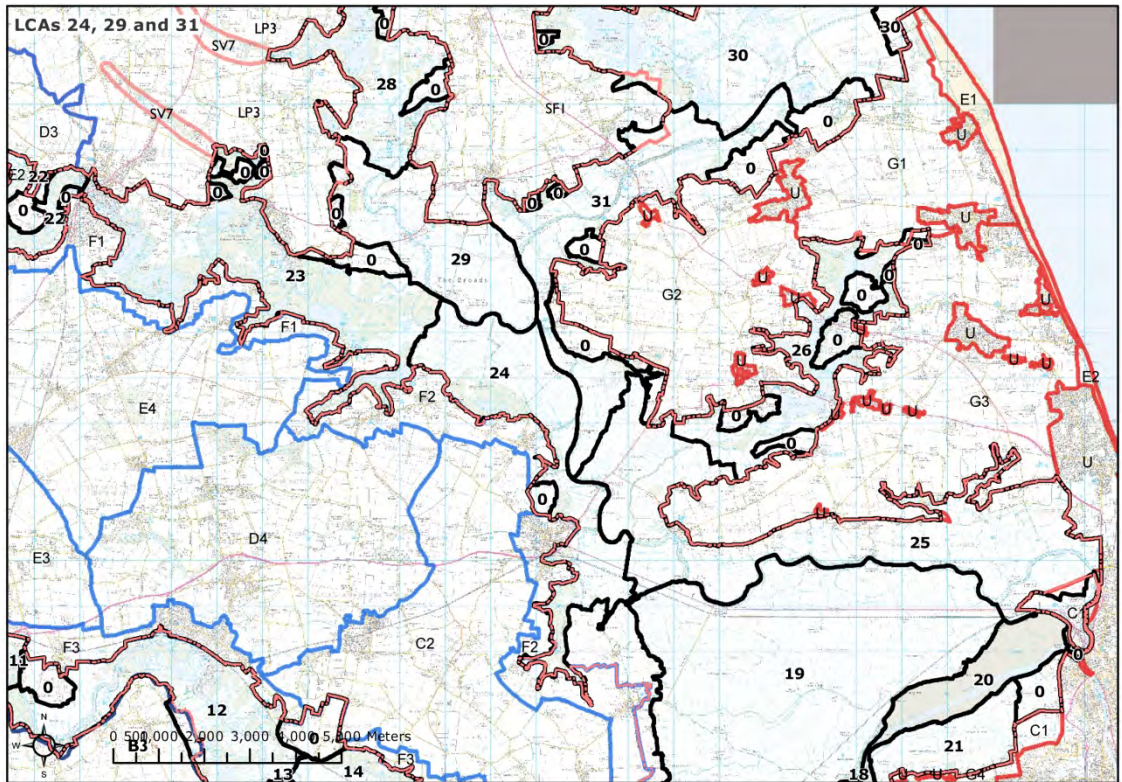


LCA 24: Bure Valley – South Walsham to Acle Marshes and Fens; 29:Ant and Bure Valleys – Ludham, Horning and Neatishead Grazing Marshes; 31: Thurne and Bure Valley – Martham Ferry to Oby

Location and landscape character context



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Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	← →	Higher sensitivity
1.Scenic and special qualities			
	<p>The three character areas in this cluster all display special landscape qualities which would be sensitive to wind turbines. For example area 24 is defined by a wide open landscape of big skies, as is area 29, and this character would potentially be affected by introduction of wind turbines. All three areas have a sense of tranquillity, which turbines would affect through visual, movement and aural intrusion. The fact that all three areas afford riverine access and are well used by recreational boating traffic also indicates a degree of sensitivity due to the interest users have in their landscape. Furthermore, all three character areas represent aspects of the local character referred to in the special qualities of the Broads, through the presence of windmills. These are particularly prominent within area 29, with the ruins of the oldest windmill on the Broads at St Benet's Abbey. Given the above, the character areas have a high sensitivity to wind turbines with regard to special qualities.</p>		
2.Enclosure and scale			
	<p>All three areas are for the most part defined by open, low lying and largely flat marshland landscapes. Although areas 24 and 31 are cut by an intricate network of dykes, this is not readily perceived in term of scale. However in areas 24 and 31, sensitivity to turbines is increased by more intimate scale, contained landscapes created by valley side carr woodlands, such as around Upton Broad (area 24), and particularly in area 31 with more wooded, intimate scale tributaries such as Womack Water. Turbines would impact on the coherence of such landscape patterns. Within area 29, localised enclosure is created by landform variation such as the low ridge on which St Benet's Abbey and causeway are sited. Human scale elements are introduced by the presence of windmills in all three areas, particularly in area 29, and by small scale riverside settlement such as that associated with the medieval bridge and staithe at Potter Heigham (area 31). Also by the seasonal presence of sailing craft on the Rivers Bure, Thurne and Ant. The presence of such human scale elements increase the sensitivity to turbines of this group of character areas, to moderate-high.</p>		
3.Landscape and land cover pattern			
	<p>These three character areas for the most part have a simple character due to the presence of open marshland, although much local variation in pattern is evident. This is due to the mosaic of carr woodland and broads at Upton Broad in the southern part of area 24, the subtlety of the dyke pattern and reeded river edges to all three areas, and the woodland fringed tributaries and fens (Womack Water/Horse Fen) in area 31. These areas of woodland landscape would be highly sensitive to wind turbines due to the potential effect they would have on their cohesiveness, although these are variations in a landscape of otherwise relatively simple pattern. However, the presence of human scale elements such as windmills and, seasonally, of recreational sailing boats using the rivers, are also sensitive elements of the landscape pattern. As such, overall sensitivity of this area grouping to wind turbines is moderate-high in these terms.</p>		
4.Skylines			
	<p>Skylines have a largely simple undeveloped character (which would be sensitive to turbines), with the exception of settlement edges to the south of area 24 (including larger buildings at Upton), and the Somerton Windfarm and industrial buildings visible at Acle, to the north and south respectively of area 29. Also visual intrusions associated with the A47 flyover and adjoining modern development around Potter Heigham, in the northern part of area 31. Many skylines are otherwise of largely flat character across the marshes with occasional bands of carr woodland (e.g. the southern edge of area 24 and the valley fingers in the western part of</p>		

