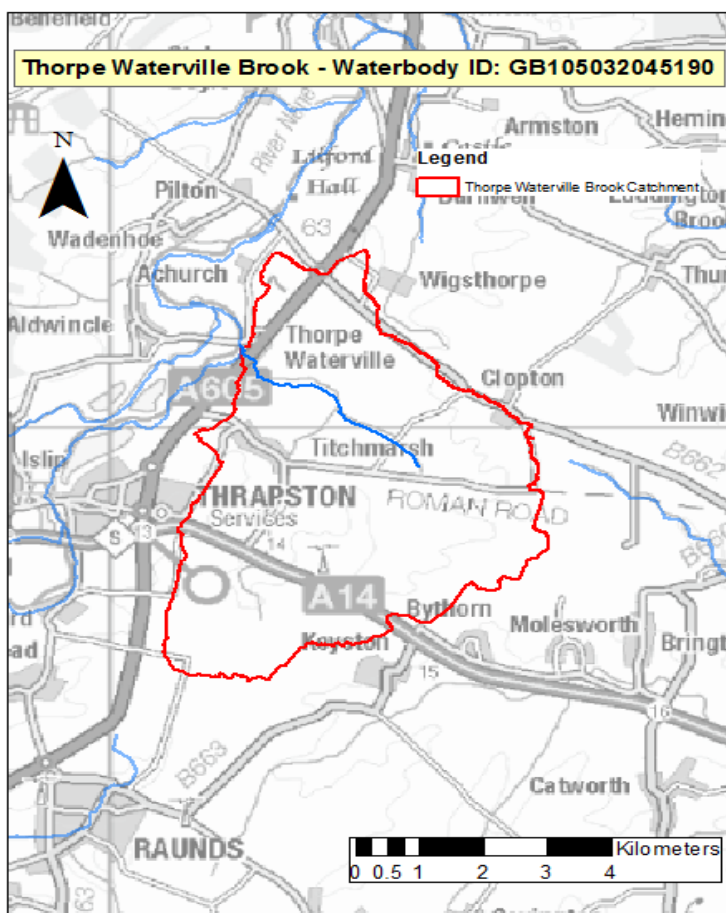


Thorpe Waterville Brook - GB105032045190

Water Quality Bulletin

Map of the catchment



The Catchment

The Thorpe Waterville Brook is a tributary of the river Nene. The catchment area for this watercourse is highlighted in red on the adjacent map.

This waterbody flows in a north western direction and connects to the River Nene by Thorpe Waterville.

The catchment is rural, with agriculture as the predominant land use. A couple of small villages lie in the catchment, though there are no significant urban areas present.

This bulletin provides a summary of the available water quality data and some of the key features and environmental issues.

