Broads Authority comments to Natural England and the Environment Agency on the appropriate assessment on two licences AN/034/0009/008 and AN/034/0009/009 on Ant Broads and Marshes SSSI part of the Broadland SPA/Ramsar and The Broads SAC.

Context

As a context the Conservation Importance of the Broadland fens is well established. The Calcareous fens with saw sedge are the most extensive in the UK. Nationally and internationally this habitat is very rare, being designated in only 13 Special Areas of Conservation in the UK and a priority conservation habitat in Europe. The Broads holds a very substantial area of this resource, principally in the Ant and Thurne, and to a lesser extent the Bure. Throughout its extent Broadland contains unique and special fen communities. Some of these that support a wide range of rare and restricted species have declined in recent years. Its recovery is a conservation concern.

The decline is most probably because of habitat change, including cessation of management, nutrient enrichment of Broadland waters, changes to water flows, water availability and an increase in catchment salinity.

Given that it is well established that Ant Valley Fens, particularly Catfield Fen, are the 'jewel in the crown' for wildlife in the Broads, this context of loss makes the changes at Catfield Fen even more concerning.

Latest evidence

Thank you for considering the latest vegetation data for Catfield fen collected by the RSPB and with the analysis funded by Broads Authority. It is clear from this report that there has been measureable and, as confirmed by the RSPB, statistically significant change to the abundance of many of the species that make up the rare calcareous fen community at this site - particularly compared to the relatively stable communities at nearby sites. This provides concrete evidence that should be considered in detail as part of the appropriate assessment process.

This new evidence combines with an extensive body of detailed and site based evidence, along with local and international expert opinion from professionals who have known Catfield Fen for over 20 years. There is now long-term data (both water level and vegetation) that alone and when combined results in the conclusion that Catfield Fen has a sub-optimal water regime. In addition the spatial pattern of the vegetation community shift shows that this is very likely to be due to changes in ground water and not as a result of management or climate change which are factors that can be checked by comparison with other sites.

In addition it is worth considering that Catfield Fen has been isolated from the river by a rond since the 1820s, around 200 years ago. The calcareous plant communities have developed on the 1830s peat cuttings and have done so under the influence of base-rich ground water and without the limited influence of river water. It is well known that vegetation communities are a product of the local environmental conditions. At Catfield the vegetation shows the importance of a continued supply of ground water to this sensitive site.

The recent evidence assessment funded by the Broads Authority demonstrates rapid changes within vegetation communities. In addition there has been a 500% increase in acid-loving sphagnum over 20 years in Catfield Hall Fen and significant increase in Catfield Butterfly Conservation land.

Conclusion

- These changes have not yet led to complete change in vegetation community however they are of ecological significance and clearly show the site is drying and acidifying, resulting in a deterioration of a fen community of conservation concern to the Broads globally important wetland, resulting in deterioration in the condition of the site.

- Catfield Fen has been isolated from the influence of the river for 200 years. Plant communities have evolved as a result of base rich water and these communities are undergoing rapid and recent change.

- In hydrological terms valley side fens such as Catfield, Smallburgh and Upton are sensitive to and reliant on rainfall and groundwater inputs and particularly sensitive to changes in the balance between water inputs. Decision making processes must use the detailed, robust scientific evidence which has been collected over 20 years to ensure that there is not irreversible loss of quality calcareous fen in one the UKs most important fen sites.

- The Broads Authority has some significant concerns about the process and basis for decision making, both within and wider to this case. These concerns particularly relate firstly to Common Standards Monitoring (CSM) and the output of this which provides an assessment of the condition of the SSSI. CSM has several severe limitations and caution should be exercised in making judgements against this during the appropriate assessment process. These concerns are set out in detail below.

- The second concern is around the applicability of the EA's hydrological model and Review of Consents process for designated sites.

- Our interpretation of the Habitats Regulations is therefore that the precautionary principle should be applied as a likely significant adverse effect could result from further water abstraction.

Further information and wider points: Natural England Condition assessment

Natural England Condition Assessment although providing the 'official' view, and is very useful for many purposes, is somewhat limited. This has been demonstrated by the detailed assessment of Catfield Fen that has used extensive and detailed vegetation survey and data analysis to compare community over time. Indeed it is often the case that sites that are deemed to be in Favourable Condition rarely display their full ecological potential, and may not meet the conservation aspirations of the owners or managers.