	<p>area 31 (Womack Water/Horse Fen). Punctuation by traditional Broads vernacular features such as windpumps is a characteristic of skylines in all three areas, which increases skyline sensitivity. This is particularly the case from the St Benets Levels (area 29) where the skyline is partly formed by distinctive historic structures such as the ruins of St Benet's Abbey. Allied to the predominantly undeveloped skyline character, these are sensitive to wind turbine development, although sensitivity is locally reduced by occasional modern skyline development described above, resulting in an overall moderate-high sensitivity to wind turbines for these areas, in skyline terms.</p>
<p>5.Perception and experience of the landscape</p>	<p>The tranquil character created in these areas by expansive, open and predominantly undeveloped marshland, and by wooded broads such as Upton Broad and wooded fens at Horse Fen would be highly sensitive to wind turbines, due to the potential changes they would create in terms of landscape perception. Localised intrusions such as larger buildings outside the Executive Area in Upton and which form part of the southern skyline to area 24, and the Somerton Windfarm which is intervisible with area 29, locally reduce sensitivity to turbines, although this is judged moderate-high overall for these three character areas in perceptual terms.</p>
<p>6.Historic landscape character</p>	<p>The small scale early enclosures (17th century and later) created by the network of boundary dykes within all three areas and particularly areas 24 and 29 would be sensitive to turbines due to their potential effect on the coherence of this landscape pattern. Also sensitive are areas of carr woodland and small scale wooded broads such as in area 24 (Upton Broad), for the same reasons. Area 29 possesses some notable scheduled historic archaeological resources which are visually prominent and whose visual and cultural setting would be sensitive to turbines e.g. St Benet's Abbey. This and associated drainage mill, plus other wind pumps in all three areas, increase landscape sensitivity in historic terms. Within area 31, remnant medieval landscapes such as Womack Water (former medieval broad) would also be sensitive due to cohesiveness of the landscape pattern. Given the above, this area grouping has a high sensitivity to wind turbines in historic landscape character terms.</p>
<p>7.Visual sensitivities and intervisibility with areas outside the Broads</p>	<p>The areas of open marshland character and the level of intervisibility with adjacent landscapes to the north and south of area 24 and in area 29 (views to farmland within Great Yarmouth Borough to the north, including intervisibility with Somerton Windfarm, and, specific to area 24, views to the farmland within Broadland District) would be highly sensitive to wind turbines due to the potential extent of their visual influence. Intervisibility is less in area 31 (the western part of the area in particular) due to the intermittent blocks of carr woodland to the area's boundaries (including the valley tributaries at Womack Water). However, the more open landscape and visual character to the east creates greater intervisibility with adjacent landscapes in Great Yarmouth Borough and North Norfolk District, and therefore high sensitivity to wind turbines in visual terms.</p>
<p>Discussion on landscape sensitivity</p>	<p>Overall, this area cluster has a high landscape sensitivity to wind turbine development. This is due to the representation of sensitive special qualities such as the sense of tranquillity, the wide open landscape and big skies and the local character imparted by features such as drainage mills. Other elements which contribute to this sensitivity rating are directly linked to the special qualities, such as the mostly undeveloped skylines which contribute to the simplicity of the landscape and 'big skies' character. Other factors influencing the judgement include the level of intervisibility which all three areas have with adjacent districts' landscapes beyond the Executive Area, and the cultural pattern. For example in area 29, features such as St Benet's Abbey ruins are significant, as are the wind pumps which locally</p>

punctuate the skylines of all three areas. Other aspects of cultural pattern relate to landscape pattern more generally and would also have a high sensitivity due to the potential effect of turbines on their coherence, for example small rectilinear dyke patterns and early enclosures or small wooded broads such as Upton Broad within area 24, or Womack Water and Horse Fen in area 29.

