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Wensum Valley Alliance

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fao Rachel Dominey, Senior Planning Officer,

The River Tud Environment

On behalf of the WVA (Wensum Valley Alliance) , RR 29th May 2021 (IP 20028139 ?) we would like to take the opportunity afforded by the Secretary of State request for further information from Natural England, to reaffirm our concern with the impact of the A47 proposals on this valuable chalk river.

The River Tud is a chalk river headwater supplier tributary into the River Wensum chalk river, both listed by the Chalk Stream Restoration Group, which proposes special protection for such streams, with an implementation plan to be published October 2022. This is being developed under the Chalk Stream Restoration Strategy launched by the Environment Minister Rebecca Pow in October 2021 shortly after the start of the Examination. Further, within Natural England Biodiversity Metrics 2, Headwaters are classed as Very Important.

We do not consider the River has been provided with the level of acknowledgement, detailed surveys (aquatic macrophyte survey) and protection required during the design proposals and DCO information provided for the A47 dualling proposals. Apart from the new, enlarged, dual carriageway river crossing proposed, in itself an environmental challenge to avoid pollution, the scale of the construction roadworks in such close proximity and the heights and embankments of the grade separated junctions, will make it almost impossible to avoid run off and spillage during the works, particularly when in the temporary (unlandscaped) condition. One heavy rainfall would cause wash out to the embankments and consequential pollution to the River and environs. One accepts there will be a Construction Environmental Management Plan generated, but as public access to the sites is denied, there will be no independent monitoring of any incidents that may occur, (until the downstream impacts become evident).

There is evidence of natural springs along the lower slopes of the Tud Valley, supplying good quality water into the floodplain. There is no evidence found to date in the DCO documentation that this has been taken into account or measures made to protect these natural springs from the roadworks. Indeed several highways infiltration lagoons are planned to be placed in the river floodplain, to take both silt from the roads and manage surface water run off. These could prove detrimental to the river and groundwater supply quality.

The Tud and Wensum River floodplains provide a unique and largely unspoiled eco-system and landscape, providing a unique foraging environment for all manner of insects, birds, bats and other creatures. We consider that proper field survey results would lead to the River Tud and its associate habitats being of a high enough ecological value to be granted SAC status to provide protection.

We understand the Joint Nature Conservation Committee to be the public body that advises the UK Government and Devolved administrations on UK wide and international nature conservation working to the Natural Environment and Rural Communities Act 2006. We consider that the existing River Wensum SAC boundary should be extended to include the River Tud as a headwater chalk river, perhaps as part of the Government target to protect 30% of UK land by 2030. The justification for this is that the Tud is a *Ranunculus River* supporting the species characteristic of the Priority Habitat 3260 sub-type 1. (The Wensum River is classed as this in the SAC designation).

A Citizen Science Group has carried out a field survey as part of a wider area survey, (of which more later), with the following findings.

- (a) The Tud river channel locally continues to have a natural meandering course with little evidence of straightening, earth banks and an unmodified bed. Where straightened, the river and earth banks continue to have a more or less natural profile allowing marginal fringe vegetation to flourish.
- (b) The environs contain ponds rich in Stonewort species (calcareous species depending entirely the water chemistry).
- (c) Associated water margins and wetlands with *Glyceria maxima* reed sweet grass and *Carex* sedge beds habitats
- (d) The spring lines fed by the chalk aquifer which flow into the river.

None of these features can be relocated or mitigated for. They have to stay in the geographical location and not be obstructed or destroyed by engineering works

Habitat 3260: Watercourses of plain to montane levels with the *Ranuncion fluitantis* and *Callitrico Batrachion* vegetation.

Freshwater habitats: Description and Ecological characteristics.

This habitat type is characterised by the abundance of water-crowfoots *Ranunculus* spp., subgenus *Batrachium* (*Ranunculus fluitans*, *R. penicillatus* ssp, *penicillatus*, *R. penicillatus* ssp, *psedofluitans* and *R. peltatus* and its hybrids). Floating mats of these white flowered species are characteristic of river channels in early to mid-summer. They may modify water flow, promote fine sediment deposition and provide shelter and food for fish and invertebrate animals.

