

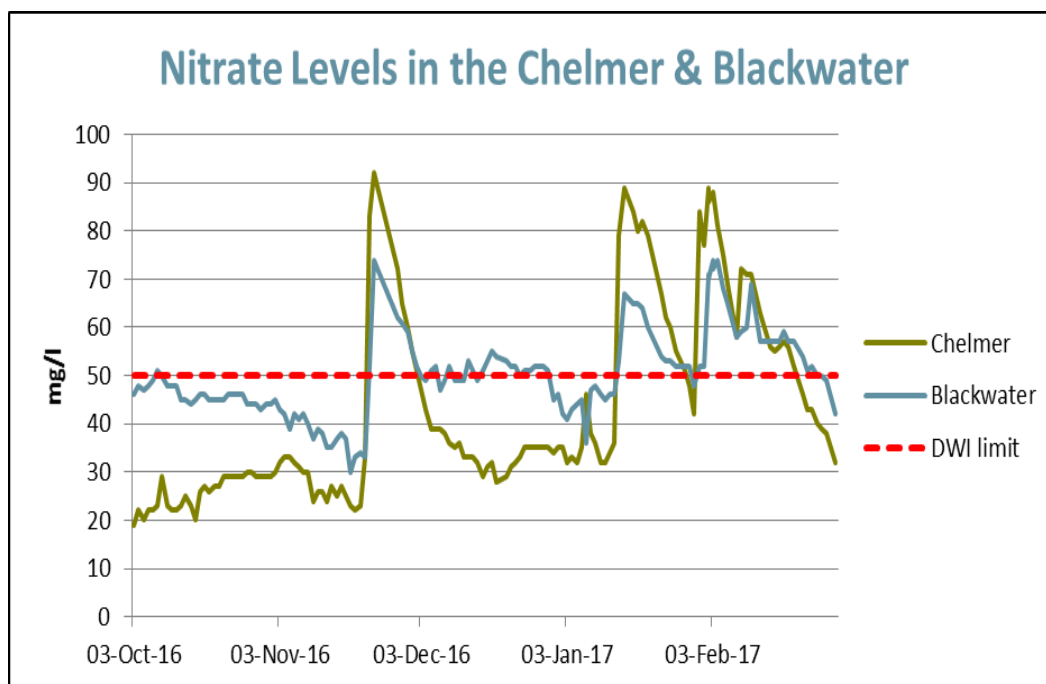
Thomas Harris – Catchment Advisor  
PO Box 969, Chelmsford, Essex, CM2 0XL

E-mail Address: [thomas.harris@nwl.co.uk](mailto:thomas.harris@nwl.co.uk)  
Contact Numbers: 01268 664403 or 07792 169545  
Visit: [www.chelmerandblackwater.org.uk](http://www.chelmerandblackwater.org.uk)

## Nitrate – The Gift That Keeps On Giving (Thomas Harris)

Looking back over the last 6 months or so conditions haven't exactly been 'typical'. We experienced an exceptionally dry autumn until the later part of November when Storm Angus hit and 40mm of rain fell in 3 days (measured at Langford). To put this into context, those 3 days accounted for 34% of the total rainfall seen since the beginning of July. Of course this meant we enjoyed a fairly fluid harvest and drilling season compared to previous years. However autumn decision making was then impacted with many crops slow to get going due to the lack of moisture.

From a water quality and resourcing perspective this has also been an 'unusual' period. During the autumn and winter we are generally on the lookout for metaldehyde in the catchment. Although we did see a substantial spike across the catchment as a result of Storm Angus (0.98µg/l at its highest in the Chelmer), this was fairly short lived and the catchment was back below the 0.1µg/l limit within approximately 10 days. Slug activity was obviously reduced as a result of the dry autumn and it is good to see that applications of metaldehyde have been adjusted accordingly. In addition there were no notable peaks in the other pesticides that we are regularly monitoring for and this will be in part down to improved practices across the catchment – rest assured, it makes a difference.



Instead nitrate has posed the biggest risk to water quality over recent months and this is something that we haven't really seen since NVZ's were introduced. Nitrate peaked at 92mg/l and 74mg/l in the Chelmer and Blackwater respectively directly after Storm Angus. For the Chelmer this was the highest nitrate observation in 10 years. You can see from the graph that the catchment, particularly the Blackwater, have only recently begun to recover from this event. We are unable to effectively remove nitrate, so

from an abstraction point of view this has had a drastic impact on the security of water supply in the catchment, particularly when coupled with the low autumn rainfall.

Theories as to the contributing factors leading to this unprecedented event include:

- Autumn crops slow to start or failed altogether – as a result available nitrogen in the soil was not utilised for autumn growth.
- Increase in legumes grown for CAP greening and WOSR replacement – this may have inadvertently increased soil mineral nitrogen following crop harvest.
- Low autumn rainfall – nitrate normally leaches gradually over the course of the autumn, instead it was essentially 'banked' until Storm Angus in November.
- Reports of 'lush' crops following WOSR – an indication of higher than normal soil mineral nitrogen following underperforming rape crops.

You can see the relationship between all of these factors and how the problem may have occurred as a result of a combination of the above. Substantial rainfall events sandwiched by comparatively dry intervals seem to be becoming a more prevalent feature in the UK climate and it is important for us all to consider the effect that this has on nutrient and pesticide concentrations in water. Fortunately, since the start of the year rainfall has returned to far more 'typical' levels and subsequently nitrate levels in the catchment are now beginning to fall. So as spreaders and sprayers are being put to work, please spare a thought for water quality to help ensure this downwards trend continues.

### Points to Consider:

- When applying nitrogen in late spring consider the requirements of the following crop.
- Be particularly careful where a spring crop is next in the rotation to minimise 'storing' N over winter when the leaching risk is high.
- Be realistic about the yield potential of the current crop and its N requirements.
- When drilling, prioritise land following peas or beans to exploit the 'boost' from fixed N.

### Free Spreader Calibrations –

Fertiliser spreading this spring is already well underway. As always you should ensure your machinery is correctly calibrated and spreading as it should be, particularly when applying to headlands or near watercourses – this is especially important given recent water quality trends in the catchment. We are able to offer a limited number of calibrations through SCS this spring. If you feel your farm would benefit from an NSTS accredited calibration please register your interest via the contact details below by the 11<sup>th</sup> May.

E-mail Address: [thomas.harris@nwl.co.uk](mailto:thomas.harris@nwl.co.uk)

Contact Numbers: 01268 664403 or 07792 169545



### Greetings from your new Catchment Advisor -

This is my first newsletter as Essex and Suffolk Water's Catchment Advisor for the Chelmer and Blackwater. I have been in the role since late January and have met a small handful of you already, either at the Essex Farm Business Update or on a 1:1 basis.

As far as the Chelmer & Blackwater Catchment Partnership is concerned it is business as usual. Please keep your ear to the ground for upcoming events which I will communicate either through this newsletter, by email or on the website. If you would be interested in a free 1:1 farm advisory visit or require any help or guidance with regards water quality or environmental issues, please don't hesitate to contact me via any of the channels at the head of this newsletter.

I look forward to working with you over the coming months and years.

**Thomas Harris**

The Chelmer and Blackwater Catchment Partnership is supported by: