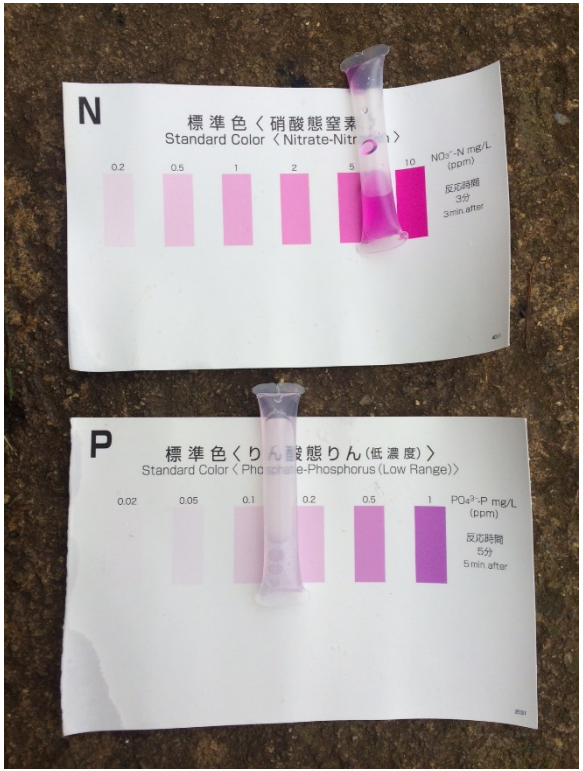
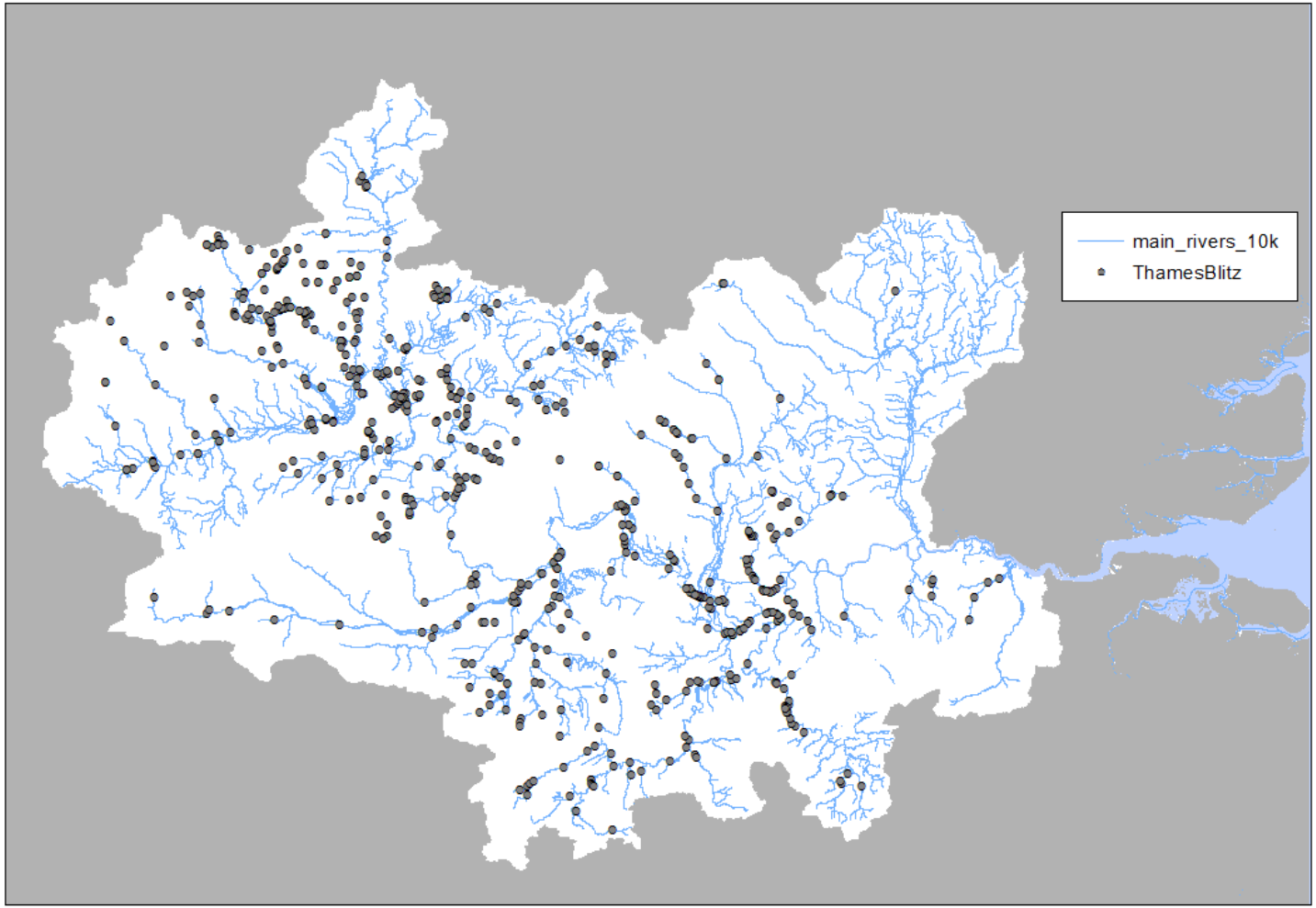
Thames Catchment Water Blitz

