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Orkney Islands Council

Landscape Capacity Assessment for Wind Energy in Orkney

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8008

Appendix 5

68

The capacity assessment and current cumulative change for each of the islands is then combined to come to an assessment of capacity and cumulative effects for the whole of Orkney.

Further spatial and design guidance for locating wind turbines in areas with residual capacity for further development and areas with restricted capacity is given in Chapter 6, with generic guidance for each LCT provided in Appendix 3.

2.8 Detailed Guidance

Appendix 3 also gives guidance on appropriate turbine sizes, cluster sizes and separation between groups of turbines for each LCT. Chapter 6 applies the generic LCT guidance to LCAs on each of the individual islands, providing further detail of the proposed acceptable level of cumulative development in LCAs and the island as a whole.

Appendix 5 of this report contains detailed discussion of how turbine size, group size and group separation affects perceptions of wind energy and landscape character. Further guidance is given in SNH publications *Siting and Designing windfarms in the landscape* and *Siting and Design of Small Scale Wind Turbines of between 15 and 50m in height.* Chapter 6 also briefly outlines the main considerations in developing the specific guidance.

2.9 Potential Opportunities and Constraints

The main spatial findings of the detailed assessment are summarised on a map in **Figure 6.4.** This shows the distribution of the following areas:

- Areas with significant underlying landscape capacity;
- Areas with limited underlying landscape capacity;
- Areas with no underlying landscape capacity;
- Areas with underlying capacity which is limited by cumulative development (which may overlap with parts of some or all of the above areas); and
- Areas of potential future strategic wind energy development.

Finally it is emphasised that this assessment is focused on landscape and visual issues. Areas which have been identified as suitable on this basis may be restricted by other unrelated factors such as protection of wildlife, proximity to dwellings, aviation restrictions or lack of grid connection. These issues are not the subject of this assessment.

2.10 How to Use this Report

2.10.1 For All Sizes of Development

The main purpose of this report is to inform strategic decision making on the acceptability of different scales of wind energy development within the landscape of Orkney, and to provide guidance on the acceptable size, groupings, spacing and siting of turbines to avoid unacceptable cumulative landscape effects.

In the case of specific turbine developments, this report can be used to understand the likely acceptability of such a development in landscape terms depending on the degree to which it conforms to the guidance provided. A staged process to using this report in such a case would be:

- Establish the scale of the proposals in terms of the number of turbines, turbine sizes and type, layout, height, location and relationship to natural and manmade features in the landscape such as buildings, roads, field boundaries, landform and vegetation.
- Identify the island Landscape Character Area (LCA) of the development, and neighbouring character areas if nearby, as shown on Figure 3.3, and at the start of the island assessments provided in Section 6.
- Identify the underlying sensitivity and capacity for the LCA(s). The generic capacity for the Landscape Character Type (LCT) is provided in Appendix 3 and summarised in Section 6 and Table 6.2, which also highlights island specific variations in sensitivity and capacity. Figure 6.4 can be used to quickly determine whether the site falls into an area of particular capacity or constraint.
- Establish the residual capacity of the LCA based on the existing and proposed *Wind Turbine Landscape Types* shown in Figures 6.2 and 6.3, the proximity to consented turbine developments (Figure 5.1), and the assessment in Section 6.
- Determine whether the recommended separation distances identified in Table 6.2 can be maintained. The guidance in Section 6.2.3 should be referred to in the case of proximity to different size turbines and across LCAs.
- Determine whether the proposals conform to the heights, groups sizes and siting guidance provided in Section 6 and Table 6.2, and how the proposals relate to any sensitive aspects of the LCA(s).

2.10.2 For Small Turbines (<20m)

The guidance provided in Section 2.10.1 is applicable to turbines of all sizes including those <20m, and can be used to identify in broad terms where capacity for developments <20m may exist, likely acceptable group sizes and separation distances. There are however particular characteristics of small turbine developments which are important to the way they are perceived and their ability to be acceptably absorbed into a landscape.

In comparison to turbines greater than 20m, small turbines are more diverse in their design with more varied forms, colours, blade configurations, rotation speeds and rotation directions. Small turbines are likely to be sited within landscapes already including significant amounts of built development with which turbines would be seen, such as roads, houses, farm buildings, pylons or other turbines. The scale of the turbines means that their visibility is much more likely to be influenced by local topography, vegetation or other built development.

