal Flats* Assessment Unit (3).
- The high recreational use of this landscape with Criffel and the core of uplands, Dalbeattie and Mabie Forests attracting many walkers and cyclists.
- The *Nith Estuary* NSA and *Solway Coast* RSA which cover the majority of this landscape area.
- The introduction of larger development typologies which would be contrary to the predominant association of this scale of wind farm development with the more sparsely settled upland areas with a simple landform and landcover in Dumfries and Galloway.

22.7 Sensitivity and guidance

Landscape sensitivity would be **High** for larger wind turbines >80m high.

Smaller wind turbines are likely to be more successfully accommodated in this landscape. The accompanying Sensitivity Assessment for Smaller Wind Turbines provides guidance on the siting of wind turbines <80m high.

AU 23 Coastal Granite Uplands – Dalbeattie area – Sensitivity assessment for larger turbines		
Topics and description	Assessment: Very large turbines (150m-250m)	Assessment: Large turbines (80-150m)
<p>Scale An upland area generally around 400m but with Criffel rising to 569m at the highest point. Scale is reduced in the lower, and often more complex, rolling hills which fringe the core uplands and within the valleys which dissect the uplands on a north-west/south-east grain.</p>	<p>While the large scale of the upland core generally reduces susceptibility, wind turbines of this size (and particularly those towards the higher height band) would dominate smaller hills and valleys Sensitivity rating: High-medium</p>	<p>While this typology could relate to the large scale of the upland core of this landscape, it would dominate the smaller scale of rolling hills that fringe it and also the valleys which cut through the uplands. Sensitivity rating: Medium</p>
<p>Landform These uplands generally have smooth long northern slopes and steeper southern slopes which abut the <i>Coastal Flats</i> (3). The core of the higher uplands form a tight arc divided by the Glen Burn. Criffel is the largest hill and is a landmark feature with its conical form, steep smooth slopes and shapely ridges. More complex and smaller, often craggy hills, cut by narrow valleys, fringe the upland core to the south-west. Slopes are slacker on the north-western boundary of this unit and the area bordering the Urr valley is relatively low, forming an undulating plateau around 100m patterned with rocky outcrops.</p>	<p>This size of wind turbine would detract from the distinctive form of Criffel. The more complex, craggy rolling hills which fringe the upland core would also be susceptible. Gentler north-west facing hill slopes are of reduced susceptibility although these are not extensive areas thus limiting the number of turbines that could be accommodated. Sensitivity rating: High-medium</p>	<p>This size of wind turbine would detract from the distinctive form of Criffel. The more complex, craggy rolling hills which fringe the upland core would also be susceptible. Gentler north-west facing hill slopes are of reduced susceptibility although these are not extensive areas thus limiting the number of turbines that could be accommodated. Sensitivity rating: High-medium</p>
<p>Landcover Heather and grass moorland covers the higher hill tops while coniferous forestry extends over lower hills and upper, generally less steep, hill slopes. Some of this forestry has a poor relationship to landform with angular margins and limited diversity. Policy woodlands occur around Mabie and New Abbey and these feature a rich mix of species and include avenues and some parkland plantings. Rounded lochs form occasional features sitting at the foot of the hills and on the lower south-western plateau near Dalbeattie and pockets of wetland fill small valleys and dips.</p>	<p>This typology would disrupt the balance of open space to woodland if sited on open hill tops or lower strongly enclosed pastures and could impact on the integrity of heather moorland which is a notable feature on the higher hill tops. The more diverse mix of policy and broadleaved woodlands, small strongly enclosed pastures and wetlands which contribute to the rich diversity of much of this landscape would be highly sensitive to wind farm development. Development sited near lochs would detract from their landmark status. Commercially managed forestry with limited visual diversity and extensive upland pasture would be less sensitive to this typology. Susceptibility rating: High-medium</p>	<p>This typology would disrupt the balance of open space to woodland if sited on open hill tops or lower strongly enclosed pastures and could impact on the integrity of heather moorland which is a notable feature on the higher hill tops. The more diverse mix of policy and broadleaved woodlands, small strongly enclosed pastures and wetlands which contribute to the rich diversity of much of this landscape would be highly sensitive to wind farm development. Development sited near lochs would detract from their landmark status. Commercially managed forestry with limited visual diversity and extensive upland</p>

<p>Interlocking woodlands and small scrubby pastures, enclosed by stone dykes, give a coarse textured, diverse pattern within the smaller hills to the south west although larger scale pastures and more extensive upland grazing occurs to the north-west.</p>		<p>pasture would be less sensitive to this typology. Susceptibility rating: High-medium</p>
<p>Built environment The small historic settlement of New Abbey nestles at the foot of these uplands. Farmsteads pattern lower hill slopes on the outer edge of the higher upland core with settlement becoming more concentrated within the lower hills and valleys to the south-west. Dalbeattie is located at the transition between this landscape unit and the Urr Valley (4). Derelict munitions site, landfill and quarrying occur near Dalbeattie. Mansion houses, the Waterloo Monument, the ruinous Sweetheart Abbey form key landmark built features. Prehistoric settlements skirt the foot of Criffel and the lower hills feature hill forts and cairns.</p>	<p>This typology would dominate the scale of dispersed farmsteads which encircle the upland core and are more concentrated within the lower hills. It could affect the setting of settlements such as New Abbey and Dalbeattie and historical and archaeological features if located nearby or within the hills which provide a backdrop to settlement. Susceptibility rating: High</p>	<p>This typology would dominate the scale of dispersed farmsteads which encircle the upland core and are more concentrated within the lower hills. It could affect the setting of settlements such as New Abbey and Dalbeattie and historical and archaeological features if located nearby or within the hills which provide a backdrop to settlement. Susceptibility rating: High</p>
<p>Landscape context Criffel is a landmark hill seen over an extensive area. The steep southern slopes of Criffel and also the craggy edge of lower hills between Caulkerbush and Sandyhills are important in providing a backdrop and contrast with the <i>Coastal Flats</i> (3) and Solway Firth. The low densely forested undulating granite plateau of Dalbeattie Forest edges the lower <i>Urr valley</i> (4) and forms part of the setting to the town of Dalbeattie. This area also forms an interesting upland backdrop to the extensive <i>Drumlin Pastures</i> (13) to the north. The intricately vegetated rolling ridge of Mabie Forest borders lower <i>Nithsdale</i> (6) and forms part of the wider setting to Dumfries</p>	<p>Turbines sited within the core higher uplands of this unit would have significant impacts on the landmark of the Criffel massif. Turbines sited on the dramatically steep slopes which backdrop the <i>Coastal Flats</i> (3) and/or visible on the skyline of these hills would have significant impacts. Although the lower forested plateau of the Dalbeattie Forest in the south-west of this unit provides a less emphatic backdrop to the settlement of Dalbeattie and the <i>Urr valley</i> (4), it is valued as a landscape resource and would be highly sensitive to this typology. The richly diverse eastern hill slopes of this unit make a strong contribution to the setting of Criffel, Dumfries and the Nith Estuary and would be highly sensitive to this typology. Susceptibility rating: High</p>	<p>Turbines sited within the core higher uplands of this unit would have significant impacts on the landmark of the Criffel massif. Turbines sited on the dramatically steep slopes which backdrop the <i>Coastal Flats</i> (3) would also have significant impacts. Although the lower forested plateau of the Dalbeattie Forest in the south-west of this unit provides a less emphatic backdrop to the settlement of Dalbeattie and the <i>Urr valley</i> (4), it is valued as a landscape resource and would be highly sensitive to this typology. The richly diverse eastern hill slopes of this area make a strong contribution to the setting of Criffel, Dumfries and the Nith Estuary and would be highly sensitive to this typology. Susceptibility rating: High</p>

<p>Perceptual qualities Although forestry, quarrying and munitions stores preclude a sense of wildness in some areas, diverse farmland on the fringes of these uplands can appear natural. The less modified open hills of the upland core also have natural qualities.</p>	<p>This typology would impact on the sense of wildness experienced in less managed upland areas and within more diverse farmland. Permanent aviation lighting could diminish the qualities of wildness associated with the less modified open hills of this area. Susceptibility rating: High-Medium</p>	<p>This typology would impact on the sense of wildness experienced in less managed upland areas and within more diverse farmland. Susceptibility rating: High-Medium</p>
<p>Views and visibility The minor roads which cross the valleys of this landscape have fairly limited views due to the containment provided by hill slopes and forestry. New Abbey is similarly contained and many settlements and farms are orientated away from the core uplands being predominantly located on outer hills slopes. The complex hummocky landform to the south-west, together with woodland, restricts extensive views from this more settled area. A network of footpaths in the upland core provides elevated views over much of this landscape and the Solway Firth. In wider views, this landscape is highly visible over an extensive area with Criffel a key focus in views.</p>	<p>This typology would be highly visible over an extensive area of Dumfries and Galloway and also the Cumbrian coast if sited on the core upland areas centred on Criffel. This typology would be visible in close proximity from the A711 if sited on northern slopes and on hill tops. The popularity of Criffel with walkers and coastal recreation areas and the presence of settlements on the fringes of this upland area increases visual sensitivity to this typology. Susceptibility rating: High</p>	<p>This typology would be highly visible over an extensive area of Dumfries and Galloway and also the Cumbrian coast if sited on the core upland areas centred on Criffel. This typology would be visible in close proximity from the A711 if sited on northern slopes and on hill tops. The popularity of Criffel with walkers and coastal recreation areas and the presence of settlements on the fringes of this upland area increases visual sensitivity to this typology. Susceptibility rating: High</p>
<p>Landscape values Criffel and the east coast of this landscape area are covered by the Nith Estuary NSA. The special qualities of this NSA are recorded as being the bold contrasts between the granite upland mass of Criffel and the coastal flats and Firth. The diversity of moorland, woodlands and rolling parkland is noted together with the landmarks of Mable Forest, Criffel, the Waterloo Monument and New Abbey (amongst other landmarks outwith this landscape area). The sense of remoteness, naturalness and harmony of the landscape are also considered key special qualities.</p>	<p>This typology would adversely affect the contrast between the rugged hills and the coast and would detract from the key landmark hill of Criffel. It would also conflict with the diverse and often small-scale pattering of vegetation cover and would impact on the sense of naturalness and the harmony associated with the NSA/RSA. This typology may also affect the setting of the landmark hills if located in undesignated parts of this landscape unit of the <i>Coastal Granite Upland</i> Value rating: High to low</p>	<p>This typology would adversely affect the contrast between the rugged hills and the coast and would detract from the key landmark hill of Criffel. It would also conflict with the diverse and often small-scale pattering of vegetation cover and would impact on the sense of naturalness and the harmony associated with the NSA/RSA. This typology may also affect the setting of the landmark hills if located in undesignated parts of this landscape unit of the <i>Coastal Granite Upland</i> Value rating: High to low</p>