1 day
>100 volunteers
630 locations
1260 samples

Thames Catchment Water Blitz

- Thames catchment-wide
- Phosphate and Nitrate
- Simple monitoring approach
- Sources (springs), pathways (ditches, brooks, streams) and receptors (rivers)
- Partnership and open source data collection approach

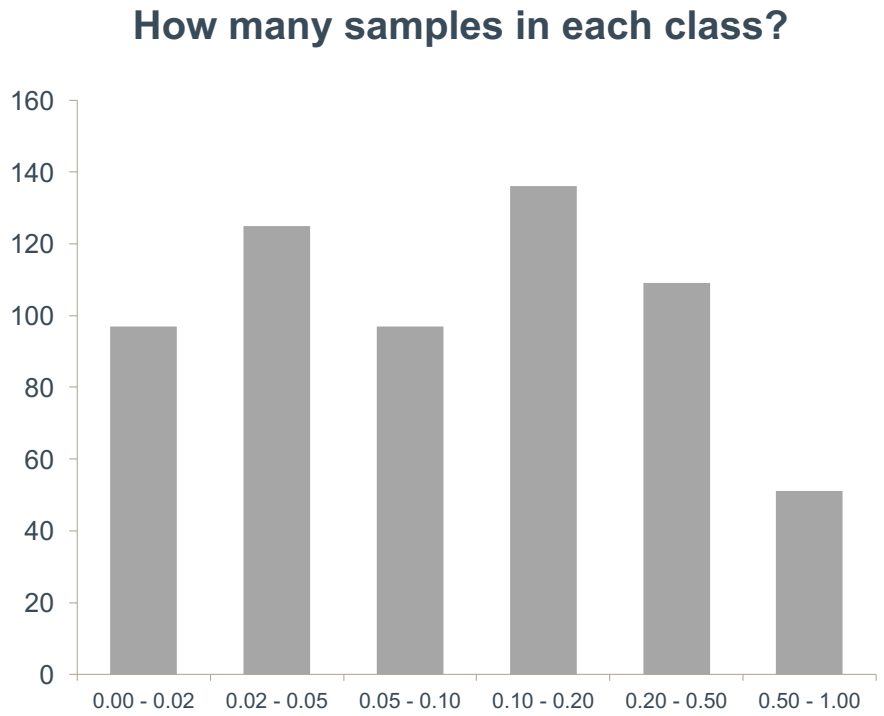




ATKINS

Phosphate results

This chart shows how many of the Water Blitz samples fell into the different phosphate classes shown on the calibration sheets.



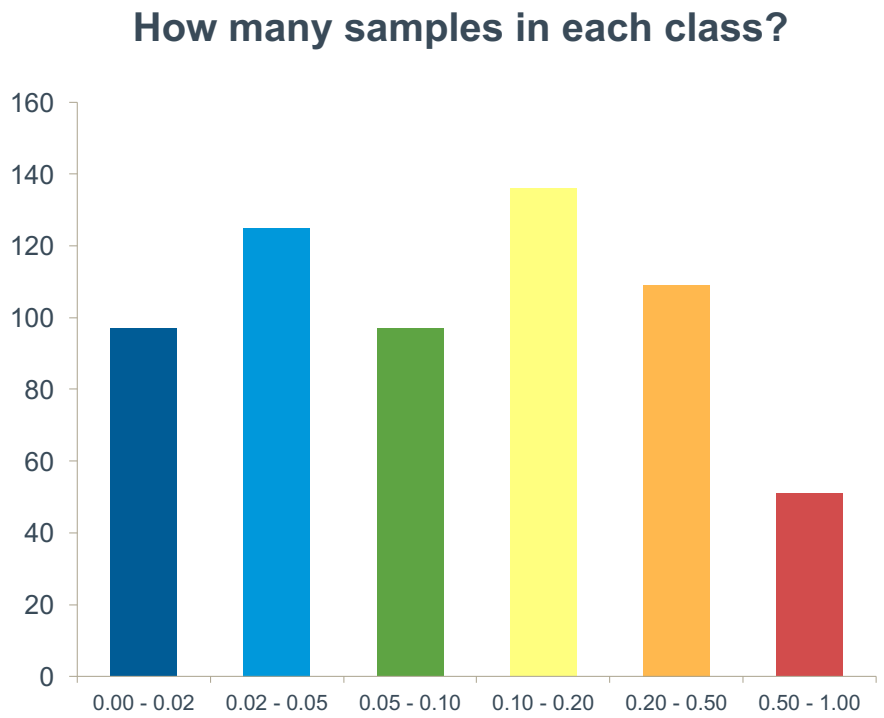
ATKINS

Phosphate results

This chart shows how many of the Water Blitz samples fell into the different phosphate classes shown on the calibration sheets.