The following guidance is provided in addition to the process outlined in Section 2.10.1 when considering the likely acceptability of <20m turbines in the landscape:

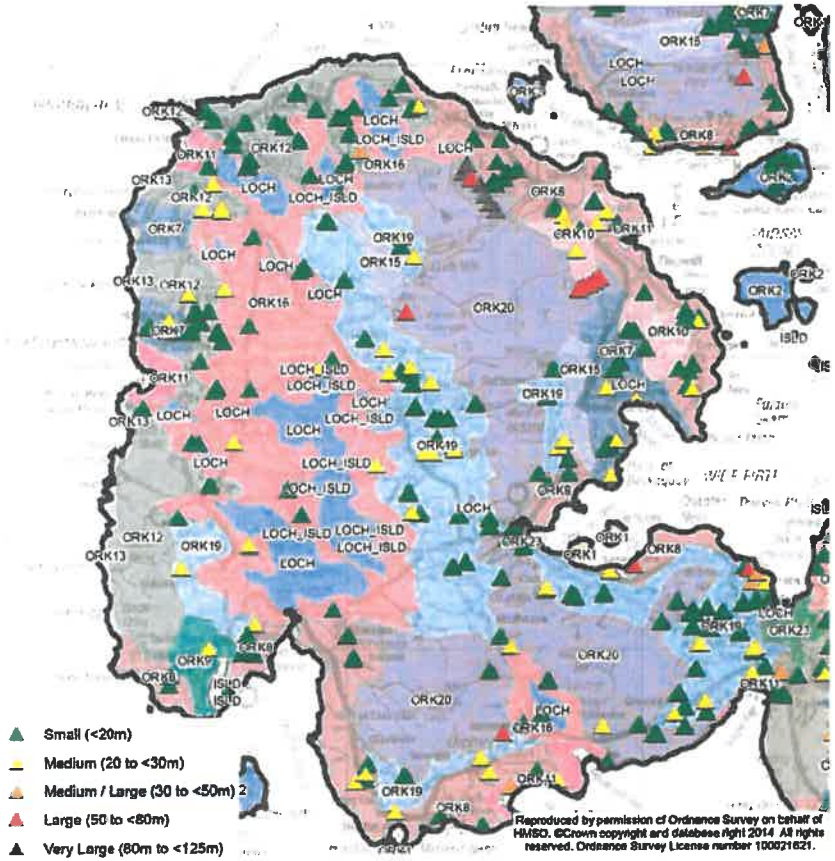
- The type and style of the proposed turbine(s) should be considered in relation to those existing (or consented) that will be seen with the development to avoid visual incoherence caused when different styles of turbines are seen within the same view. The coherence of a group of similar turbines can easily be disrupted by the introduction of a differently styled turbine into a view.
- From important viewpoints care should be taken to avoid small turbines being back-grounded by larger more distant turbines, as this can cause confusion about turbine scales and their relationship to the landscape.
- For turbines <20m there may be more opportunities for topography, buildings and trees to provide screening and prevent intervisibility between developments, which may allow a reduction in the recommended separation distances. However care should be taken to avoid unacceptable sequential effects, for example from multiple developments being seen when travelling along a linear route such as a road or path.
- The size and lowland locations of most <20m turbines means that they may benefit from backclothing more often than larger upland developments, and their restricted visual influence may provide more certainty about the conditions against which they will be viewed. In this case turbines coloured to minimise contrast against their background may be an effective mitigation.
- Turbines <20m are most likely to appear rational in the landscape when they are seen to have a relationship with an associated energy user, be it a house, farm, infrastructure or an industrial development. The relationship should be such that the turbine(s) are not seen to be dominant or overbearing. Isolated small turbines, with no apparent rationale, should be avoided.
- Groups of turbines of all scales should be arranged to correspond to the predominant pattern of the landscape within which they will be seen. In lowland locations manmade features are most likely to define the landscape pattern, and it is likely that small turbines are best aligned to the pattern of roads, tracks, walls and field boundaries.

Further guidance is provided in the SNH publication *Siting and design of Small Scale Wind Turbines of between 15 and 50 metres in height (2012).*

Conformance or otherwise to the guidance provided in this report does not comprise a definitive assessment of the acceptability of the project in landscape terms. Conditions local to development proposals will have a strong influence on the acceptability of an individual development and this guidance is not a substitute for a project specific landscape and visual impact assessment.