<p>The <i>Solway Coast</i> RSA covers the majority of this landscape area, excluding the north-west facing lower hill slopes. The <i>Terregles Ridge</i> RSA abuts to the north-east and includes the Loch Arthur and Mable Forest areas. The citation does not include a specific reference to the <i>Coastal Granite Uplands</i> in the description of the Terregles Ridge RSA although they are described in relation to the Solway Coast as comprising the seaward facing slopes of the Criffel uplands which are....”<i>dramatically juxtaposed with the flat exposed landscapes of the Coastal Flats around the Nith Estuary....(including the)... intimate, wooded landscapes of the ‘coastal parkland’ around New Abbey</i>”. Criffel and Mable Forest form a focus for recreation with many popular core paths and other recreational routes within Dalbeattie Forest and around New Abbey.</p>		
<p>Sensitivity</p>	<p>High</p>	<p>High</p>

23 ASSESSMENT UNIT 24 - RUGGED GRANITE UPLANDS

23.1 Introduction

The *Rugged Granite Uplands* occur in Galloway and extend into neighbouring South Ayrshire in the Carrick area. There are two landscape areas identified within the Assessment Unit, the *Merrick* and the *Rhinns of Kells*. Both areas are considered together in a single sensitivity assessment due to the similarity of their key characteristics.

23.1.1 Cultural heritage overview

This landscape is characterised as moorland with very little evidence of relict land-uses.

23.1.2 Operational and consented wind farm development

There are no operational or consented wind farms located in this Assessment Unit.

A large number of operational and consented wind farms lie between 11km-30km to the west, north-west and south-west of the *Merrick* area of this Assessment Unit. These developments are principally located on the *Plateau Moorland* Assessment Units 16 and 17 within Dumfries and Galloway and in other landscapes within South Ayrshire. Operational and consented wind farm development principally located in the *Southern Uplands* Assessment Units 21 and 22 and *Foothills with Forest* Assessment Unit 20 are particularly visible from the *Rhinns of Kells* area in views to the north-east with the Torrs Hill turbines being particularly close at 3.5km from Corserine the highest hill on this ridge.

23.2 Description

The dramatic craggy mountainous scenery of the *Rugged Granite Uplands* is commonly described as being 'Highland' in character and contrasts with the smoother, more rounded hills of the *Southern Uplands*. These uplands have a complex landform and diverse vegetation cover. They form a distinctive backdrop to more settled, lowland areas with the *Rhinns of Kells* ridge and the *Merrick* and *Awful Hand* ridge (which extends into South Ayrshire) comprising landmark features seen widely from surrounding landscapes. A strong sense of remoteness and naturalness is associated with these uplands and they are very popular for recreation.

23.2.1 Cumulative issues

Although there are no wind farms within this Assessment Unit, a concentrated band of wind farm development is visible to the west from the *Merrick* area and to the north-east from the *Rhinns of Kells* area.

Any future wind farm development lying closer to the *Merrick* area would be likely to have significant cumulative impacts on the setting of these uplands, on views and on the qualities of wildness associated with this landscape. Similar effects on setting and views and on the experience of wildness could also occur if additional wind farm development was sited closer to the *Rhinns of Kells* area. Developments comprising Very Large turbines (>150m) would be likely to have greater effects on character and views.

23.2.2 Key constraints

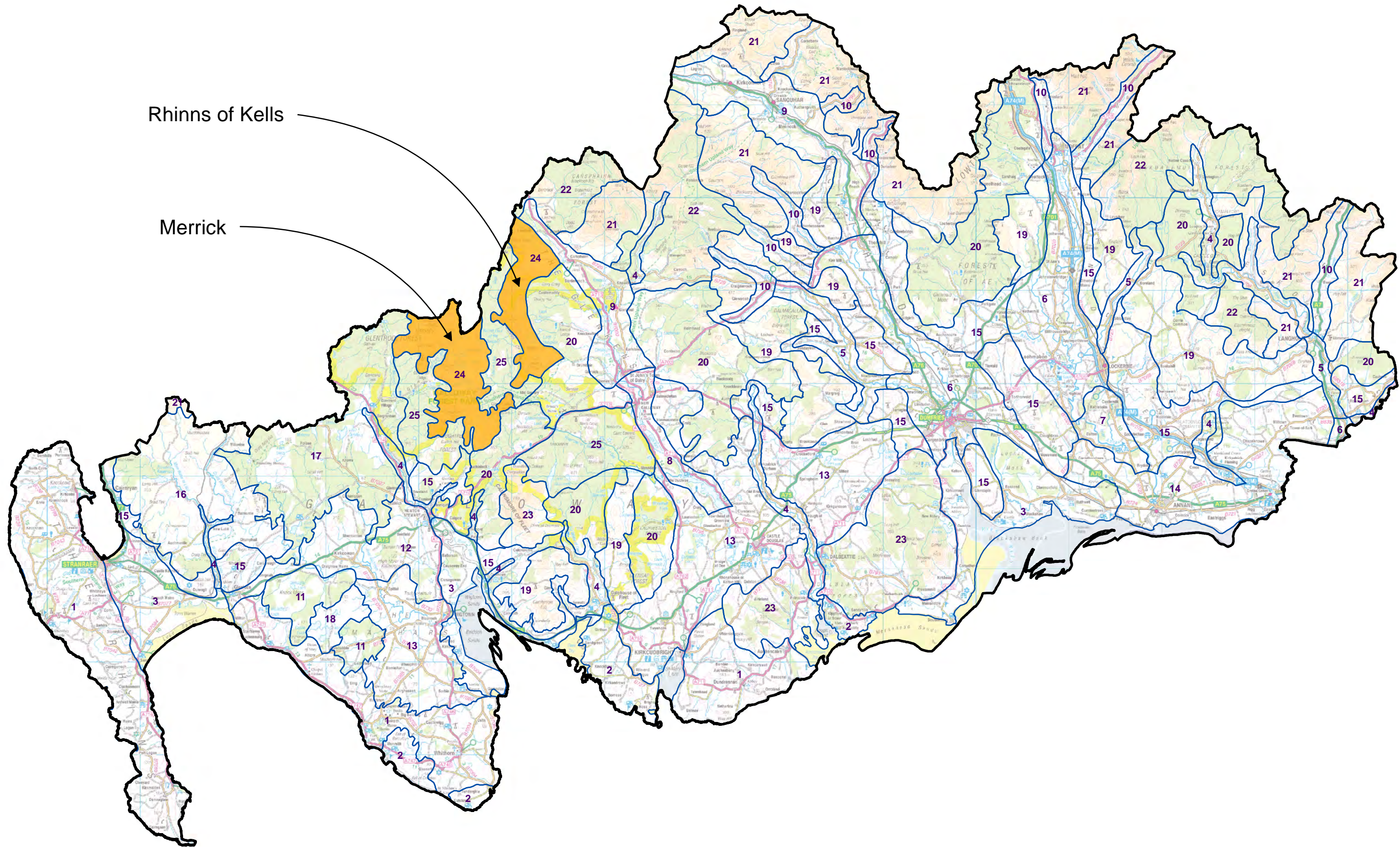
- Rugged, highly complex landform and land cover with defined peaks, craggy slopes, the myriad lochs and deeply cut valleys of the interior of *Merrick* and the shapely flowing ridges and corries of the *Rhinns of Kells*.
- The strong perceptual qualities of remoteness and naturalness which can be experienced in these uplands.
- The highly visibility of these uplands where they form an iconic backdrop to more settled areas but also from popularly walked peaks such as the Corbetts of Merrick and Corserine.
- The *Galloway Hills* RSA and the Wild Land Area which covers this landscape, the high recreational use of these hills, and its nature conservation interest, which contribute to the high value associated with this landscape.

23.3 Sensitivity and guidance

The *Rugged Granite Uplands* Assessment Unit has a **High** sensitivity to wind turbines >80m high.

Extensions to existing wind farms or new wind farm development in Dumfries and Galloway or neighbouring South Ayrshire and East Ayrshire (which are likely to comprise much larger wind turbines than those within operational developments) should avoid impacting on key views to and from these highly sensitive uplands. Additional wind turbine development should be sited sufficiently far away from these uplands to avoid significantly exacerbating visual intrusion and a perception of 'encirclement' and/or domination which would diminish the sense of wildness and the value associated with these special upland areas.

Assessment Unit Key Map - 24. Rugged Granite Uplands



Rhinn of Kells

Merrick

AU 24 Rugged Granite Uplands – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very large turbines (150m-250m)	Assessment: Large turbines (80-150m)
<p>Scale The <i>Rugged Granite Uplands</i> range from 200m to over 800m with Merrick, at 843m, the highest peak. They have a massive scale although the narrow valleys which cut into the hills and the undulating loch basins within the interior of the Merrick unit are strongly contained by steep slopes.</p>	<p>Tall turbines could relate to this large-scale landscape without dominating the height of individual peaks. Expansiveness is reduced within the narrow valleys which cut into these hills and where the more pronounced peaks provide enclosure. Susceptibility rating: Medium</p>	<p>Tall turbines could relate to this large scale landscape without dominating the height of individual peaks. Expansiveness is reduced within the narrow valleys which cut into these hills and where the more pronounced peaks provide enclosure. Susceptibility rating: Medium-low</p>
<p>Landform The long curving ridge of Rhinns of Kells extends for 13km and rarely falls below 600m. Deeply gouged corries are contained by craggy boulder-strewn slopes along this ridge. Exposed granite and boulders also give a notably ‘Highland’ appearance to the Merrick hill group featuring distinctive steeply rising peaks with craggy sides, knobbly ridges and cliffs of dark hard rock. Smoother hill slopes and broader ridges occur although generally the scenery is rugged and dramatic.</p>	<p>Turbines would significantly detract from the distinctive craggy, irregular landform of these uplands. It would be difficult to attain a cohesive layout for larger developments due to the complexity of landform. Susceptibility rating: High</p>	<p>Turbines would significantly detract from the distinctive craggy, irregular landform of these uplands. It would be difficult to attain a cohesive layout for larger developments due to the complexity of landform. Susceptibility rating: High</p>
<p>Landcover While vegetation cover is simple, largely comprising grass moorland with patchy heather, the landscape is strongly patterned with exposed rock, crags and small deeply articulated lochs and myriad water courses significantly increasing complexity. Coniferous forestry extends into some of the valleys cutting into the open ridges of the <i>Rhinns of Kells</i> and on the lower southern slopes and valleys of the <i>Merrick area</i>.</p>	<p>Multiple turbines, access roads and other ancillary development would significantly compromise the predominantly complex land cover pattern of these uplands. Smoother, broader ‘outer’ hill slopes (some of these covered with forestry) would be less sensitive in this respect. Susceptibility rating: High-medium</p>	<p>Multiple turbines, access roads and other ancillary development would significantly compromise the predominantly complex land cover pattern of these uplands. Smoother, broader ‘outer’ hill slopes (some of these covered with forestry) would be less sensitive in this respect. Susceptibility rating: High-medium</p>
<p>Built environment These uplands are largely uninhabited but there are some archaeological features.</p>	<p>Susceptibility is generally reduced in respect of built features. Susceptibility rating: Medium-low</p>	<p>Susceptibility is generally reduced in respect of built features. Susceptibility rating: Medium-low</p>
<p>Landscape context These uplands provide a distinctive rugged mountainous backdrop to adjoining settled areas such as the <i>Glenkens</i> to the east and the</p>	<p>This typology would dominate adjacent settled landscapes and diminish the role of the <i>Rugged Granite Uplands</i> in providing a dramatic and undeveloped backdrop to settled landscapes, thus</p>	<p>This typology would dominate adjacent settled landscapes and diminish the role of the <i>Rugged Granite Uplands</i> in providing a dramatic and undeveloped backdrop to settled landscapes, thus</p>

<p><i>Plateau Moorlands</i> and Duisk valley within South Ayrshire to the west.</p>	<p>adversely affecting wider landscape composition and scenic qualities. Susceptibility rating: High</p>	<p>adversely affecting wider landscape composition and scenic qualities. Susceptibility rating: High</p>
<p>Perceptual qualities An absence of built development and difficulty of access to the interior of these uplands give a strong sense of remoteness in many areas. Naturalness is accentuated by the ruggedness of the terrain but diminished in some areas by forestry in the adjacent AU 25. The strong qualities of wildness associated with parts of this landscape are recognised by the Merrick Wild Land Area. This landscape lie in the core of the Galloway Dark Skies Park.</p>	<p>Wind farm development, and particularly larger typologies, would significantly diminish the strong sense of naturalness and remoteness experienced in these uplands. Permanent visible aviation lighting would increase the duration of adverse effects on perceptual qualities including on dark night skies.. Susceptibility rating: High</p>	<p>Wind farm development, and particularly larger typologies, would significantly diminish the strong sense of naturalness and remoteness experienced in these uplands. Susceptibility rating: High</p>
<p>Views and visibility These uplands are popular with walkers because of their highly natural and rugged character and the presence of ‘Corbett’ hills. The higher summits offer views into the less visited interior of the hills and the wider area. The <i>Rhinns of Kells</i> are highly visible from the Glenkens, the A712 and the A713 where they form an arresting ‘entrance’ to Galloway from South Ayrshire. The Merrick group of hills form a distinctive and long panorama seen principally from the west but also from elevated viewpoints such as Cairnsmore of Fleet to the south. They feature in views from the A714, the <i>Plateau Moorlands</i>, the Duisk valley and the SUW.</p>	<p>Although the interior valleys of these hills are less visible from external view, the popularity of higher hills such as Merrick with walkers increases sensitivity to wind farm development even in more visually contained areas. The SUW is also aligned through the southern part of these uplands increasing visual sensitivity locally. Wind farm development sited on hill tops and ridges within this AU would be prominent in views from surrounding settled areas. Susceptibility rating: High</p>	<p>Although the interior valleys of these hills are less visible from external view, the popularity of higher hills such as Merrick with walkers increases sensitivity to wind farm development even in more visually contained areas. The SUW is also aligned through the southern part of these uplands increasing visual sensitivity locally. Wind farm development sited on hill tops and ridges within this character type would be prominent in views from surrounding settled areas. Susceptibility rating: High</p>
<p>Landscape value The ‘<i>massive craggy peaks of the dramatic and scenic</i>’ Rugged Granite Hills AU forms the focus of the <i>Galloway Hills</i> RSA. The <i>Merrick Wild Land Area</i> covers core hills. The <i>Galloway Forest Park</i> covers this AU and there is high recreational use of these hills. This AU is also covered by international and nationally important nature conservation designations, the <i>Galloway and Southern Ayrshire Biosphere</i> and the <i>Dark Sky Park</i>. These hills, and particularly the</p>	<p>The multiple landscape related designations and other values associated with these uplands and their recreational use increases sensitivity. Value rating: High</p>	<p>The multiple landscape related designations and other values associated with these uplands and their recreational use increases sensitivity Value rating: High</p>

Corbett hill of the Merrick, are popular with walkers		
Sensitivity	High	High

24 ASSESSMENT UNIT 25: RUGGED GRANITE UPLANDS WITH FOREST

24.1 Introduction

The *Rugged Granite Uplands with Forests* occur in Galloway and extend into neighbouring South Ayrshire in the Carrick/Loch Doon area. Three landscape areas are identified in this Assessment Unit, the *Merrick*, *Glentrool* and *Cairn Edward*. The *Merrick* and *Glentrool* areas are considered together with a separate sensitivity assessment undertaken for the *Cairn Edward* area.

24.1.1 Cultural heritage overview

This landscape is characterised as forestry with a little evidence of relict land-use, particularly in the south-east of the *Cairn Edward* area. There are some archaeological sites of outstanding significance and distinctiveness.

24.2 Merrick and Glentrool areas (AU 25) – description

The *Merrick* area extends across the Dee valley and the west facing slopes of the long curving ridge of the Rhinns of Kells. The *Glentrool* area comprises the lower west facing slopes of the Merrick Hills. These hill slopes are fairly broad and gentle but with some steeper scarps and boulder-strewn slopes evident in more open areas. Occasional craggy-topped hills protrude above dense forestry which masks the underlying landform and steep. Scale is reduced where steep slopes contain valleys and create ‘pinch points’ for example on the Dee and Water of Trool. These landscapes are substantially covered with productive Sitka spruce dominated forestry but are being restructured to increase broadleaves and open space. Land cover within the *Glentrool* area is more diverse with mixed tree species and mature policy plantings and occasional open areas particularly evident close to Loch Trool. These areas are sparsely settled although the *Glentrool* area is well-used for recreation and the *Merrick* area, although more visually contained in general, is seen from summits and ridges on the Merrick and Rhinns of Kells ridge. These landscapes lie in close proximity to the Galloway Hills and, although generally less diverse and scenically rich, they are important in the wider landscape setting of these highly sensitive uplands.

24.2.1 Operational/consented wind farms and cumulative issues

There are no wind farms within the *Merrick* and *Glentrool* areas of the *Rugged Granite Uplands with Forest* Assessment Unit. There is also limited visibility of existing wind farms in the wider landscape from these densely forested and often visually contained areas. Any future wind farm development situated in the adjoining *Plateau with Forest* Assessment Unit 17 could have impacts from key viewpoints within the *Glentrool* area, where open views are rare but important.