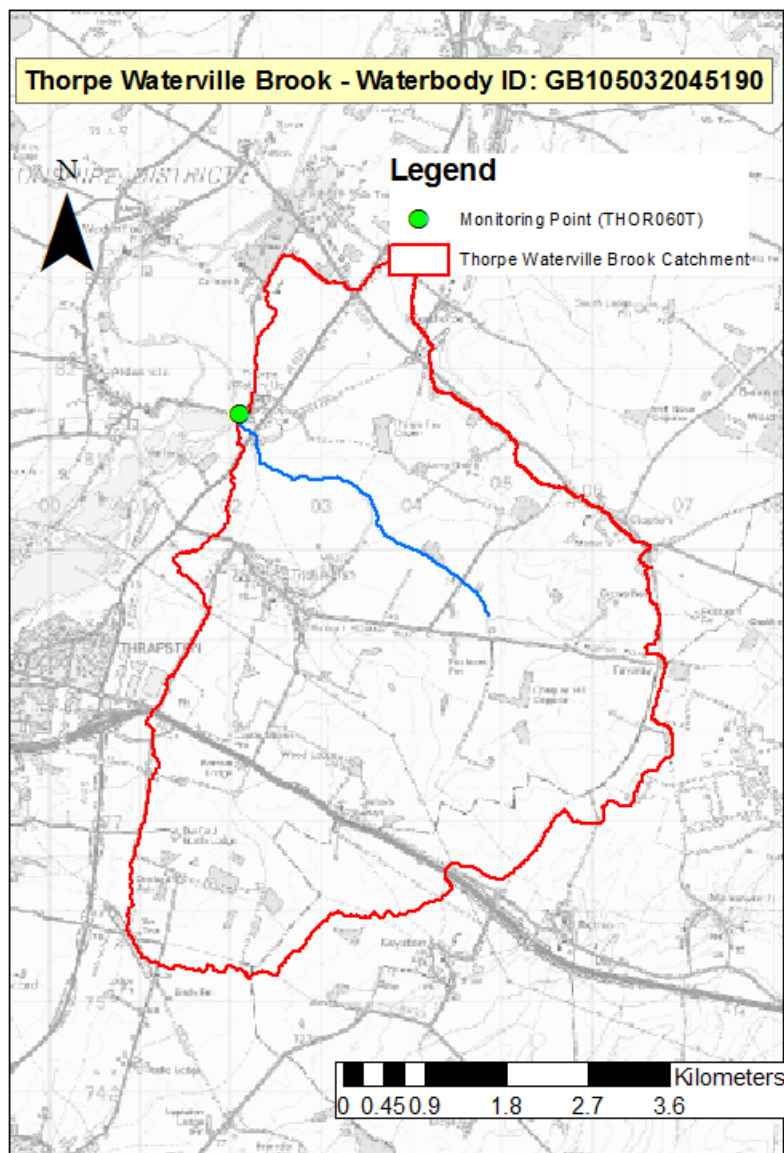
Current Status

The Thorpe Waterville Brook (GB105032045190) was classed as Poor status under the Water Framework Directives (WFD) in 2016. The WFD requires that all waterbodies achieve good status by 2027, therefore this catchment has been identified as a priority within the Nene operational catchment.

The ecological status of this catchment was classed as Poor in 2016. The objectives are to reach moderate by 2027. Other elements that are failing under the WFD include invertebrates, macrophytes, dissolved oxygen and phosphate which are all classed as Poor.



EA Monitoring points



The map above shows the WFD monitoring point (sample ref: THOR060T) for the Thorpe Waterville Brook, which is situated at the confluence of the waterbody before flowing into the River Nene.

Phosphate

The Environment Agency monitors data on phosphate concentrations in the Thorpe Waterville Brook at the monitoring point THOR060T.

Nationally, phosphate is the most common failing element under the WFD. The target for good status is calculated on a site specific basis. This is set at 0.091 mg/l at the THOR060T monitoring site, which takes into account other waterbody characteristics. The WFD target for this waterbody is to achieve moderate status by 2027.