There are several variants of this habitat in the UK, depending on geology and river type. In each *Ranunculus* species are associated with a different assemblage of other aquatic plants, such as **watercress *Rorippa nasturtium-aquaticum*, water-starworts *Callitriche* spp.**, water parsnips *Sium latifolium* and ***Berula erecta*, water-milfoils *Myriophyllum* spp.**, and **water forget-me-not *Myosotis scorpioides*.**

In some rivers, the cover of these species may exceed that of *Ranunculus* species. Three main sub-types are defined by substrate and the dominant species within the *Ranunculus* community.

Sub type 1: This variant is found on rivers on chalk substrates. The community is characterised by pond water-crowfoot *Ranunculus peltatus* in spring-fed headwater streams, (winterbournes), stream water-crowfoot *R. penicillatus* ssp., *pseudofluitans* in the middle reaches and river water-crowfoot *R. fluitans* in the downstream sections. *Ranunculus* is typically associated in the upper and middle reaches with *Callitriche obtusagula* and *C. platycarpa*.

The above community is usually present where water is quite fast flowing over gravelly beds. In addition to these areas of classic chalk stream communities there are slack areas where is a contrasting community of yellow water lily and Sparganium erectum branched bur-reed Sparganium emersum unbranched bur-reed. These areas are the optimum habitat for lamprey. The conclusion is that the River channel is diverse, aquatic habitat that will support rare/specialised species. Native crayfish and Desmoulin Snail are likely to be present with the *Glyceria maxima* reed sweet-grass *Carex riparia* greater pond-sedge and *Carex acutiformis* lesser pond sedge margins to the Tud and its drainage system are a probable habitat for these species.

The Wider Habitat of the River valleys.

There is a triangle of land contained between the Rivers Tud and Wensum stretching from the confluence of the two rivers at Hellesdon, Norwich. The area contains the Ringland Hills, with acidic soils and well elevated hills above the chalk valley bottoms. Because of terrain limitations and the poorer soils, the area has a high proportion of woodland with many of these either classed as Ancient or Veteran woodland, but with many characteristics of ancient woodland.

The field research by the Citizen Science Group was designed to provide a representative sample of plant communities and habitats found in this area and to establish the record of the

interconnectedness of the mosaic of habitats, (or not). The width of the Transect was approximately 3km wide, starting from the Fakenham Road to the North, moving South covering the Wensum floodplain, into and over the upland area of Ringland and then further south into the Tud Valley. The Group used the JNCC standard Phase 1 habitat survey, mainly gaining access via public footpaths and country lanes, although some landowners provided access to private lands. The group has produced a GIS map and made target notes and photographs of all the important features found. The valley floors of the Wensum and Tud are very important semi-natural areas and so these were both surveyed to NVC level, although not with full accord with the correct number of quadrat samples. The Group has not yet had the time (nor access permissions) to survey the semi-natural uplands to NVC level, but target notes have recommended where this should be done.

The landscape scale survey has made it very clear that this area is special. The varied mix of woodlands, semi-improved and semi-natural grasslands, wetlands and open water, connected by an extensive network of historic dykes and hedgerows, (often species rich and containing historic trees), provides an un-fragmented and ecologically rich environment and landscape. It provides a perfect habitat for the wide ranging and protected species of barbastelle and other bats and it is evident it is suitable for many other wildlife species.

The roadway construction will carve an environmental “desert”, a sterilised area tens of metres wide removing woodland, hedgerows, vegetation and topsoil through the landscape and touching the River Tud in five places along its length. The construction period isolates the area for over two years, starting with disruptive surveying work and finishing with a replanted civil engineering landscape that in vegetation terms will take many more years to start to recover. The impacts of a dual carriageway barrier and the associated pollutions that accompany that are evident and we regard the proposals as too high a price to pay in terms of environmental losses versus small gains in travel times. The unique nature of the River Tud chalk stream has simply not been taken seriously enough when preparing the design and DCO proposals.

This unique area is on the environs of Norwich City with the Wensum valley providing a green wedge - a green lung into the City. If the area is dissected longitudinally by the proposed A47 and latitudinally by the proposed Western Link viaducts and roads, the mosaic of landscapes will no longer function as a breeding and foraging area for wildlife or as a place of beauty and tranquillity for people. This is a wonderful area of natural green infrastructure and it is vital that we protect it.

Yours faithfully, for and on behalf of the Wensum Valley Alliance

AMC