



Offshore Wind Farms
EAST ANGLIA ONE NORTH
PINS Ref: EN010077

and

EAST ANGLIA TWO
PINS Ref: EN020078

Issue Specific Hearings (ISHs7)
Post-hearing submission: written and photographic
HABITATS and BIODIVERSITY
Woodland at the River Hundred
by
SEAS (Suffolk Energy Action Solutions)
EA1N – EN010077 / SEAS ID no 2002 4494
EA2 – EN010078 / SEAS ID no 2002 4496



SUMMARY

Response to the senior ecologists' report on the River Hundred's riparian woodland 17th February 2021

The Applicant, SCC and ESC visited the woodland at the same time on 15th February.

On 17th February, they reported to the ISH Hearing that they observed no flooded patches despite the recent snow and rain, and that woodland was well-drained.

SEAS believes that the chance to glean detail and inform a clearer picture was lost in this visit.

Water meters show that the riparian soil is waterlogged.

Test trenches dug by the Applicant for archeological exploration in November 2019 filled rapidly with water despite there being no channel into the river.

The structure of the catches or ditches from the river into both riparian meadow and riparian woodland ensure extensive irrigation of both banks.

Riparian woodland brings widespread ecological benefits that the Forestry Commission is keen to preserve and reproduce.

The riparian woodland and the river have hardly been considered as receptors and under present plans are to be sacrificed.

The protected, broadleaved woodland

1 Summary of the Oral Hearing Submission

- 1.1 The Applicant, SCC and ESC visited the woodland at the same time on 15th February.
- 1.2 On 17th February, they reported to the ISH Hearing that they observed no flooded patches despite the recent snow and that woodland was well-drained ('pretty dry').
- 1.3 Gillian Horrocks requested from local Council representatives where the officers had been, since their observations of this area's characteristics do not accord with ours.
- 1.4 The council officers reported that they had predominantly viewed the site from the edge of the B1122 and from the end of Gypsy Lane, as 'this was considered adequate to understand whether the area was comprised of wet woodland or not which was the purpose of the visit'. James Meyer also visited the meadow on the east of the river by the public footpaths.
- 1.5 We await the written submission of the Applicant's ecologist to assess what records she was able to take and where.
- 1.6 The Applicant repeated that they applied industry standard analysis by chartered ecologists and that the riparian woodland was not wet.
- 1.7 SEAS pointed out that the observations and knowledge of well-informed local persons provide substantial and valuable insight to the local ecology, and that the Applicant's scanty analysis prior to this stage had left the protected riparian woodland without protection.

2 Riparian water levels

- 2.1 The water levels are controlled downstream by a sluice system. Water is drained very quickly when required as the bitterns and rare brackish species managed by RSPB can easily be disturbed by excess or too little river water.¹
- 2.2 The water levels were reduced rapidly on 18-19 January 2021 after torrential rain.² Images of the prior flooding were presented by SEAS in our last submission: these wet pools disappeared within 24 hours once the sluice was opened.

However, is the ground now wet or dry?

3 Riparian Soil

- 3.1 The soil in this area is largely acidic sand. Seasonal flooding provides an overlay of fertile silt in this woodland, and the trees in the woodland offer leaf mulch, but sandy soil always offers a friable appearance, even when wet. Image 1 shows a small hole dug to a garden trowel's depth about 10m from the river bank. A simple meter reading for soil moisture content records a waterlogged character, yet the sandy soil is crumbly.
- 3.2 The sandy topsoil offers no barrier for water from the river to spread evenly within it.
- 3.3 The soil is soft: boots sink into the ground even 40 metres from the water's edge.
- 3.4.1 Gillian Horrocks has grazed large animals in this area for over 20 years. At 16 metres above sea level, three days without rain in summer means widespread desiccation of pasture.
- 3.4.2 In contrast, grazing meadows on sand but close to the river provide pasture all year round, without significant degradation of the sward in wet periods as would occur on heavier soils.
- 3.5 On 20-2-2021, a simple water meter was applied to the soil at bank side, 25 metres away from the bank and 40 metres away. There had been no rain for 6 days. Its readings were 'Waterlogged' in all three cases. At the area by the road, and by Gypsy Lane, where the Ecologists stood, the meter described the soil as 'Wet' and in one area 'Normal'.
- 3.6 The altitude by the B1122, taken from Google Earth, and where we know the ecologists stood, is 11 metres. The altitude by the river, taken from Google Earth, is 9 metres. The 2m difference in altitude, which is reflected in a notable bank, obviously affects the water distribution to the higher areas by the B1122.