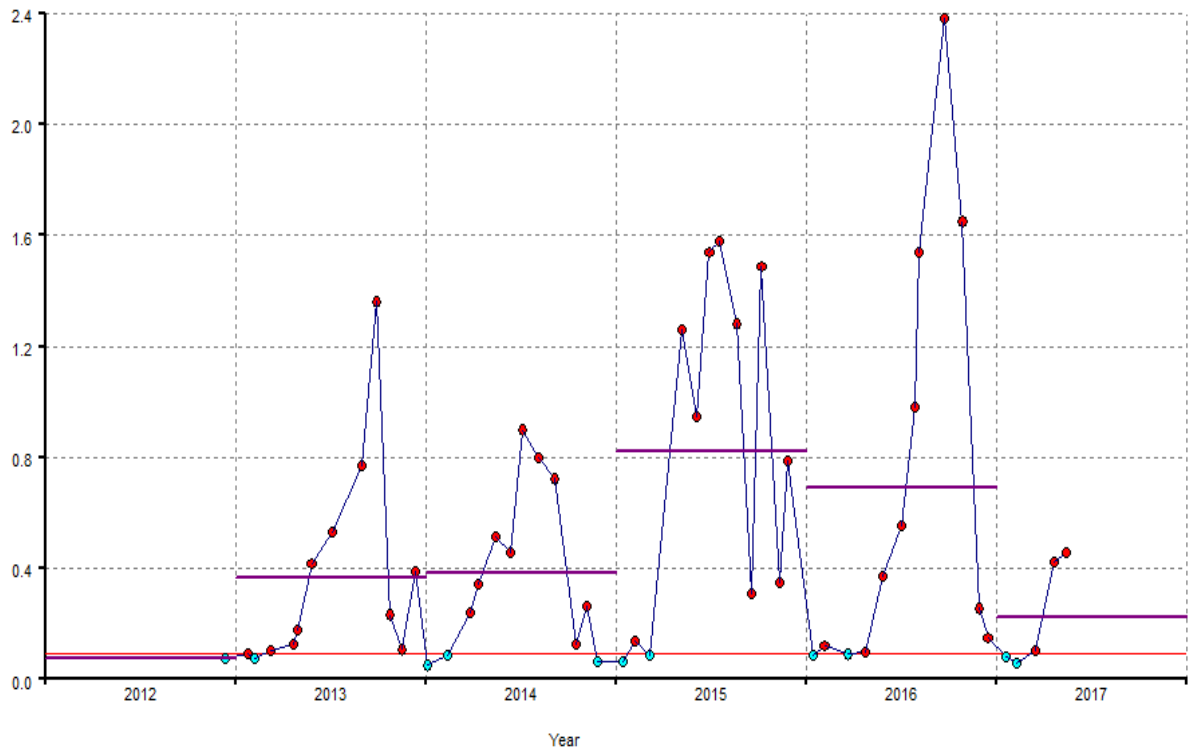


Time Series Plot - 0180 Orthophosphat mg/l

11-12-2012 to 11-05-2017

THOR060T; THORPE BK. THORPE W'VILLE BR.

0180 Orthophosphat mg/l



The time series graph above shows the orthophosphate trends over a 5 year period. The purple lines represent the mean, whereas the red line represents the good status limit for phosphate.

Phosphate can originate from a range of sources, such as from treated sewage effluents and agricultural sources. Reducing soil erosion and runoff is therefore a useful way to reduce this nutrient input into rivers.

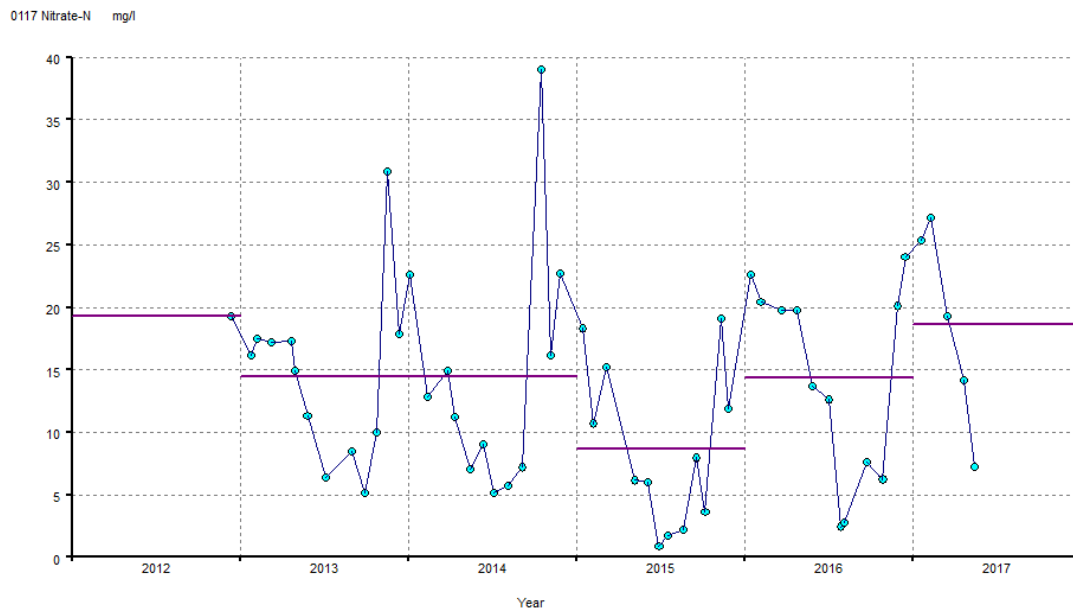
Phosphate can also enter from manure and fertilisers and erosion of soil carrying phosphate attached to clay particles and organic matter.



Nitrates

The catchment area of the Thorpe Waterville Brook is in a Nitrate Vulnerable Zone (NVZ), as is most of the country. Surface waters are considered to be polluted by nitrates when the recorded value exceeds 50mg/l. The graph below shows that nitrate concentrations are below this threshold.