This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights	Land within the character areas		Land outside the Executive Area	
	Small (0-20m)	M-H	Small (0-20m)	M-H
	Medium (20-50m)	H	Medium (20-50m)	M-H
	Large (50-70m)	H	Large (50-70m)	H
	Very large (70m+)	H	Very large (70m+)	H
<p>Commentary: This landscape character area grouping would have a slightly lower (moderate-high) landscape sensitivity to turbines at the smallest end of the typology scale (up to 20m to tip). This is due to the fact that such turbines are closer in scale to skyline elements such as wind pumps, although much would depend on siting. However, for all other larger turbine typologies, landscape sensitivity judgements are high, due to the reasons outlined in the sensitivity profile and overall landscape sensitivity judgement to turbines in general, outlined above.</p> <p>Landscapes outside the Executive Area</p> <p>Relevant character areas and sensitivities are:</p> <p>Great Yarmouth District: G1 East Flegg Settled Farmland: Fieldwork confirmed that the wooded landscape of the Broads, notably the carr woodlands at Ormesby Broad, form a prominent backdrop which contains views. G2 West Flegg Settled Farmland: Small scale field pattern persists around villages and on the edges of the Broads where woodland and areas of parkland occur. Site work also confirmed views across the lowland wetlands of the Broads. G3 Ormesby and Filby Settled Farmland: Fieldwork confirmed the area shares similar characteristics but views from the Broads are filtered by woodland.</p> <p>Broadland District: C2 Freethorpe Plateau Farmland: Fieldwork confirmed partial views over descending wooded slopes to the Broads, and associated strong but low horizon. D4: Blofield Tributary Farmland: the rising farmland forming the valley side is visually sensitive. F2 South Walsham to Reedham: Horizons wooded in places, but some areas facilitate views over adjacent broads, lowland rivers and marshes.</p> <p>North Norfolk: SF1 Stalham, Ludham and Potter Heigham: The sense of enclosure is increased by the woodland fringe of adjoining broads.</p> <p>Fieldwork confirms that the intervisibility with adjacent areas means that larger turbines would appear more dominant in relation to the Broads, resulting in high landscape sensitivity. Landscape sensitivity is lowest for</p>				

	<p>small and medium scale turbines, as turbines below 50 metres to tip height would have less effect on landscape character and perceptual aspects within the Broads, due to closer relationship to existing landscape scale elements. However, much would depend on siting in relation to the Broads and areas of intervisibility noted for the Broads at criterion 7 above. Otherwise sensitivities are high due to visual prominence issues.</p>			
<p>Commentary on different cluster sizes</p> <p><i>Single turbine</i> <i>Small clusters (<5 turbines)</i> <i>Medium (6-10)</i> <i>Large (11-25)</i> <i>Very large (>26)</i></p>	Land within the character areas		Land outside the Executive Area	
	Single turbine	M-H	Single turbine	M-H
	<5 turbines	H	<5 turbines	M-H
	6-10 turbines	H	6-10 turbines	H
	11-25 turbines	H	11-25 turbines	H
	>26 turbines	H	>26 turbines	H
	<p>Commentary: Within this character area grouping, the landscape would have moderate-high sensitivity to single turbines, as, subject to siting, these could impact less on simple, undeveloped skylines or create less visual confusion with other vertical elements. All the larger turbine clusters would create potential for skyline clutter and dominance and accordingly the sensitivity of the landscape to these is high.</p> <p><i>Landscapes outside the Executive Area</i> Relevant character areas and key landscape sensitivities are:</p> <p>Great Yarmouth Borough: G1 East Flegg Settled Farmland: The wooded landscape of the Broads, notably the carr woodlands at Ormesby Broad, forms a prominent backdrop which contains views in that direction. G2 West Flegg Settled Farmland: Small scale field pattern persists around villages and on the edges of the Broads where woodland and areas of parkland occur. Also evident are views across the lowland wetlands of the Broads. G3 Ormesby and Filby Settled Farmland: Shares similar characteristics with the area but views from the Broads are however filtered by woodland.</p> <p>Broadland District: C2 Freethorpe Plateau Farmland: Partial views over descending wooded slopes to the Broads, and associated strong but low horizon. D4: Blofield Tributary Farmland: the rising farmland forming the valley side is visually sensitive. F2 South Walsham to Reedham: Horizons wooded in places, but some areas facilitate views over adjacent broads, lowland rivers and marshes.</p>			

	<p>North Norfolk: SF1 Stalham, Ludham and Potter Heigham: The sense of enclosure is increased by the woodland fringe of adjoining broads.</p> <p>Fieldwork confirms that the degree of intervisibility with adjacent landscapes means that multiple turbine clusters could be more dominant in relation to skyline character, resulting in high landscape sensitivity. Single turbines would however have less effect on landscape character and perceptual aspects within the Broads, due to closer relationship to existing landscape scale elements.</p>
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