24.2.2 Key constraints

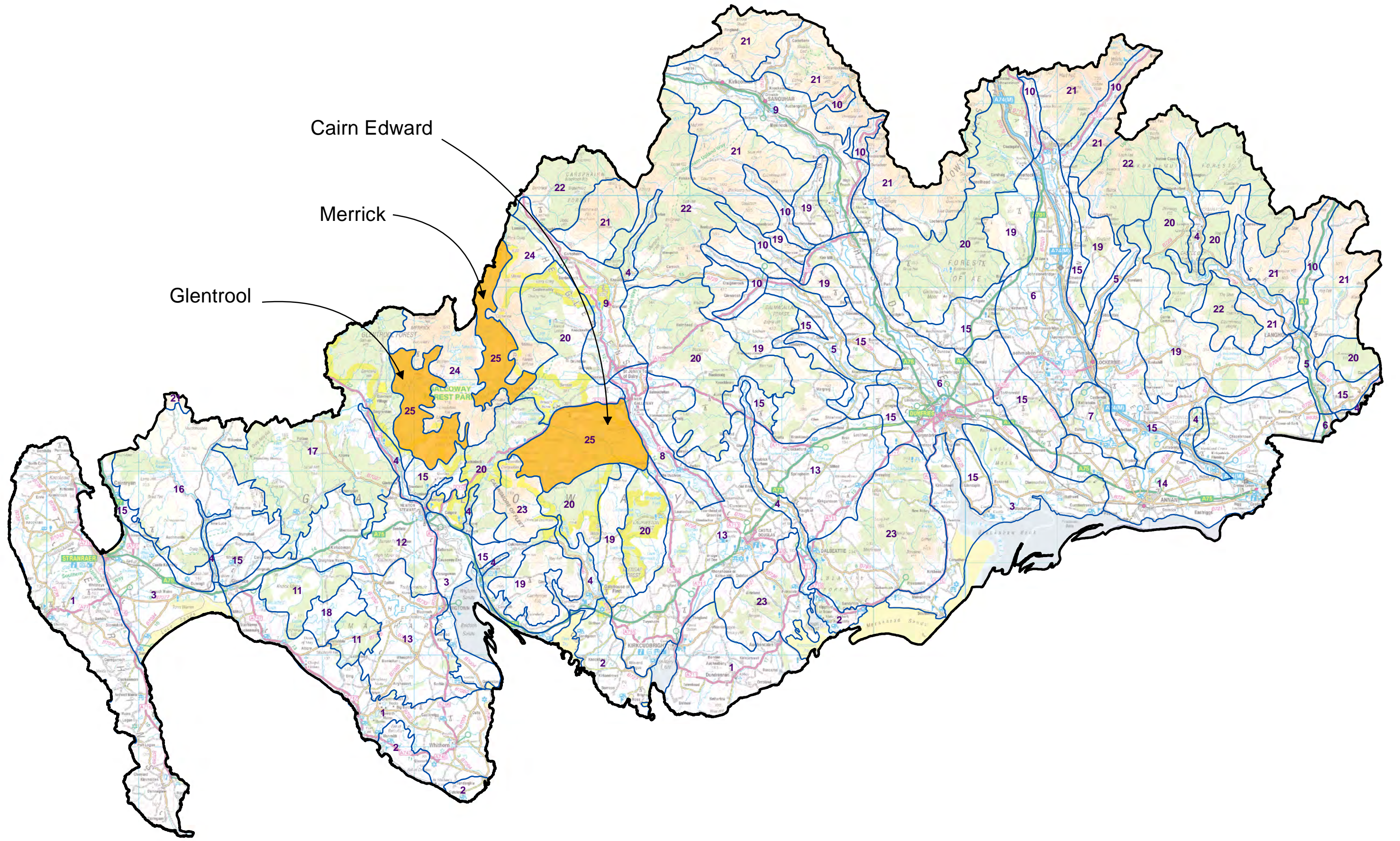
- Areas of complex and craggy landform evident in occasional open hill tops and underlying the predominant forest cover of these landscapes.
- The rich diversity of woodlands in the *Glentrool* area
- Settlement, archaeological features, recreational activity and occasional landmark archaeological and commemorative features, such as the Bruce’s Stone, which increase sensitivity in the *Glentrool* area.

- The strong sense of remoteness that can particularly be experienced in the *Merrick* area and the proximity of this landscape to the dramatic mountainous landscapes of the Rhinns of Kells, the Merrick and Awful Hand ridge and to the Merrick Wild Land Area.
- The high visibility of the western slopes of the *Glentrool* area from the west and both the *Glentrool* and *Merrick* areas seen from popular walking routes on the summits and ridges of the Galloway Hills.
- The *Galloway Hills* RSA, Galloway Forest Park and Dark Sky Park designations which cover these landscapes.

24.3 Sensitivity and guidance

The *Merrick* and *Glentrool* areas of the *Rugged Granite Uplands with Forest* have a **High** sensitivity to wind turbines >80m high. The close proximity of these areas to the dramatic mountainous landscapes of the Merrick and the Awful Hand and Rhinns of Kells ridges are key constraints to development.

Assessment Unit Key Map - 25. Rugged Granite Uplands with Forest



AU 25 Rugged Granite Uplands with Forest – Merrick and Glentrool areas - Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale The hill slopes and broad undulating valley of the <i>Glentrool</i> and <i>Merrick</i> areas have a medium to large scale although extensive forest cover limits the degree of openness. Scale is reduced where steep slopes contain valleys and create 'pinch points' for example on the Dee and Water of Trool.</p>	<p>This typology could relate to the medium-large scale found within broader parts of these landscapes although it could dominate the scale of occasional open outcrop hills and incised valleys and turbines towards 250m high would diminish to some degree the vertical scale of higher hills. Susceptibility rating: Medium</p>	<p>This typology could relate to the medium-large scale found within broader parts of these landscapes although it could dominate the scale of occasional open outcrop hills and incised valleys. Susceptibility rating: Medium-low</p>
<p>Landform The Merrick area extends across the Dee valley and the west facing slopes of the long curving ridge of the Rhinns of Kells. The <i>Glentrool</i> area comprises the lower west facing slopes of the Merrick Hills. These hill slopes are fairly broad and gently but with some steeper scarps and boulder-strewn slopes evident in more open areas. Occasional craggy-topped hills protrude above dense forestry which masks the underlying landform.</p>	<p>Steep and craggy slopes, ridges and hill tops (some of these presently masked by forestry) would be of increased susceptibility although smoother and gentler lower slopes would be of reduced susceptibility. Susceptibility rating: Medium</p>	<p>Steep and craggy slopes, ridges and hill tops (some of these presently masked by forestry) would be of increased susceptibility although smoother and gentler lower slopes would be of reduced susceptibility. Susceptibility rating: Medium</p>
<p>Landcover Dense coniferous forest predominates with occasional craggy-topped hills and low-lying areas close to the River Dee and Loch Trool left open. Productive forestry in the <i>Merrick</i> area is patterned with linear tracks and compartment boundaries. Forest within the area around Loch Trool in the <i>Glentrool</i> area is diverse with the Forest Management Plan primary objectives being enhancement for nature conservation and recreation.</p>	<p>Occasional open hill tops provide interest within the dense forest cover of these landscapes. Development which was sited upon, or visually intruded on, these hill tops would diminish this contrast. Wind farm development would impact on the more diverse woodland around Loch Trool but would have less of an effect on more uniform productive forestry elsewhere. Susceptibility rating: Medium</p>	<p>Occasional open hill tops provide interest within the dense forest cover of these landscapes. Development which was sited upon, or visually intruded on, these hill tops would diminish this contrast. Wind farm development would impact on the more diverse woodland around Loch Trool but would have less of an effect on more uniform productive forestry elsewhere. Susceptibility rating: Medium</p>
<p>Built environment The <i>Merrick</i> area is largely uninhabited and the <i>Glentrool</i> area sparsely populated with estate lodges and small dwellings within Glen Trool and lower valleys. There are some landmark archaeological/historic features within Glen Trool, including the well-visited Bruce's Stone, although</p>	<p>While the sparsely settled nature of these predominantly forested landscapes reduces sensitivity to wind farm development in general, the Glen Trool area is more sensitive in this respect, although the setting of any archaeological sites remains sensitive. Susceptibility rating: Medium-low</p>	<p>While the sparsely settled nature of these predominantly forested landscapes reduces sensitivity to wind farm development in general, the Glen Trool area is more sensitive in this respect, although the setting of any archaeological sites remains sensitive. Susceptibility rating: Medium-low</p>