Time Series Plot - 0117 Nitrate-N mg/l 11-12-2012 to 11-05-2017
THOR060T; THORPE BK. THORPE W'VILLE BR.



Nitrate pollution issues can occur when inappropriate application rates, or timing of applications occur. The excess runs off and can find its way into drinking water sources, rivers and lakes. European legislation states that drinking water should not contain more than 50 milligrams of nitrates per litre of water.

Ammonia

The WFD good status limit for ammonia is 0.6mg/l. The graph below shows that current levels in the Thorpe Waterville Brook have been well below this limit over the past 5 years. The red line in the graph represents the High status limit which is at 0.3mg/l, which is only exceeded on two occasions in 2015.

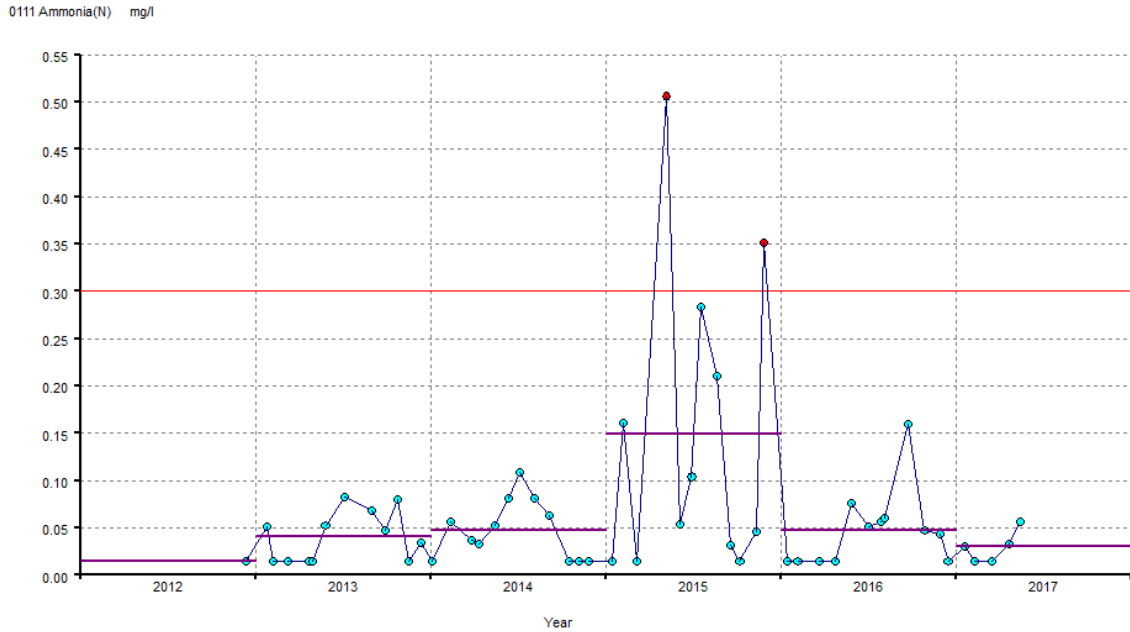
Inappropriate application rates or timing of application can result in leaching to watercourses.



Time Series Plot - 0111 Ammonia(N) mg/l

THOR060T; THORPE BK. THORPE W'VILLE BR.

