

Further Comments Regarding Groundwater Flooding and Wastewater Management Issues in the Nailbourne / Little Stour Catchment: [CA/23/00484: Outline planning application for up to 300 residential dwellings, Land At The Hill Littlebourne].

Tim Bostock, Littlebourne Parish Council Action Group; Little Stour Monitoring Project

The Little Stour and Nailbourne River Group (LS&NRG) shared with me an excellent paper written by Alan Atkinson, who is both the Deputy Chair of LS&NRG and the Chair of Bridge Parish Council. The paper which is copied below with the author's permission, further highlights the often underestimated but significant social and environmental consequences of flooding and inadequate wastewater infrastructure in the river catchment, affecting local communities. While the main focus is on Bridge, the author acknowledges that the issues discussed are applicable to all villages along the catchment. Mr. Atkinson's paper aligns closely with our ongoing investigation in Littlebourne and other downstream villages (Wickhambreaux and Ickham) over the past two years. Our efforts aim to identify, describe, and quantify the risks posed by proposal CA/23/000484 to local residents, to the Little Stour (and Nailbourne) chalk streams, and various habitats, including designated areas like Stodmarsh SAC, Preston Marshes SSSI, and crucial wetlands along the Little Stour floodplain.

In our previous documents and submissions to Planners¹, we provided factual information from local research and from Freedom-of-Information requests to Southern Water and other agencies. This highlighted existing problems in the wastewater infrastructure along the Nailbourne/Little Stour catchment. The main issue is the infiltration of high groundwater levels into the underground sewage pipes, despite recent remedial works which have had only a limited effect. This situation results in the network becoming inundated and unable to effectively transport wastewater from homes to the Newnham Valley treatment plant in Preston. During prolonged wet periods, the risk of sewer flooding in lower lying households increases, limiting the use of toilets and other appliances. Southern Water's response during such times involves Emergency Measures, including deploying a fleet of large tanker lorries to remove excess wastewater; overpumping of untreated sewage directly into the streams; and closing river access to the public. These measures evidently have serious impacts -both social and environmental- and are graphically described in Alan Atkinson's paper.

Our own enquiries with Southern Water provided data on the number and volumes of untreated tanker transfers from the villages and the final discharge site(period Apr 2019 to Feb 2022; EiR 1110, 2022). **Over 10 million litres (10,000 tons)** of raw, untreated sewage was taken from Newnham Valley catchment villages for discharge almost all at Canterbury's treatment works situated directly upstream of Stodmarsh. **Around 500 road tankers** were deployed during this period. Thus, a significant proportion of the wastewater from the Nailbourne and Little Stour catchment in fact currently contributes to the pressing nutrient issues at Stodmarsh².

The escalating risk of additional groundwater-related flooding in the year 2023/24, evident from current groundwater levels at the Little Bucket borehole (<https://www.gaugemap.co.uk/#!/Map/Summary/10943/6319>), and the consequent threat posed by inadequate wastewater infrastructure to the Little Stour chalk stream and the wellbeing of river valley residents, strongly supports the argument against any large-scale development in this catchment. This is particularly true in a scenario where the wastewater infrastructure is already overwhelmed and there is no prospect of a timely resolution in the near future. Our contention remains that alternative wastewater solutions, such as onsite treatment plants, carry their own severe risks to the integrity of Little Stour and its associated downstream habitats (see *Final October 2023 Gladman Response, Tim Bostock, Oct 25*)

¹ e.g. *Impacts of Development in the Nailbourne / Little Stour Catchment on the Stodmarsh designated sites and priority/designated river habitats, Tim Bostock 2022.*

² These remain a considerable concern to regulators / competent authorities especially Natural England and Environment Agency

Alan Atkinson's Paper

The Nailbourne River in December 2023 - A Bridge Perspective.

Basic Background

The Groundwater level rises and falls according to known vectors: the rainfall of the previous two or three months causes the level to rise, and vegetation, particularly trees in leaf, growing again once the ambient temperatures warm up after winter, results in groundwater levels falling. Once the level is high enough, springs erupt onto the surface, sometimes in unusual places, and that water exits the valley via the Nailbourne. Too much spring water, augmented by heavy rainfall causes the Villages to be flooded. Lesser levels still cause difficulties as the pipework of the sewer system within the earth is not always capable of withstanding the extreme pressures of the water in the ground, which forces its way into the sewer system via any cracks. With the pipes full of a little sewage and a great deal of groundwater, there is no possibility of it taking additional household wastewater of any description; thus the system fails and must be emptied, either by tankers or by pumping out into the watercourse.

The water company, Southern Water, has done some work within the Nailbourne Valley in recent years, and the evidence that it has had some effect is that the trigger points, those groundwater levels at which matters require tanker operations or over-pumping, have risen.

Tanker operations involves physically pumping out the sewage and groundwater from the pipework, and driving it, usually to the treatment works at Sturry to make space in the local sewer system.

Overpumping is when a section of sewer is partially emptied by pumping the contents out via hoses at the surface, usually out of one section and into another less full section further down the system, but, in extremis, just into the watercourse, with precautions to clean up the material depending upon quite how difficult the situation is at the time.

The current trigger points for tanker operations and over-pumping sits at 80 metres, from when we begin to be caused problems, and we experience significant difficulties from levels of about 86m above base.

However, before that point is reached, the Demountable barriers are put in place at Barham, and the ford barrier is erected at Bridge and other fords and roads become impassable at various points within the Valley. That has already happened, and as a result, the first level flood alert has been issued by the E.A. It is the only way that we can quickly alert those who are most responsible to be informed as to the disruption we here regularly face as a result of the GW flooding.

The Environment Agency (E.A.), the District (C.C.C.), and the Little Stour and Nailbourne River Group, (the River Group), have also worked up a set of engineering projects to assist with the flood defence effort, but much of their work requires funding from Central Government, and with comparatively few residents in this part of Kent, the cost/benefit analysis seldom scores very well in comparison with projects elsewhere in the country. So few of the more ambitious projects have been worked up, or, indeed, are likely to be, which reverts back to the idea of the Flood alert.

The 2014 event: the last big flood

I invite you to view the images from previous times at [Alan Atkinson's albums | Flickr](#) especially at

[Project for Nailbourne River Group | Flickr](#)

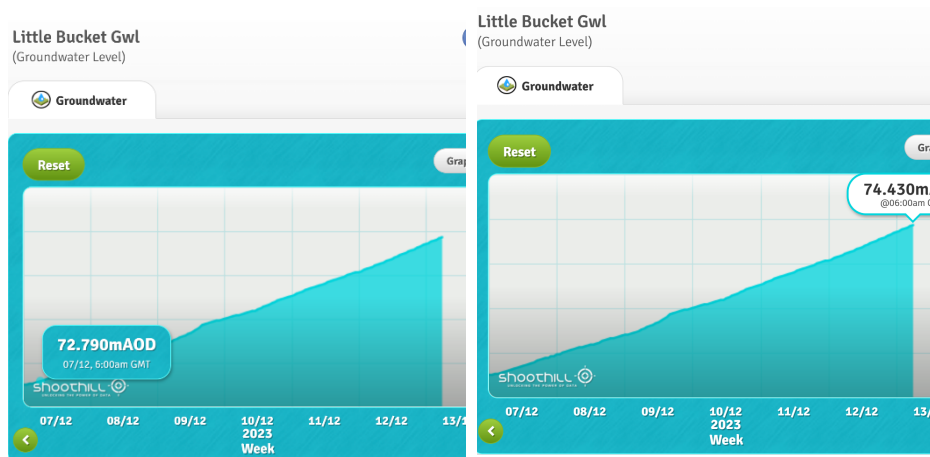
[February 1st 2014 Nailbourne Flood | Flickr](#)

[Groundwater Flood | Flickr](#)

The commentaries around the images set out how and why such flooding events have such an impact upon the local areas: I apologise for the images being centred around Bridge and Patribourne; I was most busy here, and getting out was not always easy. The springs might erupt into basements and through road surfaces; the tankers employed are huge for these small roads, they are loud and need to have their heavy diesel engines running to operate their pumps, often needed in residential areas and at anti-social times; the hoses restrict, or close, roads; the higher river levels, fed by the springs, close fords; the sewage system becoming inundated prevents residents from using their household waste water services; and the sewage and suchlike that ends up polluting the local waterways is, of course, unacceptable in any civilised society.