generally dense forest currently obscures archaeological and historic features.		
Landscape context These forested hill slopes lie in close proximity to the Galloway Hills and, although generally less diverse and scenically rich, are important in the wider landscape setting of these highly sensitive uplands.	Wind farm development located in these landscapes would impact on the setting of the high and dramatic Galloway Hills. It could further diminish the integrity of the wider upland area. Susceptibility rating: High	Wind farm development located in these landscapes would impact on the setting of the high and dramatic Galloway Hills. It could further diminish the integrity of the wider upland area. Susceptibility rating: High
Perceptual qualities An absence of built development and difficulty of access to the interior of the <i>Merrick</i> area can give a strong sense of remoteness although settlement and road access limit this within the <i>Glentroot</i> area. The perception of naturalness is compromised by extensive productive Sitka spruce dominated although current restructuring will improve their diversity and appearance in the future.	The proximity of these landscapes to uplands with a pronounced sense of wildness and the marked remoteness of the <i>Merrick</i> area increases sensitivity to this typology. The introduction of wind farm development to these areas would further reduce the sense of wildness which is already compromised by productive forestry. Permanent visible aviation lighting would increase the duration of significant effects on perceptual qualities. Susceptibility rating: High	The proximity of these landscapes to uplands with a pronounced sense of wildness and the marked remoteness of the <i>Merrick</i> area increases sensitivity to this typology. The introduction of wind farm development to these areas would further reduce the sense of wildness which is already compromised by productive forestry. Susceptibility rating: High-medium
Views and visibility These areas are sparsely settled, and dense forest cover limits long views. The <i>Merrick</i> area is visually contained by the higher ground of the Rhinns of Kells and the Merrick and Awwful Hand ridge. These adjacent upland areas are popular with walkers and provide elevated views from summits and ridges into both the <i>Glentroot</i> and <i>Merrick</i> areas. In addition, the <i>Glentroot</i> area is highly visible from roads and settlement to the west. The SUW is aligned through both these areas.	Wind farm development located on the west-facing slopes within the <i>Glentroot</i> area would be prominent in views from the <i>Plateau Moorlands</i> and the A714. Tall turbines could interrupt the distinctive profile and backdrop of the Galloway hills seen from the west. Although the interior valley of the <i>Merrick</i> area is less visible from afar, the popularity of higher hills such as the Merrick with walkers and the presence of the SUW increase sensitivity to wind farm development. Susceptibility rating: High	Wind farm development located on the west-facing slopes within the <i>Glentroot</i> area would be prominent in views from the <i>Plateau Moorlands</i> and the A714. Tall turbines could interrupt the distinctive profile and backdrop of the Galloway hills seen from the west. Although the interior valley of the <i>Merrick</i> area is less visible from afar, the popularity of higher hills such as the Merrick with walkers and the presence of the SUW increase sensitivity to wind farm development. Susceptibility rating: High
Landscape value The Galloway Hills RSA covers these landscapes. The citation notes the role of these areas in forming the setting to the dramatic summits of the Galloway uplands. The Merrick Wild Land Area covers part of the <i>Merrick</i> area. The Galloway Forest Park and Dark Sky Park covers these areas. Parts of the <i>Glentroot</i> area are well-used for recreation.	This typology would have a significant and adverse effect on the special qualities of the RSA and in particular on the wider setting of the dramatic and scenic Galloway Hills. Qualities of wildness and the experience of recreational users would be adversely affected by wind farm development in these landscapes. Value rating: High	This typology would have a significant and adverse effect on the special qualities of the RSA and in particular on the wider setting of the dramatic and scenic Galloway Hills. Qualities of wildness and the experience of recreational users would be adversely affected by wind farm development in these landscapes. Value rating: High
Sensitivity	High	High

24.4 Cairn Edward area (AU 25) – description

These rolling and densely forested uplands occur either side of the valley of the Black Water of Dee. The higher, open-topped hills of Cairnsmore and Fell of Fleet and Shaw Hill form landmark features seen from surrounding lowlands, rocky outcrops and scree slopes giving them a distinctly rugged character. Hill slopes are generally steep although some slacker lower slopes occur close to main water courses. Occasional open craggy-topped hills and pockets of pasture lie close to the Black Water of Dee and Loch Grannoch is contained by steep forested slopes in the south-western corner of this area. This landscape is largely uninhabited and although there is some recreational use of the area, views from within this landscape are limited by forest cover and landform. The higher hills do however form landmark features in views from across Loch Ken and the *Drumlin Pastures* (13) to the east and from the A712 and Clatteringshaws Loch.

24.4.1 Operational/consented wind farms and cumulative issues

There are no wind farms within this landscape area. While the operational Blackcraig wind farm and consented wind farms located east of the Glenkens would be visible from open hill summits such as the High Bennan viewpoint, the densely forested and generally visually contained nature of this area limits the influence of wind farm development. There are likely to be few significant cumulative landscape and visual effects associated with operational or consented wind farm development sited in the surrounding area and any development sited in this landscape.

24.4.2 Key constraints

- Areas of complex and craggy landform evident in occasional open hill tops and ridges.
- The sense of seclusion that can be experienced in less easily accessible parts of this landscape and the proximity of this area to the distinctively rugged hill of Cairnsmore of Fleet which has a stronger wildland character.
- The visual prominence of the hills of Cairnsmore (Black Craig of Dee), Bennan and Cairn Edward Hill from the settled valley of Loch Ken and the Fell of Fleet from the popularly walked summit and ridge paths on Cairnsmore of Fleet.
- The *Galloway Hills* RSA and Galloway Forest Park designations including the Dark Sky Park which cover this landscape.

24.4.3 Opportunities

- Slacker lower forested hill slopes with a degree of screening by hills where there may be potential to locate wind turbines to minimise visual intrusion.

24.5 Sensitivity and guidance

The landscape of the *Cairn Edward* area of the *Rugged Granite Uplands with Forests* has a **High** sensitivity to wind turbines 150-250m and a **High-medium** sensitivity to wind turbines 80-150m. Wind farm development should avoid open topped hills which commonly have a more craggy landform and are important in providing open space productive coniferous forestry and are also highly visible from adjoining landscapes. Slacker, lower hill slopes which benefit from screening by surrounding hills provide opportunities to sensitively site wind turbines to minimise impacts on views from popular recreation routes on Cairnsmore of Fleet and from roads and settlement in the Loch Ken area.

AU 25 Rugged Granite Uplands with Forest – Cairn Edward area – Sensitivity assessment for larger wind turbines		
Topics and description	Assessment: Very large turbines (150-250m)	Assessment: Large turbines (80-150m)
<p>Scale This landscape has a medium to large scale, broadly rolling landform with some individual hills rising to between 300-493m height. Extensive forest cover limits the degree of openness and scale is reduced where valleys are occasionally contained by steep hill slopes.</p>	<p>This typology could relate to the scale of broader hill slopes within this landscape although it could adversely affect the appreciation of the scale of occasional outcrop hills and incised valleys if sited in close proximity to these features. Taller turbines could dominate the relief of higher hills. Susceptibility rating: Medium</p>	<p>This typology could relate to the scale of broader hill slopes within this landscape although it could adversely affect the appreciation of the scale of occasional outcrop hills and incised valleys if sited in close proximity to these features. Susceptibility rating: Medium-low</p>
<p>Landform The hills of Cairn Edward, Cairnsmore and Fell of Fleet punctuate these uplands. Some summits are open, and are often marked by craggy boulders and scree, protruding above dense forestry which generally masks the underlying landform. The Black Water of Dee and numerous tributaries cut through these uplands. Hill slopes are steep although some slacker lower slopes occur close to main water courses.</p>	<p>Craggy hill tops and steep rocky hill slopes are largely free of forestry and would be highly susceptible to wind farm development. Smoother and gentler lower forested hill slopes would relate better to this typology. Susceptibility rating: Medium</p>	<p>Craggy hill tops and steep rocky hill slopes are largely free of forestry and would be highly susceptible to wind farm development. Smoother and gentler lower forested hill slopes would relate better to this typology. Susceptibility rating: Medium</p>
<p>Landcover Dense coniferous forest predominates with occasional craggy-topped hills and blocks of pasture close to the Black Water of Dee left open. Felled coupes and restocked areas give a coarse texture and transitional pattern to the landscape. Forest roads, tracks and compartment boundaries are evident on hill slopes. Loch Grannoch, the Black Water of Dee and the craggy topped hills of Cairnsmore, Fell of Fleet and Shaw Hill are key landmark features.</p>	<p>Occasional open hill tops and pockets of farmland provide interest within the dense forest cover of these landscapes. Turbines sited on, or close to, these areas of open land would diminish this contrast. Productive forest which has limited age and species diversity would be less susceptible to development. Susceptibility rating: Medium</p>	<p>Occasional open hill tops and pockets of farmland provide interest within the dense forest cover of these landscapes. Turbines sited on, or close to, these areas of open land would diminish this contrast. Productive forest which has limited age and species diversity would be less susceptible to development. Susceptibility rating: Medium</p>
<p>Built environment This landscape is very sparsely settled with only occasional farms located on its fringes or within the valley of the Black Water of Dee but there is a range of archaeological features, particularly in the southeast of the area.</p>	<p>The sparsely settled nature of this predominantly forested landscape reduces sensitivity to wind farm development in general but the setting of archaeological sites, which are more likely to be present in open areas, would be susceptible. Susceptibility rating: Medium-low</p>	<p>The sparsely settled nature of this predominantly forested landscape reduces sensitivity to wind farm development in general but the setting of archaeological sites, which are more likely to be present in open areas, would be susceptible. Susceptibility rating: Medium-low</p>
<p>Landscape context</p>	<p>Wind turbines of this size are more likely to impact on the wider setting</p>	<p>This typology could also impact on the wider setting to Cairnsmore of</p>