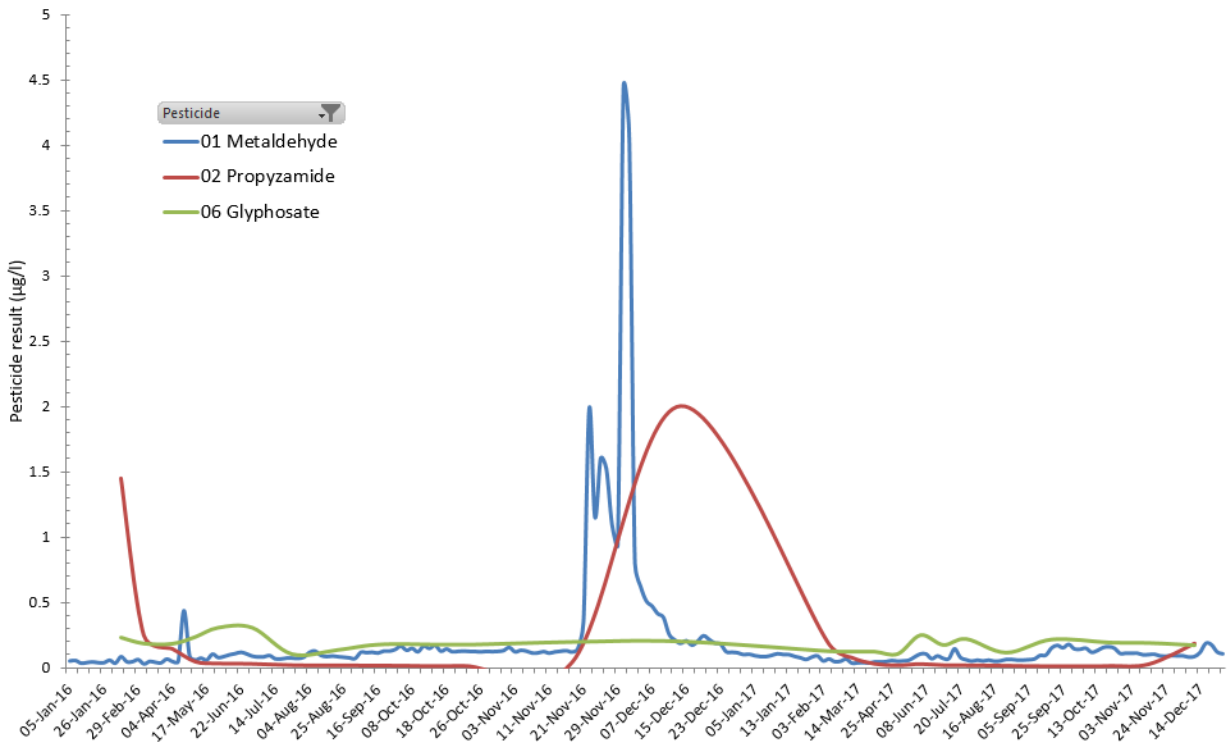
11-12-2012 to 11-05-2017



Pesticides

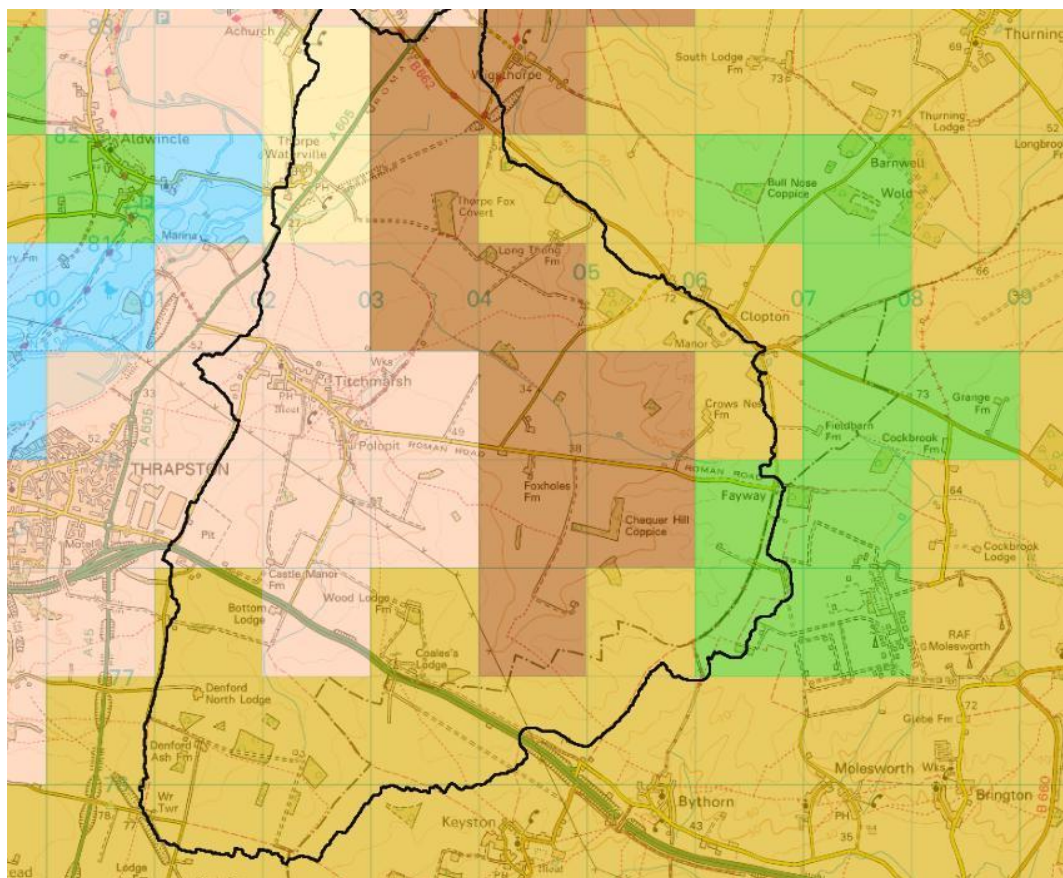
The drinking water limit for any pesticide is 0.1 µg/l. There is no monitoring in the Thorpe Waterville Brook for any pesticides, however levels are monitored downstream on the Nene at Wansford.