¹ Rob Macklin, former warden of RSPB North Warren, and former Suffolk Area Manager, describes managing the sluice system in 'The country diary of a Suffolk Naturalist', Macklin, River Hundred, Aldringham, 2007, p.247

² Local resident's record and report.

3.7 Images 2,3,4, dated 30-11 2019: test trenches dug by the Applicant

3.7.1 The trenches dug by the Applicant in this area as Archeological tests in November 2019 show the depth of the sandy layer (Image 2), and, importantly, the rapid flooding within short, winter daylight hours, of the investigative trenches (Image 3, 4). The river was not in spate; we had overnight frosts and no rain.³

3.7.2 We suggest that the Applicant's trenches provide ample evidence that the soil remains wet, and water close to the surface, in these riparian areas, on both sides of the river. The soil also remains wet, not far below the surface, at some distance from the river because water is able to travel without great impediment through sand, and the height above sea level remains as low, or lower than, 9m on both sides of the river.

Image 2 Facing East, am



Image 3 Facing West about midday, showing the woodland in question on the other side of River Hundred



Image 4 Facing East, pm



³ Local resident's log.

4 Wet Woodland

4.1 SEAS offered many photos and arguments in our last submission that this is a wet riparian woodland. We do not feel that enough evidence has been produced to contradict this view.

4.2 In their verbal submission (17-2-2021), the ecologists described the meadow on the east bank as a grazing marsh, and also mentioned that the west bank with the woodland was lower, therefore more susceptible to flooding, than the east side.

4.3 We underline that they characterised the east bank as marsh and the west bank as vulnerable to flooding. Both banks provide, therefore, wet environments. In addition, on both sides of the river drains or catches carry water into and out of the woodland and meadow,⁴ ensuring the continued irrigation of the area.⁵



4.5 These catches are well vegetated and sheltered, and suitable for all intermediate stages of dragonfly and damselfly life. The Hairy Dragonfly is annually observed in this location by local residents.

4.6 Wet woodland can be patchy. Wet woodland is also variable and need not be characterised by surface pooling all year round, or at all.⁶

4.7 Flooding in this particular woodland is seasonal and short-lived as it is also managed by sluicing according to the needs of the SSSI and RSPB Nature Reserve.

4.8 Not all wet woodland has pooling or is constantly underwater: it can follow this pattern of seasonal overspill.

4.9 In addition, the high level of groundwater ensures adequate wetness all year round. The choice and management of trees planted over a century ago (in our previous submissions we gauged the age of the mature trees as over 160 years, and recorded a row of coppiced alder) reflects expert and ancient methods of flood management.

4.10 The wet conditions and fallen logs support self-propagating alder, poplar and willow saplings, the sedge, mosses, ivys, lichens and fungi, and many species that rely on these wet environments like ragged robin, iris and orchid. They struggle elsewhere: 'The dry climate of the Suffolk Coast does not provide ideal conditions for mosses and ferns'⁷.