WEST MAINLAND (Including Gairsay)

West Mainland comprises the single largest land area within the study, and for the purposes of this assessment includes all areas of Mainland to the west of Kirkwall. Its relatively large size and developed nature are attributes of a landscape with some suitability for larger scale wind developments. However these attributes are offset to an extent by the presence of the World Heritage Site, a sizable population, and the presence of a nationally designated National Scenic Area



ORK1 – Holms
ORK2 – Whalebacks Island Landscapes
ORK7 – Coastal Basins
ORK8 – Inclined Coastal Pastures
ORK9 – Granite Coastal Pastures
ORK10 – Isolated Coastal Knolls
ORK11 – Enclosed Bay Landscapes
ORK12 – Coastal Hills and Heaths
ORK13 – Cliff Landscapes
ORK15 – Peatland Basins
ORK16 – Loch Basins
ORK19 – Rolling Hill Fringe
ORK20 – Moorland Hills

Landscape Types in West Mainland (13 total)

1 Holms; 2 Whaleback Island Landscapes; 7 Coastal Basins; 8 Inclined Coastal Pastures; 9 Granite Coastal Pastures; 10 Isolated Coastal Knolls; 11 Enclosed Bay Landscapes; 12 Coastal Hills and Heath; 13 Cliff Landscapes; 15 Peatland Basins; 16 Loch Basins; 19 Rolling Hill Fringe; 20 Moorland Hills

Description

West Mainland is approximately 27km in extent from north to south, 23km east to west. To the east and south are gently sloping and rounded *Moorland Hills*, rising to a maximum of 268m AOD at Ward Hill towards the south of the area. These hills are fringed typically by the settled, pastoral LCTs *Inclined Coastal Pastures* and *Rolling Hill Fringe*. Towards the west is an extensive loch basin, situated around the Loch of Stenness and Loch of Harray to the south, and encompassing the smaller Loch of Boardhouse and Loch of Hundland to the north. This low lying area of large waterbodies and nearby sea create the impression of an inundated, partly flooded landscape, however this area is well settled and agriculturally productive. West of the loch basin more sparsely developed low hills and heathland rise towards the cliffs of the rugged western seaboard of the island, a coastline interspersed with the occasional coastal basin or bay. The landscape is treeless, with the exception of those planted around some properties. The relative large size and topography of the area means that the surrounding seascape is less of a defining feature than for many of the smaller island landscapes.

There is a strong visual relationship between south west Mainland and the high hills of northern Hoy, while to the north east the hilly island of Rousay is barely separated from mainland by the narrow Eynhallow Sound.

The lowland areas of West Mainland are settled, with Stromness, Finstown and Dounby the main concentrations of population outside of Kirkwall. The lowland areas include widespread low density development of small farms, crofts and settlements, sometimes loosely associated into small villages and hamlets. A well developed road network runs through entire area with the exception of the uplands and western coastline. The dominant land use is agriculture, with little commercial or industrial development.

Some of Orkney's most important heritage sites are found in the area, and the basin around Loch of Stenness and Loch of Harray is the location of the 'Heart of Neolithic Orkney' World Heritage Site. The Hoy and Mainland National Scenic Area includes the south western parts of the area.

The island of Gairsay to the east of West Mainland is included within this assessment, as are two small *Holms* in the Bay of Firth.

Underlying Landscape Capacity for Wind Energy

The *Moorland Hills* of West Mainland present one of the largest scale landscapes in Orkney, within which larger turbines can be accommodated. The moorland comprises rounded, low hills separated by the valleys of small burns, vegetated by unenclosed rough pasture and heath. However the height of the hills constrains turbine development to no more than 80m. Larger wind

energy developments in these areas tend to be highly visible from the surrounding lowlands and neighbouring islands, including the sensitive World Heritage Site.

The settled nature of the transitional *Rolling Hill Fringe* landscape generally prohibits larger scale wind development, but frequent turbines up to 30m could be accommodated within the landscape. More occasional groups of turbines between 30 and 50m, and single turbines between 50 and 80m could be absorbed into the landscape, benefiting from the back clothing provided by the *Moorland Hills* to the rear. Areas of the LCT with a lower capacity exist around the population centre of Kirkwall, and areas close the lochs of Stenness and Harray due to the visual sensitivity of the World Heritage Site. Capacity for similar scale developments also exists along the settled *Inclined Coastal Pastures* occurring along the southern and western coasts, which often benefit from the back clothing of *Moorland Hills.*

The main *Loch Basin* around the lochs of Stenness and Harray is geographically quite extensive, approximately 15km north to south and up to 6km east to west. The pattern of agriculture and settlement, the prominence of vertical features in a wide basin landscape, and the proximity to important heritage sites in the main LCA constrain the capacity for larger wind developments. Capacity exists for turbines from 30 to 50m in small numbers, but situated away from the central basin floor. The two smaller *Loch Basins* to the north around Loch of Swannay, and to the south around Loch of Kirbister are of much smaller scale, with capacity only for occasional small turbines up to 30m.

Coastal Hills and Heath in the west and north are upland areas of low elevation up to approximately 150m AOD. The degree of settlement and farming practices varies from undeveloped with unenclosed farmland to the south west, to more settled and enclosed to the north. This landscape is the setting to the rugged coast, therefore potential for wind development is low, with capacity for occasional turbines up to 30m.

Three areas of *Coastal Basin* are present – two smaller ones to the west and one larger to the east of the island. These settled, farming LCAs have capacity for turbines up to 30m, with the occasional 30 to 50m turbines as suggested in the generic assessment. However substantial parts of the largest area to the east are seen as the mainly undeveloped foreground to sea views across to the Bay of Kirkwall from the Busy A966, and this flat landscape would be sensitive to all but occasional small scale wind energy developments.

Isolated Coastal Knolls are small, rounded hills which intrude into the coastal lowlands at two locations to the east of West Mainland. These hills are distinct and quite prominent features of undeveloped upland character, set within an otherwise settled coastal landscape. These character areas are sensitive to wind developments, but turbines up to 30m could be accommodated at their fringes.

Other smaller LCTs with no or very limited capacity include *Cliff Landscapes*, *Enclosed Bay Landscapes*, and *Peatland Basins* due to their inherent landscape sensitivity as described within the generic landscape assessments provided in Appendix 3.

Consented Wind Developments in 2013

Wind energy developments on West Mainland are geographically widespread and encompass the full range of turbine development sizes found in Orkney, ranging from numerous turbines up to 20m to those up to 116m at Burgar Hill. Wind energy developments occur most frequently along the coastal fringes from the north east to the south east of West Mainland. The more rugged western coast, the Lochs of Stenness and Harray loch basin, Stromness, and the *Moorland Hills* have less frequent development.

The most intensively developed wind energy landscapes occur around the Burgar Hill and Hammars Hill developments (seven and five turbine developments respectively of 50m+), resulting in *Wind Turbine Landscapes* occurring because of multiple developments of different sized turbines often in view.

Turbines up to 30m are most frequent throughout the lowland *Inclined Coastal Pastures*, *Rolling Hill Fringe*, and *Coastal Basins*. Developments are typically only one or two turbines found close to farm buildings and houses. Some larger arrays of turbines up to 20m are present, for example near Kirkwall there is a consented development of eight small turbines. Turbines in the 30 to 50m range are unusual, with the exception of a small concentration around Kirkwall. Much of these lowland areas therefore appear as *Landscapes with Occasional Wind Turbines*, but with occasional *Landscape with Wind Turbines* occurring, for example in the Rolling Hill Fringe. Most of the lowland areas appear as *Landscape with Occasional Wind Turbine*, due to the small size of most of the developments which are quite easily absorbed into the landscape.

The majority of the upland areas of types *Moorland Hills*, *Coastal Hills and Heaths*, and *Cliff Landscapes* are considered *Landscape With No Wind Turbines*.

Assessment of Residual Capacity for Future Development

The best opportunities for further large wind turbine developments, of multiple turbines between 50 to 80m, exists only within the *Moorland Hills*. The presence of the existing wind farm developments in the northern hills means residual capacity here is very low. In the southern area of *Moorland Hills*, there is residual capacity on the south facing slopes overlooking Scapa Flow, away from the *Moorland Hill* tops and the north facing slopes.

Additional developments of single 30 to 80m turbines could best be accommodated within the *Moorland Hills*, *Rolling Hill Fringe* and *Inclined Coastal Pastures*, with some residual capacity for turbines between 30 and 50m within the *Coastal Basin* landscape type. Where possible turbines in the *Rolling Hill Fringe* should be backclothed against Moorland Hills to avoid skylining. Residual capacity for single turbines greater than 50m does not exist within the other landscape types of West Mainland.