Wansford Top Pesticides, 2016-2017





Soils



Key

Soil Name	Map Colour	Description	Leaching Potential
Moreton	Reddish brown	Clayey over limestone	High
Oxpasture	Dark Brown	Deep loam to clay	Intermediate
Hanslope	Dark Yellow	Deep clay	Intermediate
Ragdale	Green	Wet deep clay	Low

Groundwater

The catchment area of this waterbody falls over the groundwater body of Northampton Sands (GB40501G445500), which is classified as good status. In addition to surface waters, the WFD requires that the status should not deteriorate, this includes ensuring that groundwater does not become polluted by nitrates, pesticides or other pollutants.



Other Information

This water quality bulletin was produced as part of CSF. More of these local catchment water quality bulletins can be found at:

<http://www.rivneneregionalpark.org/projects/catchment-sensitive-farming-csf>

Catchment Sensitive Farming (CSF)

This catchment is in a CSF area under the Welland and Nene Catchment Partnership. CSF aims to reduce diffuse pollution from agriculture. This means farmers in this catchment have access to free advice, workshops and training events to assist with soil, nutrient and pesticide management, as well as priority access to funding through the CSF Capital Grant Scheme.

To find out more contact:

Tel: 01536 526438

Email: kathryn@rnrp.org

Web: <http://www.rivneneregionalpark.org/projects/catchment-sensitive-farming-csf/>

For more information about water quality in your catchment, or to book a pollution prevention advisory visit please contact your local Environment Agency officer, Jo Gass, on

Tel: 07768 276779

Email: jo.gass@environment-agency.gov.uk

Campaign for the Farmed Environment (CFE)

The priority in Northamptonshire is surface water protection. The CSS options that contribute are:

- Buffer strips - to slow, filter and trap pollutants (soil, nutrients and pesticides)
- Cover crops - to reduce leaching of nutrients
- Field corners - to reduce overland flow and erosion of soil

To find out about free events or to get more information, contact your local CFE advisor Louise Richmond on 07713 333192 or louise.richmond@cfeonline.org.uk

Voluntary Initiative

Information regarding responsible pesticide use and how to keep them out of water can be found at:

<https://voluntaryinitiative.org.uk/water/advice/>

Metaldehyde Stewardship Group (MSG)

For more information on the MSG's campaign 'Get Pelletwise' please visit their website:

<https://www.getpelletwise.co.uk/>

Or for general enquiries they can also be contacted on: Tel. 0845 177 0117

In addition to best practice guidelines for farmers, the website offers advice on issues such as dose rates and machinery settings.

What's In Your Backyard? (WIYBY)

Check for Drinking Water Safeguard Zones (SgZs) and NVZs on the What's In Your Backyard (WIYBY) mapping system from the Environment Agency:

<https://environment-agency.cloud.esriuk.com/farmers/>



Magic Map

Magic Map is a useful mapping system which includes local designations, agri-environment schemes, geology, soils, landscape classifications etc. It also has aerial photography and other mapping functions. It is accessed via:

<https://magic.defra.gov.uk/MagicMap.aspx>

What can you do next?

If you would like to collect some of your own water quality data, arrange a free Catchment Sensitive Farming visit, or simply to discuss the issues further then please contact the Nene Catchment Partnership team at the RNRP offices (see CSF section for details).