<p>These forested uplands lie between the settled Loch Ken area to the east and the distinctive hill of Cairnsmore of Fleet to the west. Although the densely forested nature of this landscape results in it being less diverse and scenically rich than either of these adjoining landscapes, the pronounced hills of Cairn Edward, Bennan Hill and the open topped Cairnsmore (Black Craig) are key features seen as a backdrop to the Loch Ken area. The open-topped Fell of Fleet and Loch Grannoch are also important in the wider landscape setting of Cairnsmore of Fleet.</p>	<p>to Cairnsmore of Fleet and/or on the backdrop that distinctive hills provide to the Loch Ken area. Susceptibility rating: High</p>	<p>Fleet and/or on the backdrop that distinctive hills provide to the Loch Ken area although there may be scope for smaller wind turbines to be sited to minimise intrusion on surrounding sensitive landscapes. Susceptibility rating: High-medium</p>
<p>Perceptual qualities An absence of built development, public roads and extensive forest cover can give a sense of seclusion and even a degree of remoteness in more difficult to access areas. The perception of naturalness is reduced however by extensive commercially managed forestry.</p>	<p>The introduction of wind farm development to these areas would accentuate the man-modification of this landscape and could also affect the sense of seclusion experienced by some people in less accessible western parts of this landscape. Permanent visible aviation lighting could extend the duration of effects on perceptual qualities. Susceptibility rating: Medium</p>	<p>The introduction of wind farm development to these areas would accentuate the man-modification of this landscape and could also affect the sense of seclusion experienced by some people in less accessible western parts of this landscape. Susceptibility rating: Medium</p>
<p>Views and visibility The Raider's Road forest drive is aligned through this area together with a number of promoted cycle routes from Clatteringshaws Loch to Dromore. Dense forestry limits views from these routes and the area is also sparsely settled. Much of this landscape is visually contained by the higher ground of Cairnsmore of Fleet to the west although the more pronounced hills of Cairn Edward and Cairnsmore are highly prominent in views from the Loch Ken area and the A712.</p>	<p>Wind turbines, and particularly this very large typology, located on hill tops and upper hill slopes would impact on views from the settled Loch Ken area, potentially interrupting the presently uncluttered skyline which characterises the backdrop of hills seen to the west from the A713 for example and the <i>Drumlin Pastures</i> (13) east of Loch Ken. Views from the A712, a promoted tourist route, could also be affected, although past Cairnsmore, forest screening and the focus provided by Clatteringshaws Loch and the Galloway Hills to the north would be likely to reduce visual impact. Although the interior valleys and lower hill slopes of this landscape are less visible from afar, turbines of this size would be visible from popular ridge walks and the summit of Cairnsmore of Fleet. Susceptibility rating: High</p>	<p>Wind turbines located on hill tops and upper hill slopes would impact on views from the settled Loch Ken area, potentially interrupting the presently uncluttered skyline which characterises the backdrop of hills seen to the west from the A713 for example and the <i>Drumlin Pastures</i> (13) east of Loch Ken. Views from the A712, a promoted tourist route, could also be affected, although past Cairnsmore, forest screening and the focus provided by Clatteringshaws Loch and the Galloway Hills to the north would be likely to reduce visual impact. Although the interior valleys and lower hill slopes of this landscape are less visible from afar, turbines of this size would be visible from popular ridge walks and the summit of Cairnsmore of Fleet. Susceptibility rating: High-medium</p>

<p>Landscape value</p> <p>The Galloway Hills RSA mainly covers the north-eastern part of this landscape unit. The citation notes the scenic qualities of the Cairn Edward uplands. The Galloway Forest Park and the Dark Sky Park covers this landscape. Forest recreational facilities are present within this area.</p>	<p>This typology could have a significant adverse effect on the special qualities of the RSA particularly if sited close to the scenic and sensitive hill of Cairnsmore of Fleet or Cairn Edward Hill which are specifically noted in the citation. The experience of recreational users could be adversely affected by wind farm development in this landscape. This typology could also affect the Dark Sky Park if turbines required permanent visible aviation lighting.</p> <p>Value rating: High</p>	<p>This typology could have a significant adverse effect on the special qualities of the RSA particularly if sited close to the more scenic and sensitive hill of Cairnsmore of Fleet or Cairn Edward Hill which are specifically noted in the citation. The experience of recreational users could be adversely affected by wind farm development in this landscape.</p> <p>Value rating: high-medium</p>
<p>Sensitivity</p>	<p>High</p>	<p>High-medium</p>

25 SENSITIVITY ASSESSMENT FOR OFFSHORE WIND FARM DEVELOPMENTS

25.1 Introduction

This section of the report considers general sensitivities relating to seascape character and offshore wind farm development. This sensitivity assessment has involved review of background studies including guidance on seascape and coastal character assessment. Landscape/seascape and visual impact assessments undertaken for offshore wind farm proposals have also been reviewed in order to identify key issues and potential sensitivities associated with this form of wind energy development.

Field work was undertaken to appraise key seascape characteristics from both the Dumfries and Galloway and Cumbrian shores of the Solway Firth. Sensitivities associated with the Irish Sea have additionally been assessed from the coastal edge of The Rhins and from the ferry between Cairnryan and Belfast.

25.2 Background studies and issues related coastal character

25.2.1 *Landscape Character Assessment*

While the NatureScot 2019 landscape character classification does not generally describe wider seascape character in detail, it broadly defines and classifies coastal character in the following areas within Dumfries and Galloway:

- *Peninsula* (AU1)
- *Peninsula with Gorse Knolls* (AU2)
- *Coastal Flats* (AU3)
- *Coastal Granite Uplands* (AU23)

The sensitivity assessment for onshore wind farm development considers potential cumulative effects with offshore wind farm development on the above Assessment Units.

25.2.2 *Coastal characterisation*

The definition of coastal character has been based on the methodology set out in NatureScot's *Guidance Note on Coastal Character Assessment* (2017). Other documents which provide either partial or more strategic coastal and seascape characterisation in relation to Dumfries and Galloway and the Solway Firth, have also been reviewed and these include management plans and special qualities reports for the Fleet Valley, East Stewartry Coast and Nith Estuary NSAs and landscape character classifications for Cumbria.

NatureScot's *Guidance Note on Coastal Character Assessment* identifies 13 national coastal character types around the coast of Scotland. The following types occur in Dumfries and Galloway:

- Area 28: Corsewall Point to Mull of Galloway-The Rhins of Galloway
- Area 29: Outer Solway (Mull of Galloway–Southernness Point)
- Area 30: Inner Solway Firth

We have further refined the broad national level seascape characterisation through detailed field work and have defined 7 Regional Coastal Character Areas (RCCA) along the coast of Dumfries and Galloway. These have been principally defined on the basis of broad viewsheds between main headlands but also recognise the distinct character of headlands and their relationship to more open expanses of sea as well as the hinterland to the coast. These RCCAs are named as follows and are shown in Figure 7.

- West coast of Rhins
- Mull of Galloway
- Luce Bay
- Burrowhead
- Wigtown Bay
- Kirkcudbright to Nith
- Inner Solway Firth

It is assumed that Loch Ryan is too constrained physically (and includes major shipping lanes) to accommodate offshore development and it has therefore been excluded from the offshore sensitivity assessment.

25.2.3 *Offshore development typology*

The sensitivity assessment assumes that offshore wind farm developments are likely to comprise schemes of over 50 turbines with turbines up to 350m high to blade tip based on the height of current offshore development proposals. The distances of existing and proposed offshore wind farm developments to UK mainland coasts currently ranges from 3km to >130km. Seascape/visual sensitivity will vary considerably in relation to the distance of a development from the coast, although it is not the only factor influencing potential impact. We have assumed in this assessment that off-shore wind energy development would be located at least 10km from the nearest shore of Dumfries and Galloway.

Developments located outside Scottish territorial waters could also impact on the seascapes of Dumfries and Galloway and some of the sensitivities defined in the following assessment are applicable to all potential offshore development whether sited within Scottish territorial waters or waters controlled by adjoining jurisdictions. Onshore ancillary elements such as cabling, substation and construction compounds are not considered in the sensitivity assessment but would need to be appraised on a case-by-case basis.

25.2.4 *The operational Robin Rigg offshore wind farm development*

During our field assessment work we concluded that the operational Robin Rigg offshore wind farm forms a visually prominent feature in some key coastal views from Dumfries and Galloway. This development lies between 13km and 8km distance from the Dumfriesshire coast but is generally not a dominant feature due to the expansiveness of its marine setting and its relative scale being reduced at these distances. It was found to be clearly visible but not a prominent feature within views from the Sillioth area on the Cumbrian coast, lying some 19km distance from the wind farm. It was observed that light reflecting off the turbines and their contrast against a dark background increased the visibility of the wind farm seen in some coastal viewpoints.

25.2.5 *Factors influencing landscape and visual sensitivity*

The distance of wind farm developments from shore will be a key factor determining impacts on coastal character and on views, although the following factors will also have an influence:

- The position of the wind farm in relation to the coast and hinterland – whether it interrupts/distracts from or dominates the scale of key foci such as islands, cliffs or backdrop hills.
- Context of the view – whether the view is confined or expansive, suddenly revealed, glimpsed or seen over an extensive area. The backdrop is also an important aspect of context and will influence the degree of contrast between turbines/land or sky (together with weather/lighting conditions).
- Weather/lighting conditions which can greatly influence the degree of impact experienced but also aspect which may increase visibility during certain times of the day.
- The scale of the wind farm in terms of the height and number of turbines which will, together with the distance from the viewpoint and the nature of the view (expansive or contained), determine the extent of the development seen in the view.