Most LCTs could accommodate some further development of turbines up to 30m, with the exception of *Cliff Landscapes*, *Peatland Basins*, some of the less developed areas of *Coastal Hills and Heath*, and the elevated areas of the *Isolated Coastal Knolls*. The landform of *Inclined Coastal Pastures* and *Rolling Hill Fringe* is best able to absorb such developments, and capacity for development will depend upon the patterns of settlement.

(24)

73

The proposed limit to wind energy development is a *Landscape With Wind Turbines* along much of the eastern and southern coastal fringe, and the *Rolling Hill Fringe* to the north east of the Loch of Harray, with much of the rest of the area a *Landscape with Occasional Wind Turbines*. Sensitive coastal and upland locations should remain a *Landscape with No Wind Turbines*.

Specific Guidance by Landscape Character Type

Guidance on future wind energy development is provided below, specific to the particular circumstances of West Mainland. Generic guidance for each LCT is provided in Appendix 3.

1 Holms; 2 Whaleback Island Landscapes: Retain islands as characteristically free from wind development, with the exception of potentially small turbine(s) associated with the farm on Gairsay.

7 LCT Coastal Basins: Landscape area near Quoyloo on the west coast is close to capacity and risks becoming a *Wind Turbine Landscape*. The large basin on the east coast is in places flat and visually exposed, to the east of the A966 turbines would be prominent from the road, and 30-50m turbines should be avoided here.

8 Inclined Coastal Pastures: Most residual capacity occurs along the southern coast, but turbines greater than 30m would not be appropriate in the LCAs adjacent to Stromness and where they may impact on the NSA. Parts of the north eastern coast, opposite Rousay, are close to capacity.

9 Coastal Granite Pastures: A unique LCT occurring only around and including Stromness with low capacity and no residual capacity for turbines greater than 20m. Refer to generic guidance.

10 Isolated Coastal Knolls: The northern most area around Vishall Hill appears over capacity, including two prominent 20-30m turbines near the hill top. Greater residual capacity for turbines up to 30m occurs in the vicinity of the larger scale Enyas Hill in the south, but more elevated sites are to be avoided.

11 Enclosed Bay Landscapes: Sensitive landscape, within which development should be limited to occasional turbines to 30m.

12 Coastal Hills and Heath: This upland, sensitive landscape is the setting to the western coastline. The south western area should be retained turbine free, but there is some capacity for small or medium turbines, up to 30m, in the more northerly, settled, example of this LCT.

13 Cliff landscapes; 15 Peatland Basins: No developments.

16 Loch Basins: The current level of development is acceptable, however vertical features are very prominent in the flat, basin like landscape. Occasional, well separated single turbine developments between 30 and 50m would be the maximum acceptable size of development within the main Loch Basin, but not within 5km of the WHS site boundary. No turbines above 30m around Loch of Kirbister and Loch of Swannay.

19 Rolling Hill Fringe: Widespread capacity for turbines up to 30m sited close to existing houses and buildings, in groups of 1 – 3. Capacity for occasional medium/large and large turbines from 30 to 80m, best sited to take advantage of backclothing from the higher *Moorland Hills*. The area of the southern coast near Stromness is of particular sensitivity, in which no turbines greater than 30m should be situated. Parts of the LCA near Kirkwall are approaching capacity.

20 Moorland Hills: The southern facing slopes of the *Moorland Hills* overlooking Scapa Flow have the greatest residual capacity for 50 to 80m turbines. The north eastern *Moorland Hills* have limited residual capacity due to the existing level of wind energy development.

Turbines in the more elevated parts of the Coastal Hills and Heaths landscape of West Mainland can appear prominent when viewed against the low lying Loch Basin.

Table 6.2a West Mainland: Summary of Landscape Capacity and Proposed Limits to Future Limits to Wind Energy Development