In 2014, the high groundwater levels had caused the river to fill, and springs to erupt into the field behind the church, causing a large pond to appear. Then, over the course of a weekend, the very full river, in conjunction with a further heavy downpour finally had the water burst out of the Nailbourne above Bridge Place, (now perhaps better known as The Pig). The water ran down into Brewery Lane, then underground via the street drains (gulleys) at the High Street/Brewery Lane junction, which emptied the water back into the river just beyond the Red Lion. But several places in Bridge were flooded, especially those along Brewery Lane. And other local villages were similarly affected.

Current situation

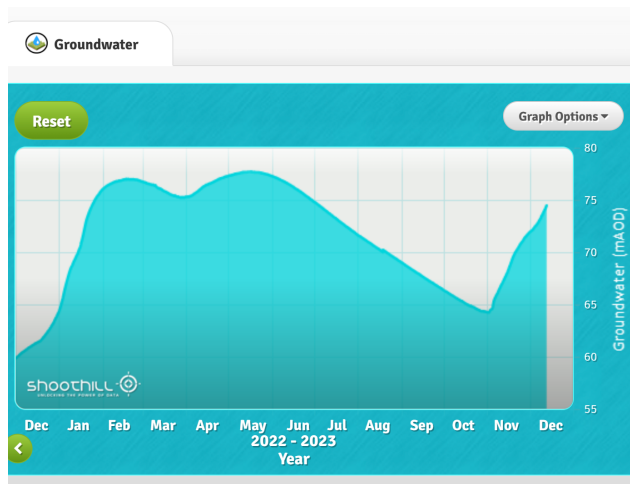


These are the figures for one week in early December:

Six days, 07 Dec 2023 to 13 Dec 2023: GW level risen from 72.79 to 74.43 m above the base figure.

Average rise of 0.273m per day, so 1.91m a week, almost 2 metres a week.

[Revised 22nd Dec : reading 77.0m, so now rate of rise marginally over 2m per week.]



Last year, the steep recharge rate started mid December from 60m above the base; this year that steep recharge began in early November, from a base of about 64m above base.

Moving into season Winter 2023

My concerns are that this current recharge period does seem to follow the pattern of 2013-14, which, as can be seen from the photographs, led to significant local disruption around February 2014.

Now, at 22nd December 2023, and with the current groundwater level of 77m, and that rising by 2m per week, I expect a level of c.86m before the end of January 2024.

If the groundwater level approaches 86m, it would be sufficient to already be causing considerable local difficulties.

Obviously, there can be no certainty that there will be flooding, nor that the improvements to the river's banks following 2014 would fail allowing the water to flow out freely. However, it has been notably wet, and there is likely to be further periods of unsettled weather in the coming months.

Furthermore, the warm weather starts again around the start of March, which is perhaps 12 weeks away, and so I am concerned that this season may prove challenging even with only normal rainfall levels between now and Spring 2024.

The sandbag stores should be checked, and, if necessary, replenished, (some bags might have rotted). Sandbags should not to be deployed piecemeal to residents: they are to be used to weigh down the plastic sheeting to prevent water entering homes, and only deployed once the flooding is definitely expected imminently.

Residents should be encouraged to register with Floodline so that they might obtain timely alerts from the E.A.

Contact lines with Liam Woolterton at CCC, and with Ian Nunn at the E.A., and with the River Group, and with Max Tant at K.C.C. should be established in advance of mid January. Contact also should be established with Southern Water, although with their recent staff changes, I am not sure now who at Southern Water would make the best point of contact.

Regular updates for Bridge residents should be displayed on our website, and other Parishes perhaps should do something similar for their residents.

Property owners might be encouraged to install flood-gates, and to arrange to have the water company install one way valves to any properties that have previously been subjected to flooding or to sewerage difficulties caused by the rising ground water.

This is not a most urgent matter, we have a few weeks yet, but to be sensibly prepared might require that time, and I would urge you to consider action now.

Alan Atkinson

Chairman, Bridge Parish Council

Deputy Chair, Little Stour and Nailbourne River Group.

13th December 2023 *(and updated with data on 22nd December)*