**Natural England and Environment Agency Position Statement on Proposals at Felixstowe Peninsular**

**Background**

As part of the Deben Holistic project NE and the EA have been supporting and providing significant technical input into the work being undertaken to look at the possibility of diverting land drainage water, which is currently pumped to the Deben estuary by the local IDB, and using it primarily for agricultural irrigation in the local area. This work is seen as a pilot to highlight the challenges and solutions to such a scheme such that lessons can be shared at other locations.

For details of the scheme please refer to: - <http://www.greensuffolk.org/flooding/hwmp/>

**Environmental Context**

The Deben Estuary lies between the Orwell Estuary to the South and the Alde – Ore Estuary to the north. The estuary extends for approximately 12km in a south-easterly direction from the inland limit, adjacent to the towns of Woodbridge (TM260490) and Melton (TM285505), to its mouth to the north of Felixstowe. The Deben Estuary is a mesotidal coastal plain estuary that includes extensive mudflat and saltmarsh areas.

It is designated as the Deben Estuary Site of Special Scientific Interest (SSSI) important for its populations of overwintering waders and wildfowl and also for its extensive and diverse salt marsh communities. The site is of national significance for its wintering population of Dark bellied brent goose, Redshank, Shelduck and Black tailed godwit.

The site is also designated as the Deben Estuary Special Area of Conservation (SPA) for its wintering birds, including Avocet and Dark bellied brent goose under the Birds Directive giving it European protection.

The Deben Estuary is also a Ramsar Convention site for Dark bellied brent goose and the invertebrate *Vertigo angustior*.

The boundary of the Deben Estuary SSSI is coincident with the SPA and Ramsar boundary

In light of these designations and also other relevant legislation any activity has to be assessed to ensure it will not result in a significant impact on the sites integrity and associated features (birds and saltmarsh), complies with the requirements for Transitional waters under the Water Framework Directive and meets the needs of the Eels (England and Wales) Regulations 2009 (Eel Regs).

**Justification**

It is the duty of the Environment Agency to ensure that the use of water resources is correctly managed and so any request to take water needs to be supported with a justification of need and evidence of efficiency as well as sustainability considerations.

Natural England is responsible for ensuring that England’s natural environment is protected and improved, including designated sites. Natural England seeks to maintain and improve the condition of protected sites by working with landowners, land managers and partners.

All public bodies must take reasonable steps to conserve and enhance the special features of SSSIs when carrying out their statutory duties or giving others permission for works, and must comply with the Habs Regs in consideration of SPA.

**NE&EA advice at this stage**

A new pre application for the proposal should be resubmitted clearly stating who will be abstracting, the volumes and timings, justifications and proposed mitigation.

Mitigation could comprise of the construction of a small outfall thrust bored through the sea wall and out into the estuary (length to be determined by topography.) This will be constructed with a diameter, sump and flap valve in such a way to ensure that 5l/s passed through the pipe at times of low tide. Another option would be to have a small pumped discharge providing an attractant flow for Eels but this would then require a larger flow to be discharged at Falkenham (to meet WFD requirements)

All other flows which are not abstracted for irrigation may pass through the marsh drainage system to Falkenham and be pumped out there. Again there is a need to maintain a flow of 5 l/s (and so any abstraction at Kings Fleet will need to have a HOF to ensure this happens. This discharge of water should be tidally driven, to emulate natural systems.

One way, to assist in loss minimization and max benefit to maintain channel morphology, would be to discharge water 3 hours either side of low tide. This could be with a dedicated pump and simple timed control set at 24 hour 50min 30 sec interval or with a dedicated digital tidal clock for this location.

Or this discharge of water could be done simply by a gravity outfall and a tidal flap. Similar examples have been installed at: Minsmere RSPB, Fritton Lake and Old Hall Marshes RSPB in Essex.

The applicant should revisit their understanding of the quantities of water actually available (we believe it is nearer 600Ml rather than 850 Ml). They may also wish to consider requesting a winter only licence to significantly reduce the costs as we believe the amount of additional water available in the summer is not likely to be significant. Whilst we accept that one of the intentions of this pilot was to test the possibility of high flow abstraction year round, unfortunately the current legal framework for abstraction charges does not currently facilitate this without significant cost.