Key: No Capacity; Low Capacity; Medium Capacity; High Capacity

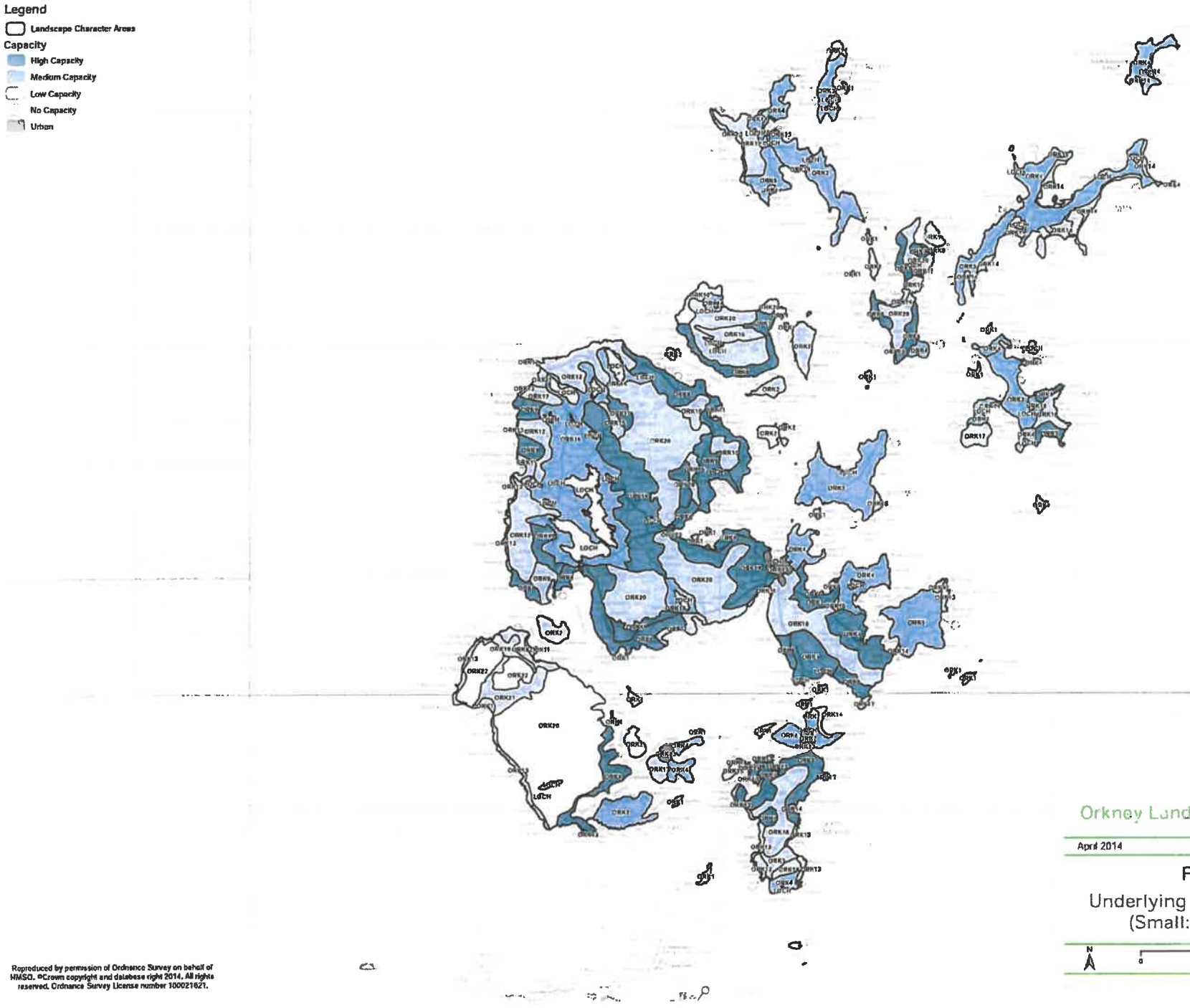
West Mainland Landscape Character Types	Generic Landscape Sensitivity and Capacity by Turbine Size							West Mainland Specific Capacity by Turbine Size						Residual Capacity by Turbine Size						Proposed Future Wind Energy Landscape Type, Suggested Turbine Groups & Spacings
	Landscape Sensitivity	Landscape Value	S <20m	M 20 - 30m	M/L 30 - 50m	L 50 - 80m	VL 80 - 125m	S <20m	M 20 - 30m	M/L 30 - 50m	L 50 - 80m	VL 80 - 125m		S <20m	M 20 - 30m	M/L 30 - 50m	L 50 - 80m	VL 80 - 125m	
1 Holms	High	Medium						As generic assessment												*Landscape with No Wind Turbines Spacings & Groupings N/A*
2 Whaleback Island Landscape	Medium	Medium - High	●	●				●					Low capacity for small development associated with farm on Gairsay	●						*Landscape with No Wind Turbines Spacings & Groupings <20m:1-2, N/A*
7 Coastal Basins	Medium	Medium	●	●	●			As generic assessment						●	●	●				*Landscape with Wind Turbines/with Occasional Wind Turbines Spacings & Groupings <20m:1-4, 0.5-1km 20-30m:1-2, 1-2km 30-50m:1, 2km*
8 Inclined Coastal Pastures	Medium	Medium	●	●	●	●		As generic assessment, but no capacity for turbines >30m around Stromness						●	●	●	●			*Landscape with Wind Turbines Spacings & Groupings <20m:1-4, 0.5-2km 20-30m:1-3, 1-2km 30-50m:1-2, 2-4km 50-80m:1, 5km*
9 Coastal Granite Pastures	High	High	●	●				As generic assessment						●						*Landscape with No Wind Turbines Spacings & Groupings <20m:1-3, 1-2km 20-30m:1, 2km*
10 Isolated Coastal Knolls	Medium - High	Medium	●	●				As generic assessment						●	●					*Landscape with Occasional Wind Turbines Spacings & Groupings <20m:1-3, 0.5-1km 20-30m:1-2, 1-2km*