25.2.6 *The impact of offshore wind farm development on coastal character*

Many offshore developments (wind farms, oil platforms, some wave/tidal devices) lie a considerable distance from the shoreline so, unless some onshore component also forms part of the development, there will be little direct or indirect impacts on the form/shape and scale of the coast. Our field work for Robin Rigg found that even at 8km from Balcary Point, and despite being located in the middle of the Firth, the effects of foreshortening resulted in this wind farm being perceived as being visually associated with the Cumbrian coast and therefore ‘part of another place’ thus lessening its impact on the Dumfriesshire coast which formed the foreground to the view.

It is only when off-shore wind farms lie fairly close to shore, where the scale of turbines can be appreciated in comparison with known landscape features such as landmark hills, islands and even buildings/fields, trees and boats, that impacts on the character of the coast and hinterland are likely to be felt. These impacts could include effects on the intricacies of the coastal edge, for instance where turbines would contrast with more fragmented coastlines where inlets, islands and skerries feature, or where they would detract from high/rugged cliffs or dominate the scale of more confined bays. They could also include effects on coastal features where turbines could contrast with the scale of coastal settlement and small-scale landscape pattern. Offshore developments lying in relative proximity to the coast are also likely to have more pronounced effects on the perception of naturalness and remoteness.

The Robin Rigg wind farm appears to be associated with the open sea rather than with the more confined sections of the Solway Firth or within a contained bay. This, together with distance and its scale, lessens its effect on coastal characteristics. There is however a visual impact and also an impact on the character of the sea (the maritime component) of coastal character. It is difficult to give a definitive distance at which coastal characteristics could potentially be significantly affected by offshore

developments as this will depend on a range of variables including the nature of the coast and the size and number of wind turbines.

25.3 Sensitivity assessment for offshore wind farm development

25.3.1 *West coast of the Rhins*

Key characteristics:

- A broad and open expanse of sea with the Irish coast seen as a low and fairly even rim of land at approximately 35km distance.
- Cliff faces and steep hill slopes contain the western coast of the Rhins Peninsula. A ridge and dip slope separates the NW coast from the rolling interior of the peninsula. Rare small sandy bays are deeply cut into this coast and scale is reduced along the coast where the raised beaches, sea cliffs and rounded hill summits alternate with small valleys creating a more complex and often strongly contained coastal edge.
- The coastal edge is often difficult to access and can feel remote and exposed, contrasting with the more settled rural character of the interior of the peninsula.
- The tight-knit settlements of Portpatrick and Port Logan are located in bays along this generally sparsely settled coast. A series of relict forts and castles sit atop cliffs and rocky promontories along the coast.
- Access and views to the coastal edge and the sea are generally inhibited by the rolling landform of the interior of the peninsula with only very occasional glimpses of the sea possible from roads and settlement; these often framed by shallow valleys.
- The Rhins Coast RSA covers the rocky western coastline from the Wig in the north of the Rhins peninsula to the Mull of Galloway in the south.

Sensitivity to offshore development:

The expansiveness of the Irish Sea and the absence of landmark features such as islands or close-by and prominent landform seen on the horizon are factors which reduce sensitivity in that offshore wind farm development would be less likely to dominate the scale of the maritime component of this RCCA or intrude on seaward foci. Although the coastal edge is sparsely settled and not readily visible from roads and settlement in the interior of the Rhins (which reduces visual sensitivity), the ruggedness and remoteness of the coast can instil a strong sense of wildness. Development sited closer to the Rhinns (within approximately 10km) would be likely to significantly impact on this character and could also affect the setting and appreciation of the distinctive pattern of Iron Age forts aligning the coast. Small tight-knit settlements and the strongly contained bays of (West) Ardwell and Port Logan (which are a focus for recreation) would also be highly sensitive to large turbines sited in closer proximity to the coast. This RCCA would have a **Medium** sensitivity providing development was sited sufficiently far offshore to avoid significant effects on coastal features. Inter-visibility could occur between the existing Rhins onshore wind farm and any off-shore development although the rolling landform of the peninsula would be likely to limit this.

25.3.2 Mull of Galloway

Key characteristics:

- The Mull of Galloway, at the southern tip of the Rhins, rises to form a bold open landform of broad exposed hills and ridges truncated by dramatic, rugged sea cliffs.
- The sea visible from the Mull is open and expansive, broken by the mountainous form of the Isle of Man which is a key feature in views from the Mull.
- Sparsely settled with dispersed farms, a visitor centre and distinctive lighthouse on the Mull.
- A strong sense of wildness can be experienced due to the elemental character of the Mull and accentuated by the tidal race and exposure of this narrow rocky tip of the Rhins peninsula.
- Elevated roads at the southern end of the Rhins offer striking views of the Mull of Galloway and panoramic views over Luce Bay and to the Machars.
- The Mull of Galloway is well-visited and promoted as Scotland's most southern point.
- The Rhins Coast RSA covers the Mull of Galloway.

Sensitivity to offshore development:

While offshore wind farm development could relate to the expansiveness of the maritime component of this seascape, sensitivity is increased by the presence of the Isle of Man, where turbines could intrude on focal views and affect the presently uncluttered setting of its mountainous form. Offshore wind farm development would also affect the diverse coastal scenery of sheer rugged cliffs on the Mull and the appreciation of their scale and drama if sited relatively close to the coastal edge. The perceived isolation of the Mull and strong sense of wildness associated with this RCCA would also be affected, particularly if development were sited in relative proximity to the coast. This is a well-visited tourist destination and offshore development would be highly visible due to the openness of views from roads on the approach to the Mull, where it could detract from its landmark form and also potentially dominate the scale of the lighthouse which is a key focal point. This RCCA would have a **High** sensitivity to offshore wind farm development sited within Scottish territorial waters (approximately 20km offshore). The Mull of Galloway RCCA could also be sensitive to offshore wind farm developments located in adjacent RCCAs, for example Luce Bay, or in adjacent territorial waters, depending on the precise location and scale of developments.

25.3.3 Luce Bay

Key characteristics:

- Luce Bay forms a broad bay, contained by the long and relatively low peninsulas of the Rhins and the Machars. The sweeping arc of Luce Sands forms the head of the bay and is backed by the flat alluvial farmland of the *Stranraer Basin* area of the *Coastal Flats* (AU3). The bay is open with no offshore features although onshore MOD structures are evident close to Luce Sands.
- The western side of the bay of the Rhins comprises an even, narrow and predominantly low rocky coastline with occasional small beaches. A number of small settlements and recreational facilities are sited along this coast and there are open views from these and the A716 across Luce Bay.
- The eastern coastline comprises the rocky Sinniness Bluff protruding into the bay and a more even raised beach strongly contained by an inland scarp and the higher western hills of the Machars *Peninsula* (AU1). While the raised beach landform restricts visibility of the coastal edge and sea from the interior of the Machars, there are open views across the bay from coastal settlement and the A747.
- Archaeological and historic features are sited on vantage points above the cliffs of Sinniness and coastal footpaths allow elevated views over the bay.
- The operational onshore Rhins, Barlockhart, Carsecreugh, Glenchamber and Artfield/Balmurrie Fell wind farms are highly visible at the head of this RCCA.
- Views from Luce Sands are expansive and focus on the open sea. The peninsulas of the Rhins and Machars are clearly seen either side of the Bay with the Mull of Galloway forming a clearly defined, but distant and therefore 'flattened' headland seen from the Machars (>20km).

Sensitivity to offshore development:

Luce Bay has a generally simple and open character with few key landmark features seen along the coast and hinterland which contains this stretch of water. The presence of land on three sides of the bay increases sensitivity however and off-shore wind farm development (which is likely to comprise turbines >200m high) would be likely to dominate the expanse of the bay and significantly intrude on the coast, especially affecting the more complex, natural or dramatic of these features, for example Luce Sands and Sinniness Bluff. The coastal edge is also well settled, well-used for recreation and main roads offer open views across the bay with any development within the bay likely to be highly visible. Cumulative landscape and visual impacts would occur between operational wind farms seen at the head of the bay. This RCCA would have a **High** sensitivity to offshore development due principally to the containment of the bay and the presence of sensitive coastal receptors.

25.3.4 *Burrowhead*

Key characteristics:

- Burrow Head forms the exposed point of the Machars peninsula, west of the Isle of Whithorn. There is an expansive and open maritime character with the Isle of Man and Mull of Galloway visible as distant profiles.
- The coast is very exposed with the sea frequently lashing fractured rocks and cliffs at the tip of the peninsula. Dramatic rugged cliffs are occasionally cut by narrow inlets with long beaches of rounded pebbles and shingle exposed at high tide.
- A generally undeveloped, sparsely settled and relatively inaccessible coastline with buildings set back into the hinterland although a caravan park is located nearby Burrow Head. A strong sense of naturalness, remoteness and exposure is experienced within this seascape unit.
- The rocky knolls, ridges and dips of the hinterland *Peninsula with Rocky Knolls* (AU2) provide strong containment and create an intimate scale in places. Rolling farmland and wooded policies also occur in places and restrict coastal views from the interior of the Machars.
- Rich archaeology with a number of features located at vantage points on cliffs with St Ninian's Cave the most dramatically sited and visited of these. The small settlement of Isle of Whithorn lies within a sheltered a rocky bay on the edge of this seascape unit.
- Views from coastal paths are elevated and allow extensive views out to sea and to distant land masses.
- The Machars Coast RSA covers this RCCA.