⁴ Image 5: OS Map of the woodland clearly showing catches and channels on both sides of the river in, or close to, the area due for trenching

⁵ Mark Everard, 'Water Meadows, Living Treasures in the English Landscape', Forrest Text, Cardigan, 2005

⁶ Quine et al (eds) 'Managing Woodlands and Their Mammals, Proceedings of a Symposium Organised Jointly by the Mammal Society and the Forestry Commission', Forestry Commission, 2004

⁷ Rob Macklin, op.cit., p 248



4.11 Wet woodland is sensitive to disturbance.⁸ Images 2,3,4 show that the underground water here rapidly responds to disturbances. Trenching will be deleterious to wide areas sharing the same water source and equilibrated levels of underground water.

4.12 Therefore, the proposed area of the trench corridor observed by the ecologists cannot be considered as an element that is discrete from the rest of the woodland. It will, in fact, disrupt a protected, rare environment even at some distance from the trenching point.

4.13 This riparian environment reflects the description of wet woodland in the 'UK Biodiversity Action Plan, 2011'⁹

5 Summary

5.1 While historically the river bank was planted with thirsty trees like alder that also offer structure and protection to the fragile soil of the riverbank, these and other thirsty species like poplar and willow effortlessly propagate themselves here, even at a significant distance from the riverbank.

5.2 The woodland therefore regulates the quantity and force of water that impacts the riverbank, thereby protecting downstream properties from flooding.

5.3 These thirsty species have been shown to regulate and improve water quality by absorbing agricultural run-off, which is important to the integrity of the SSSI and RSPB North Warren.¹⁰

5.4 The woodland is self-sustaining in its wild state.

5.5 The woodland offers the ideal mix of areas of open ground, scrub thicket, sapling, and closed canopy, beneficial to the river, its wildlife, and sensitive areas downstream.¹¹

5.6 Its orientation provides valuable shade to cool the river water to the benefit of the life within it, and supporting the SSSI and RSPB reserve which depend on it, close by. Cooling through increasing the creation of riparian woodland wherever possible is encouraged by the Forestry Commission to counter climate change.¹²

6. The economics of ecology

6.1 The British Government recently published 'The Dasgupta Review', which criticises the global economy that is based on eroding natural assets for what is routinely celebrated as 'economic growth'.¹³

6.2 Here is an example of the review's demand for a radical shift in our economic world view. Decarbonising our energy systems is a necessary part of balancing demand and supply. But we must not concern ourselves only with the symptoms of environmental damage and not the cause. For instance, in this (simplified) example, we might see woodland destroyed to build an electrical substation. GDP will record an increase in produced capital, but does not show the depreciation of 'natural capital' that absorbs carbon, prevents soil erosion, creates habitat for much-needed pollinators and other invertebrates, and provides

⁸ Quine et al (eds), op. cit.

⁹ UK Biodiversity Action Plan; Priority Habitat Descriptions, BRIG (ed. Ant Maddock) 2008. (Updated 2011) (<https://data.jncc.gov.uk/data/2728792c-c8c6-4b8c-9ccd-a908cb0f1432/UKBAP-PriorityHabitatDescriptions-Rev-2011.pdf>)

¹⁰ *ibid.*

¹¹ *ibid.*

¹² *ibid.*

¹³ Prof Sir Partha Dasgupta, 'Final Report - The Economics of Biodiversity: The Dasgupta Review,' HM Treasury, London, 18 February 2021



direct benefits to society – from purified air and water to improved mental health – that reduce burdens on health services and social fabric. These losses carry severe economic costs.

5 Conclusions

5.1 We do not believe that enough evidence has been offered to show that this is not a wet woodland. Simple water content tests show that the area is wet.

5.2 However, wet or not, this riparian area, at last, has been acknowledged. It is also ecologically important and protected.

5.3 No mitigation has been proposed for this protected environment.

5.4 The applicant does not have enough land to replace all the woodland scheduled for destruction.

5.5 The applicant certainly has no sites available to replace riparian woodland.

5.6 The River Hundred and its woodland have hardly been considered as receptors and will effectively be sacrificed as plans stand.

5.7 The Applicant states there is no alternative to this route. In that case, the project should not continue.

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20-2-2021