As stated in the Broads Authority and Natural England Fen Condition Assessment reports (2012 http://www.broads-authority.gov.uk/authority/publications/conservation-publications.html), Favourable Condition relates only to specific, identified "features". A site may have a wide range of ecological attributes of conservation interest which are not formally identified as features and are therefore not assessed or included in the judgement of condition. Some more difficult attributes such as invertebrate communities are frequently undervalued or overlooked in the process of condition assessment. Although the continuing process of review and improvement to feature identification has greatly improved the coverage of features considered, it often remains incomplete. Hence, the designated features of a site may be in Favourable Condition but in ecological terms, the site may still have much more to offer.

If all the identified features, on all site units, meet the baseline Common Standards Monitoring (CSM) criteria the site is determined to be in favourable condition, even if the features have declined in conservation quality from a previous, much higher level. For instance, there are many shades of quality within S24 vegetation, as the Fen Ecological Survey demonstrated, and even within sub-communities of S24. Hence Favourable Condition ensures a base minimum standard is maintained for a feature, rather than protecting the highest quality and/or best possible condition – i.e. full ecological potential. Consequently, Favourable Condition may meet the requirements of SSSI surveillance, but it does not meet the aims of the detailed assessment required to judge the impact of water abstraction on fen sites around the Broads. The Review of Consents process did not consider the detailed ecological data collected in the Broads Authority and Natural England report (2010).

Of key importance is that the Favourable Condition target does not assess direction of travel. If the criteria are met during the CSM exercise, and Favourable Condition assigned, there is no further formal consideration as to where the site is headed. Other categories of CSM do imply direction of travel – unfavourable declining, unfavourable recovering – but Favourable Condition is a single category. Considering direction of travel in a way that is evidence-based and not wholly subjective remains challenging. It requires some knowledge of the whole fen resource in which to contextualise change in a particular site, including detailed consideration of fen successional processes relevant to that feature and site. Up to date information and analysis for Broadland has been made available through the Fen Ecological Survey which provide context to Catfield Fen as well as now a wealth of information on the details of site management in relation to surrounding fens.

There are processes that affect the whole fen resource such as fen succession and climate change. When significant changes occur only on a specific site or sites, these wider processes should be discounted especially if the change is not happening on well managed valley side sites that are away from the influence of groundwater abstraction.

CSM and condition assessment fulfil Natural England's needs for objective, evidence-based SSSI surveillance and the maintenance of a core ecological standard. However, the approach was not intended to provide a framework for determining full ecological potential or tipping points and risk to the site. A site which has been assessed as in Favourable Condition may need substantial investment in order to reach this state. Consequently, CSM and Favourable Condition are not suitable benchmarks for use in the judgement of Habitat

Regulation Assessments, particularly where there is substantial additional high quality and long term evidence.

However having said this CSM have become common currency in conservation for statements of the quality and status of particular habitat and species features present on particular SSSIs. Clearly, Favourable Condition is an obvious starting point for any reporting.

The CSM approach fits the Government's purpose of surveillance monitoring of the SSSI resource very well, for which it was principally designed. In addition, where sites have been deemed unfavourable, CSM has triggered much restoration management and the required resources. A great deal of valuable work in Broadland fens may therefore be attributable to the CSM approach. However, Favourable Condition as determined by CSM has limitations for the required HRA.

Further Information and wider points: Review of Consents and Hydrological Modelling

The Environment Agency's Review of Consents did not consider detailed NVC fen vegetation data, WetMecs, Ellensburg values and the change between the 1997 and 2007-2010 survey (undertaken by Broads Authority and Natural England). Moreover, Review of Consents and hydrological modelling did not consider the impacts of climate change which are forecast to be significant in the Eastern area. Water is highlighted as central to the National Climate Risk Assessment and this area is particularly vulnerable to changing impacts. Climate change assessment is now routine and normally taken into account, particularly in relation to longer term water resource assessment. This appears to be a significant shortfall of the assessment methodology undertaken at this site.

The Environment Agency's hydrological model, although an excellent starting point for screening decisions on sustainable water use, should be supplemented with high quality local information at a sufficient scale, particularly for SAC sites with water sensitive communities, such as those at Catfield Fen. Where this information is insufficient and there is Likely Significant Effect the Environment Agency should consider requesting the abstractors to provide supplementary or more detailed evidence to support the decision making.

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