(Continued)

Key: No Capacity; Low Capacity; Medium Capacity; High Capacity

West Mainland Landscape Character Types	Generic Landscape Sensitivity and Capacity by Turbine Size							West Mainland Specific Capacity by Turbine Size						Residual Capacity by Turbine Size						Proposed Future Wind Energy Landscape Type, Suggested Turbine Groups & Spacings
	Landscape Sensitivity	Landscape Value	S <20m	M 20 - 30m	M/L 30 - 50m	L 50 - 80m	VL 80 - 125m	S <20m	M 20 - 30m	M/L 30 - 50m	L 50 - 80m	VL 80 - 125m		S <20m	M 20 - 30m	M/L 30 - 50m	L 50 - 80m	VL 80 - 125m	
11 Enclosed Bay Landscapes	Medium - High	Medium - High	●	●				As generic assessment						●	●					*Landscape with Occasional Wind Turbines Spacings & Groupings <20m:1-3, 0.5-1km 20-30m:1, 2km*
12 Coastal Hills and Heath	Medium - High	Medium - High	●	●				As generic assessment						●	●					*Landscape with Occasional Wind Turbines Spacings & Groupings <20m:1-2, 1-2km 20-30m:1, 2km*
13 Cliff Landscapes	High	High						As generic assessment												*Landscape with No Wind Turbines Spacings & Groupings N/A*
15 Peatland Basins	Medium	Medium	●					As generic assessment												*Landscape with No Wind Turbines Spacings & Groupings N/A*
16 Loch Basins	Medium	Medium - High	●	●	●			As generic assessment						●	●	●				*Landscape with Occasional Wind Turbines Spacings & Groupings <20m:1-3, 0.5-2km 20-30m:1-2, 3-5km 30-50m:1, 5km*
19 Rolling Hill Fringe	Medium	Medium	●	●	●	●		As generic assessment, however no turbines > 30m in LCA north of Stromness						●	●	●	●			*Landscape with Wind Turbines Spacings & Groupings <20m:1-4, 0.5-2km 20-30m:1-3, 1-2km 30-50m:1-2, 2-4km 50-80m:1, 5km*
20 Moorland Hills	Medium	Medium - High	●	●	●	●		As generic assessment, lower capacity on southern hills						●	●	●	●			*Landscape with Occasional Wind Turbines Spacings & Groupings <20m:1-4, 1-2km 20-30m:1-3, 2-3km 30-50m:1-3, 3-5km 50-80m:1-6, 5-10km*

74



ORKNEY

Orkney Landscape Capacity Study

April 2014 8008 GIS 124

Figure 6.1a

Underlying Landscape Capacity
(Small: <20m Turbines)

N 0 5 10 20 Km

LCT ORK 12: COASTAL HILLS AND HEATH

Landscape Character Sensitivity: Medium - High

Visual Sensitivity: High

Landscape Value: Medium - High

Description

Coastal Hills and Heath occur exclusively on the western coastline of Orkney, on West Mainland, Rousay and Westray. This is an upland landscape character type, of medium to large scale, comprising rounded hills up to approximately 150m AOD, meeting the coast and typically the *Cliff Landscapes*. Cairns and small rock outcrops, ruined crofts and dykes are occasional features amongst the otherwise smooth profile of the hills.

Landuses are mainly improved pasture, rough grassland and heath. Pastures are generally unenclosed and field boundaries are few. The areas are often unsettled, with the occasional road or track, however the smaller pockets of the lower lying landscape character type found to the north west of West Mainland do contain roads, scattered farming and housing developments. Quandale on Rousay contains Orkney's best example of a 'fossilised', pre-improved landscape, making the area of significant historical importance.