Sensitivity to offshore development:

While offshore wind farm development could relate to the expansiveness of the maritime component of this seascape, sensitivity is increased to some degree by the presence of the distant landmark of the Isle of Man. Offshore wind farm development, which is likely to comprise wind turbines >200m high, would affect the diverse coastal scenery of sheer rugged cliffs and the appreciation of their scale and drama if sited closer to shore. Although visibility of the sea and coastal edge is restricted inland by the rolling landform of the *Peninsula with Gorse Knolls* (AU2) and the coastal edge is not settled or readily accessible, the wildness and unmodified nature of this seascape could be significantly affected by offshore development. This RCCA would have a **High-medium** sensitivity to offshore development.

25.3.5 *Wigtown Bay*

Key characteristics:

- An elongated curving bay contained by hills to the north-east, the lower-lying Machars peninsula to the west and the more fragmented peninsulas, inlets and estuaries of Fleet and Kirkcudbright to the east.
- The sheltered waters of the bay are strongly tidal and estuarine flats occur at the estuary of the River Cree at its head. The western coastal edge is indented and largely forms a narrow rocky shore with occasional broader sand and shingle beaches and extensive mud flats below Wigtown. The eastern coast

between the Fleet estuary and Kirkcudbright is strongly articulated with rocky promontories containing small sandy coves. Small offshore islands contribute to the diversity of this coastline at the mouth of the Fleet.

- The detail of coastal settlement and land cover is readily appreciated and the hills of Cairnharrow and Cairnsmore of Fleet rise abruptly from the coast forming a distinctive backdrop to the bay.
- The coastal edge is well-settled with settlements such as Wigtown and Garlieston sited on the more sheltered west coast. This seascape unit is well-used for recreation and the A75 and other roads feature open views across the bay.
- There is a rich archaeology, notably on the lower slopes of Cairnharrow Hill and within the Fleet estuary. Notable designed landscapes lie on the western coast of the bay and near Gatehouse of Fleet.
- The Fleet Valley NSA, the Machars Coast and Galloway Hills RSAs cover this RCCA.

Sensitivity to offshore development:

Offshore wind farm development sited within Wigtown Bay is more likely to have an impact on coastal character and the hinterland of this seascape unit due to the relatively strong containment and narrowness of the bay and the proximity to the coast (where detail is appreciated and comparisons of scale possible between turbines and landscape features). The presence of the landmark hills of Cairnharrow and Cairnsmore of Fleet, which provide a distinctive backdrop and contrast to the bay also increase sensitivity. Offshore wind farm development would be likely to diminish the high scenic quality of this RCCA and the simple foil provided by the sea to more complex coastal features and the dramatic upland hinterland. It could dominate the often intimate scale of more fragmented and diverse stretches of the coast, for example, the Fleet estuary and its islands and potentially affect the scale and setting of coastal settlements if sited in relative proximity to these areas. Offshore wind farm development sited in Wigtown Bay would be highly visible from roads, settlement and from parts of the coast which form a focus for recreation. Turbines could dominate narrow 'framed' views seen from small coves or along inlets/estuaries along the more fragmented sections of coastline. The wider landscape setting of archaeological features and designed landscapes could also potentially be affected. This RCCA would have a **High** sensitivity to offshore wind farm development.

25.3.6 Outer Solway Firth

Key characteristics:

- This section of the outer Solway Firth has a broad scale with the openness of the sea increasing to the west as the Cumbrian coast becomes less visible. Scale is significantly reduced within the estuaries and inlets that characterise the Dumfries and Galloway coastal edge. Some detail of the coastal edge and hinterland is apparent from opposing coasts across the Firth although the articulation of the coast is 'flattened' with distance (>24km).
- The steep-sided coastal granite hills of Criffel, Screel and Bengairn provide strong containment to the Firth to the north with Criffel forming key landmark features in views from the north Cumbrian coast. The Cumbrian coast and immediate hinterland is more low-lying and generally less distinctive although the Cumbrian Fells National Park form a distant backdrop and focus in views from east Dumfriesshire.
- The coastal edge is varied with rugged, often high cliffs along the Dundrennan coast, interspersed with low rocky promontories and the narrow tidal inlets of Auchencairn Bay, Rough Firth and the Nith estuary. Extensive saltmarsh and mudflats merge with the Firth at Mersehead and these stretches of the coast, together with the less accessible cliffs of Dundrennan, have a strong sense of naturalness.
- Well-settled within the more sheltered inlets and popular for recreation, including sailing. Important archaeological features and historic settlements lie close to the coast. Coastal footpaths, hill tops and roads offer elevated views.
- The operational offshore wind farm development of Robin Rigg is clearly visible from the coastal edge, being located approximately 8km (closest point) from Balcary Bay. Turbines on the Cumbrian coast near Maryport are also visible from the Dumfries and Galloway coast.
- The *East Stewartry* and *Nith Estuary* NSAs and the *Solway Coast* RSA cover this RCCA.

Sensitivity to offshore development:

The offshore wind farm of Robin Rigg forms a prominent feature within this RCCA. This wind farm comprises 60 wind turbines 125m high to blade tip. Extensions to this wind farm, or new close-by wind farm developments, which would be likely to comprise substantially larger wind turbines >200m, would create obvious scale contrasts seen from the coastal edge. They could also affect the characteristic openness of the Firth and the contrast it provides to more complex coastal and hinterland features. The presence of the landmark hill of Criffel increases sensitivity to wind farm development, especially where turbines could intrude on views from the Cumbrian coast. Offshore wind farm development sited in relative proximity to the coastal edge would dominate the scale of cliffs, narrow inlets and islands. They could also further diminish the sense of wildness experienced along the less modified parts of this coast, for example, the cliffs of the Dundrennan coast or the extensive saltmarsh and tidal flats of Mersehead. The presence of nationally and regionally important landscapes/seascapes increases the value associated with this RCCA and sensitivity to offshore wind farm would be **High**.

25.3.7 Inner Solway Firth

Key characteristics:

- The inner Solway Firth comprises a narrow, shallow estuarine channel, bordered by extensive tidal mudflats on the Cumbrian side. The opposite shore is close (<4km) with the detail of settlement, field pattern and trees readily visible.
- Low-lying farmland abuts a narrow, embanked muddy coastal margin cut by winding creeks. Former munitions works, electricity transmission lines and very tall masts feature in this seascape unit. Access is generally limited along the Dumfries and Galloway coast. Archaeological features, including Hadrian's Wall World Heritage Site and Roman Forts are located on the Cumbrian coast.
- The openness of the coastal edge allows extensive views from settlement and from a number of well-used roads, including the B721 and B635 which tend to be elevated above the flat coastal edge. The Cumbrian Fells National Park are a key focus in these views.
- The operational offshore wind farm of Robin Rigg is visible from the western parts of this RCCA.

Sensitivity to offshore development:

Offshore wind farm development would dominate the narrow and confined scale of the maritime component of this RCCA. The close proximity of opposite coasts increases sensitivity as turbines would overwhelm the scale of buildings, trees and other landscape features which are readily visible either side of the Solway Firth. Tall turbines would impact on views from Dumfries and Galloway to the Cumbrian Fells. They would also be likely to exacerbate the visual clutter of electricity transmission lines and masts in this seascape. The less modified marsh and mud flats of the inner Firth could also be affected both directly and indirectly by this form of development. Offshore wind farm development would be highly visible from roads and settlement and could affect the setting of archaeological features and settlements. There would be a **High** sensitivity to offshore wind farm development in this RCCA.

25.4 Cumulative effects on wider seascape

Cumulative landscape and visual impacts could occur between the existing Robin Rigg offshore windfarm and any further offshore wind farm development sited in the wider Solway Firth. The character of the *Outer Solway* RCCA is already affected by the Robin Rigg wind farm and further offshore wind farm developments would affect additional stretches of the Dumfries and Galloway coast with potential effects on the sense of wildness experienced by people who value the natural seascapes of the area.

While visibility to the outer Solway Firth and the Irish Sea inland from the coastal edge tends to be restricted by landform, any wind farm development sited within the more contained Luce Bay and Wigtown Bay would be highly visible from surrounding settlement, footpaths and roads. Cumulative landscape and visual effects could also occur between the operational Robin Rigg offshore development and any additional developments located in these bays, mainly occurring in sequential views from coastal

roads and tourist routes used by visitors travelling across the region. Walking routes on coastal hills, such as Criffel, Cairnharrow and Cairnsmore of Fleet, would enable inter-visibility between developments. Elevated coasts or promontories such as the Mull of Galloway, Burrowhead or Auchencairn which feature popular footpaths and/or tourist facilities, also offer opportunities for multiple developments to be seen cumulatively, dependant on the siting of individual wind farms both within Scottish waters and in adjoining areas.

The significance of cumulative landscape and visual effects of multiple offshore wind farms would need to be carefully considered in the appraisal of individual developments. The flat sea surface allows turbines to be seen in their entirety from coastal locations thus making contrasts of scale obvious where extensions or new wind farms are sited close-by operational smaller offshore wind turbines. Potential cumulative effects with operational, consented and proposed onshore developments which have a strong influence on coastal and seascape character should also be considered in the assessment of any new offshore proposals.

25.5 Conclusions

The assessment of seascape sensitivity to offshore development has been considered at a strategic level. Detailed assessment will be necessary on a case-by-case basis to determine specific impacts on seascape character and on views. Distance from shore will be a key factor influencing the significance of impact with developments sited closer to the coast likely to result in significant impacts on character and on views given the current size of offshore wind turbines.