

APP/21/00893 (Land north of Long Copse Lane, Emsworth) objection.



Commenter type: Complainant

Stance: Object

Comments

I wish to make a further objection to APP/21/00893 based upon the recent guidance from Natural England regarding nutrient neutrality sent to Havant Borough Council in February 2022.

In NE's document "Nutrient Neutrality Mitigation Principles", section 3 says that "Spatially, consideration will need to be given as to the location of any mitigation relative to where the development will have its impact on the habitats site...". The section considers cases in which the wastewater discharge may be direct or indirect to the habitats site. However, in both cases the mitigation site and habitats site are both required to lie in the same catchment.

APP/21/00893 does not satisfy this condition in its updated nutrient neutrality statement (10th March 2022). The ramifications of not following NE's rule are outlined below.

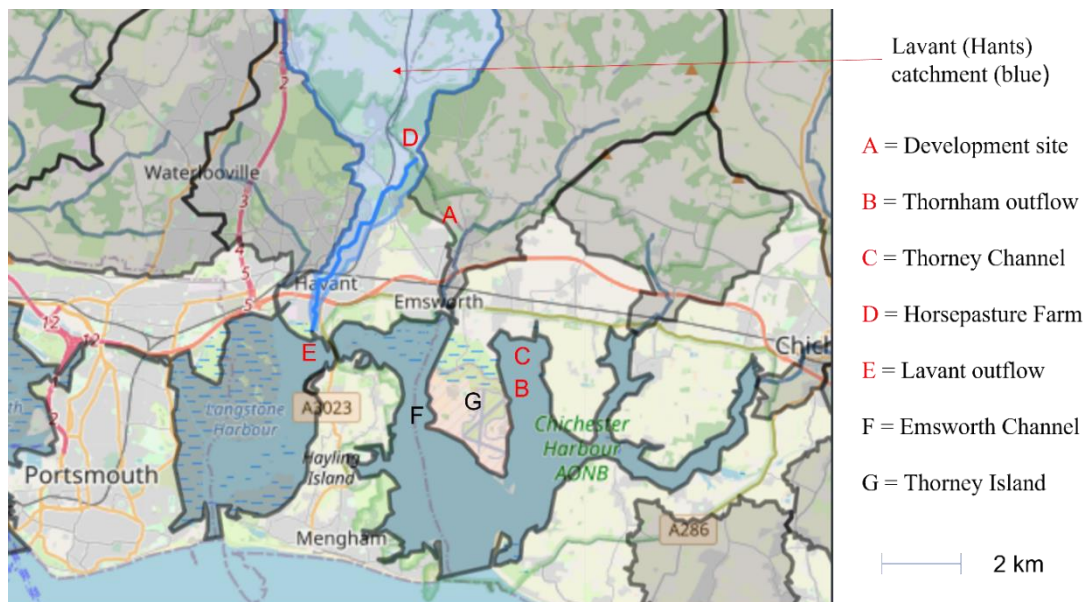


Fig. 1.

The proposed development site for APP/21/00893 is at A in fig. 1. Wastewater from the development would be treated at Thornham Wastewater Treatment Works in West Sussex. Thornham is reaching its volumetric capacity and needs to be upgraded to support future housing growth [1]. Its outfall (B in fig. 1) lies in the Thorney Channel in Chichester Harbour.

The Thorney Channel (C in fig. 1) is a habitats site which is under threat. Seawater flowing through the Channel floods a significant area (5 sq. km.) of intertidal zone (fig. 2). This intertidal zone suffers from problem growths of macroalgae, as with other intertidal areas in Chichester Harbour. Winter concentrations of dissolved inorganic nitrogen (DIN) in the Thorney Channel have exceeded the EA's Water Framework Directive good-moderate boundary for DIN on 5 of the 7 years in the period 2012-2019 [1].

In order to mitigate nitrogen produced from the development, the developer plans to plant woodland on Horsepasture Farm (D in fig. 1) on the Stanstead Estate. Horsepasture Farm is in a different catchment (Lavant (Hants) catchment) to the habitats site in the Thorney Channel. The small Ham Brook catchment drains to the Thorney Channel. These two catchments are not even adjacent to each other, as the Ems catchment lies between them.

In this case, it must be necessary to check that the coastal tidal system can move the water of low nitrogen content from the mitigation site coastal outfall to the habitats site, so that nutrient neutrality is achieved there.



Fig. 2.

The mitigation site outfall is at Langstone in Langstone Harbour (E in fig. 1). Water of lower nutrient content from the outfall may travel west into Langstone Harbour or east into the Emworth Channel. The proportion travelling east is not known, but in order for it to influence the Thorney Channel, it would have to move from Langstone to Emworth (3 km), south down the Emworth Channel for 3 km, travel east past Thorney Island for 2 km, then flow 3 km back up the Thorney Channel to reach the Thornham outfall, a total distance of 11 km (fig. 2).

It could certainly move down the Emsworth Channel on the ebb tide, but then it would meet a large body of water ebbing out of the Thorney Channel and the rest of Chichester Harbour, which would force it into the Solent (fig. 2). There it would be mixed with the general Solent waters. The same would be true for the water of low nutrient content that ebbed from Langstone Harbour.

I surmise that the water flowing back into the Thorney Channel on the rising tide would be unlikely to have a lower nutrient content than before the mitigation took place. Meanwhile the nutrient outflow from Thornham WwTW would have increased if the Long Copse Lane estate was built. The nitrogen budget for the Thorney Channel would therefore be positive, which is what the law arising from the Dutch Case is designed to prevent [1].

In contrast, Havant Borough Council's approach is to treat the East Solent and Langstone and Chichester Harbours as a single unit which must be nutrient neutral. But this ignores the possibility that hot-spots for nitrogen could build up, as could happen in this case in the Thorney Channel, which has a significant intertidal zone of 5 sq. km. The law arising from the Dutch case does not specify a minimum area below which the law cannot be applied.

As justification for their approach, HBC rely on the statement in ref. [1] that it is possible to treat "Langstone and Chichester Harbours and the East Solent as a hydrological unit that has a level of exchange, predominantly at high tide". It is indeed likely that there is exchange between Langstone Harbour and the Emsworth Channel (part of Chichester Harbour), but it is an untested assumption that the exchange extends to the Thorney Channel.

These two scenarios could be compared by undertaking a modelling study to check whether or not a hot-spot would develop in the Thorney Channel. This would involve a computer-based hydrodynamic tidal model driving a water quality model predicting concentrations of nitrogen in the Thorney Channel over many tidal cycles. It should include point sources of nitrogen from Thornham WwTW and the mitigation site outfall. The tidal model would simulate the currents moving the nitrogen around the Solent and Chichester Harbour. If, as I believe, the nutrient budget predicted in the Thorney Channel due to the proposed mitigation was positive, this would show the sense behind NE's rule that the mitigation site and habitats site should both lie in the same catchment.

I am a Senior Research Fellow in a University Department of Geography and Environment Science. In my work I have gained substantial experience working with tidal models in coastal areas.

Yours faithfully,



07/May/2022

Reference

1. Review of the Warblington Farm Mitigation Option for Nutrient Neutral Development in the Havant Borough. Report for Havant Borough Council. Ricardo Energy and Environment. June 2020.