The landscape type is important to the often dramatic coastal landscape of western Orkney. Its undeveloped upland character contributes to the wildness qualities of the wider coastal landscape and provides a backdrop/skyline to some more settled areas on the inland side.

Generic Capacity for Wind Development

Sensitivity to all scales of wind development is high within this landscape character type because of its context in a sensitive coastal landscape, its high visual exposure and undeveloped character. However sensitivity varies to some extent between landscape character areas.

The more isolated and less developed areas to the south of West Mainland, Rousay and Westray have the lowest capacity, allowing only the smallest scale developments, typically in lower lying areas well below the skyline and when clearly associated with the few farms or houses.

The areas to the north west of West Mainland have higher capacity resulting from their more developed character, where denser development is possible. However there is no capacity for turbines greater than 30m because of their visual prominence.

The more remote upland areas, for example near the west coast of Westray and to the south west of West Mainland, have no capacity for wind developments of any scale.

Turbine Size	Capacity	Group Sizes	Spacing
<20m (small)	Low	1 - 2	1 - 2km
20-30m (medium)	Low	1	2km
30-50m (medium/large)	No Capacity	---	---
50-80m (large)	No Capacity	---	---
80-125m (very large)	No Capacity	---	---

Spacing ranges relate to minimums at the extremes of the group sizes

Proposed Wind Turbine Landscape Type(s): ***Landscape With No Wind Turbines / Landscape With Occasional Wind Turbines***

Guidance

- Occasional small to medium sized turbines no greater than 30m to be associated with farms and buildings. Groups of small turbines (<20m) aligned with linear features such as roads and field boundaries. Turbine developments only within the lower lying, settled areas of the landscape character type.
- Turbines between 20 and 30m in single turbine developments to minimise their presence within the landscape. Turbines of this size could dominate small dwellings and therefore should be visually associated with larger farm buildings or small groups of houses, with adequate visual separation to avoid appearing out of scale with the buildings.
- Developments to be kept well away from the coastline.
- The more remote, elevated and visually exposed locations have no capacity for wind development.
- Any developments on Rousay to be sensitive to the historic Quandale landscape.

Coastal Hills and Heath, such as here on South Ronaldsay near Burwick, would be sensitive to even small turbines seen on the skyline.

Landscape Character Type Sensitivity Assessment

Coastal Hills and Heath

Landscape Character Sensitivity	Criteria / Sensitivity Levels
Scale	Medium to large scale: Low - Medium Sensitivity
Landform	A varied landform including numerous low summits, shallow valleys, crags and other topographic features: Medium - High Sensitivity
Pattern	A simple landscape pattern of heath and improved pature and rough grassland: Low - Medium Sensitivity
Development	Little built development, few roads and tracks add to the wilderness character. Important remnants of pre-improved landscape (Rousay). High Sensitivity
Quality	Absence of development which may degrade the quality of the landscape character, high quality. High Sensitivity
Elements and Features	Topographic features and isolated prominent manmade features such as isolated lighthouses are distinctive: Medium - High Sensitivity
Context	Elevated coastal location, prominent from the sea and some neighbouring islands, backdrop to rugged cliff landscapes: High Sensitivity
OVERALL RATING	Medium - High Sensitivity

Visual Sensitivity	Criteria/ Sensitivity Levels
Receptors	Low resident population, few access routes through the landscape, but coastal trails and other points of interest attract visually sensitive receptors: High Sensitivity
Internal Visibility	Views largely unrestricted internally except by topography, all round views from local high points: Medium - High Sensitivity
External Visibility	High areas form the skyline when viewed from inland, visibility from other islands is limited as areas are generally external to the wider Orkney archipelago: Medium - High Sensitivity
OVERALL RATING	High Sensitivity

Landscape Value	Criteria/ Sensitivity Levels
Designations	Some areas within National Scenic Area, ecological designations SAC and SSSI for some areas: Medium - High Sensitivity
Community value	Generally few settlements with the exception of north west Mainland: Low - Medium Sensitivity
Cultural value	Some Ancient Monuments, Quandale fossilised pre-improved landscape on Rousay. Medium Sensitivity
Perceptual	Open upland areas with some wildness, often adjoining a dramatic cliff coastline: Medium - High Sensitivity
Rarity	Characteristic of the west coast of Orkney, not found in other parts: Medium - High Sensitivity
OVERALL RATING	Medium - High Sensitivity