**Reasons for this guidance**

Site Integrity

By maintaining the total number of fresh water flows to the Estuary, ensuring some fresh water flow to the salt marsh and the physical improvements to the salt marsh; site integrity is considered to be maintained and potentially improved.

Transitional Waters (for full technical detail please see P Willett 20/9/2017)

This assessment shows that in order to meet the requirements set out in the Task and Finish guidance we need to maintain either 10l/s at single discharge point (Falkenham) or 5l/s at two discharge points (Falkenham and Kings Fleet)

Eels

The surrounding habitat of Kings Fleet is ideal for eels and the downstream migration of silver eels needs to be addressed. Throughout the moving of water, the Eel Regs need to be adhered to.

The construction of a small outfall to the saltmarsh will allow movement of eels in the Kings Fleet system reinstating something that was present until 1998. This will also allow a flow of 5 l/s to be maintained to meet the WFD requirements and provide an important freshwater signature into the saltmarsh. Alternatively a small attractant flow could be used at Kings Fleet with 10l/s being discharged at Falkenham.

Birds

The Project’s bird survey showed that relatively few birds used the Kings Fleet freshwater flow, suggesting that the flow was of limited importance for birds. Usage may be affected by the fact that flow is generally pumped at night often vigorously. Recreational disturbance is also likely to be a factor in the day given the popular footpath on the river wall at Kings Fleet. The flow is likely to have an influence that extends beyond just when freshwater is flowing (such as gradients in salinity affecting prey diversity & prey biomass).

With limited freshwater flows on the Deben any proposed removal of the flow completely at Kings Fleet allows little precaution re birds and is inconsistent with approach regarding compensatory flows on Suffolk estuaries.

The needs of WFD and Eel Regs mean that a fresh water flow at Kings Fleet will be maintained and so mitigates any possible impact for birds.

Saltmarsh

It is important to maintain a small freshwater output here in order to support the good ecological condition of the neighbouring saltmarshes and the species they support (including birds), maintaining salinity gradients and maximising potential ecological niches.

As it stands the existing pumped freshwater is thought to be exacerbating saltmarsh deterioration. A gravity outfall or smaller attractant pumped flow would be far less energetic, reducing direct damage. It would also be tidally-linked, this would mean that there would not be a reduction in the number of freshwater flows into the estuary. The exact positioning of such an outfall would need to be discussed with NE so as to avoid any negative effects on the saltmarsh, but it is thought that there would be some leeway and it would not necessarily need to be located adjacent to the existing IDB pump/structure.

This work could be made part of a saltmarsh recreation project using soft revetment to encourage accretion and saltmarsh development and protection of river wall (saltmarsh as natural capital) in the Kings Fleet embayment.  Faggoting could possibly tie in with new outflow. Therefore there are opportunities to develop this as a saltmarsh restoration project with the Deben Estuary Partnership to have multiple environmental benefits.

Abstraction licence

Any new licences will be time limited. This site is within our East Suffolk Abstraction Licensing Strategy, so the maximum duration licence will be to 2026.

Time limited licences have to meet our three tests of renewal in order to be renewed on the same terms. The criteria are:

* Sustainability issues in the catchment are resolved and the renewal of time-limited licences does not pose a risk of deterioration in ecological status and;
* The quantities are justified and;
* The water is used efficiently.

Any new surface water licences will need to have a Hands off Flow (HoF) to protect the ecological needs of a river at low flows. Our Hydrology team will advise on the HoF required during the pre-application stage of a new licence. This will also take into account any competing demands for water.

Within any new applications for water, you will need to submit a full justification for the requirement for this ‘new water’ alongside any existing licences (cropping and business plans) and measures that you will take to use the water efficiently. We will then consider this at a farm scale.

Due to the proximately to the coast, a new abstraction licence here will need to be compliant to the Eel Regs. We suggest a fixed intake, so it causes less ecological disturbance and that the required eel screening can be provided. If the abstraction is only during the winter, (November to March), the screen size required is likely to be 9mm. If this abstraction is all year, then 2 mm screening will be required.

Abstraction Charges

There is currently no flexibility in the legal system for charging for abstraction. This project has clearly shown that there is a need for this and we hope this will be addressed in due course. In the meantime, in light of the significant costs associated with a year round licence, the fine grade of eel screening likely to be required at the intake and the limited availability of surplus water during the summer, we would recommend you consider a winter only abstraction licence.

We hope the above is of assistance

J Thompson EA Emma Hay NE