These classes can be colour coded using a traffic light system similar to the one used by the Environment Agency and others to describe water quality in our rivers.

Blue and green colours are used to describe high or good water quality, whereas yellow, orange and red can be used to describe progressively higher amounts of phosphate in the water.



ATKINS

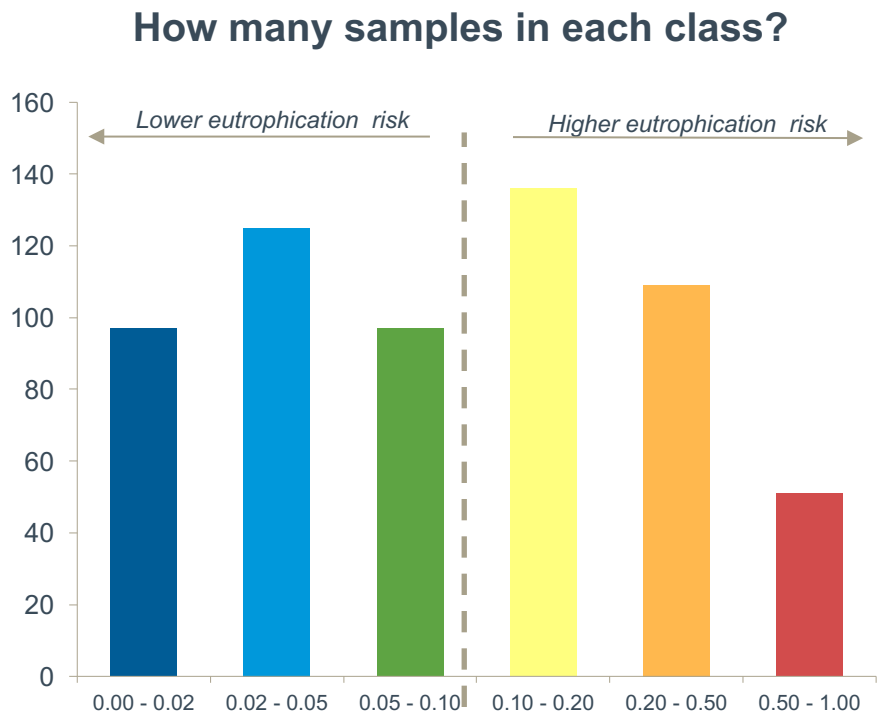
Phosphate results

This chart shows how many of the Water Blitz samples fell into the different phosphate classes shown on the calibration sheets.

These classes have been colour coded using a traffic light system similar to the one used by the Environment Agency to describe water quality in our rivers.

Blue and green colours are used to describe high or good water quality, whereas yellow, orange and red are used to describe progressively higher amounts of phosphate in the water.

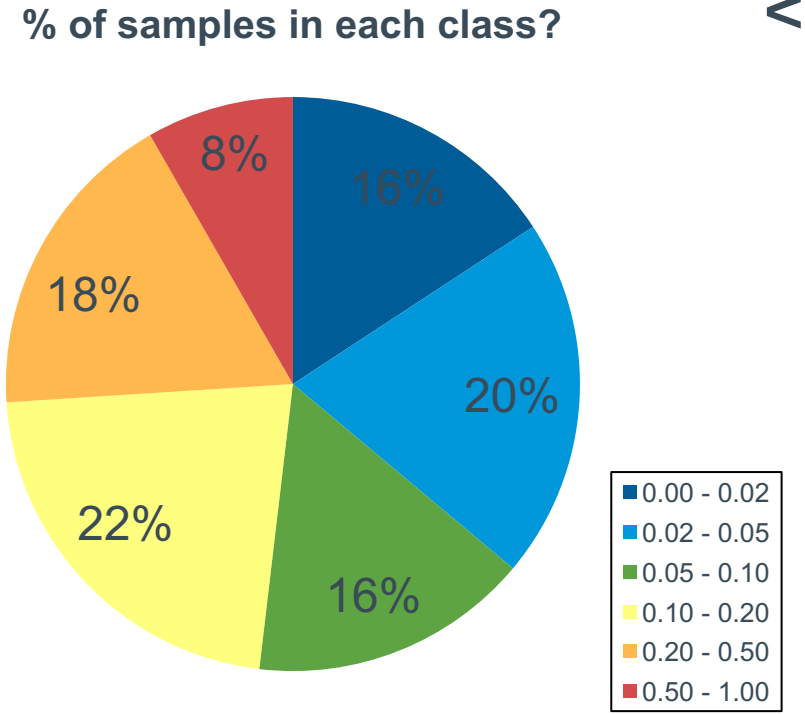
Research in the Thames catchment has shown that phosphate concentrations in our rivers need to be less than 0.10mg/l to reduce the risk of eutrophication.



Phosphate results

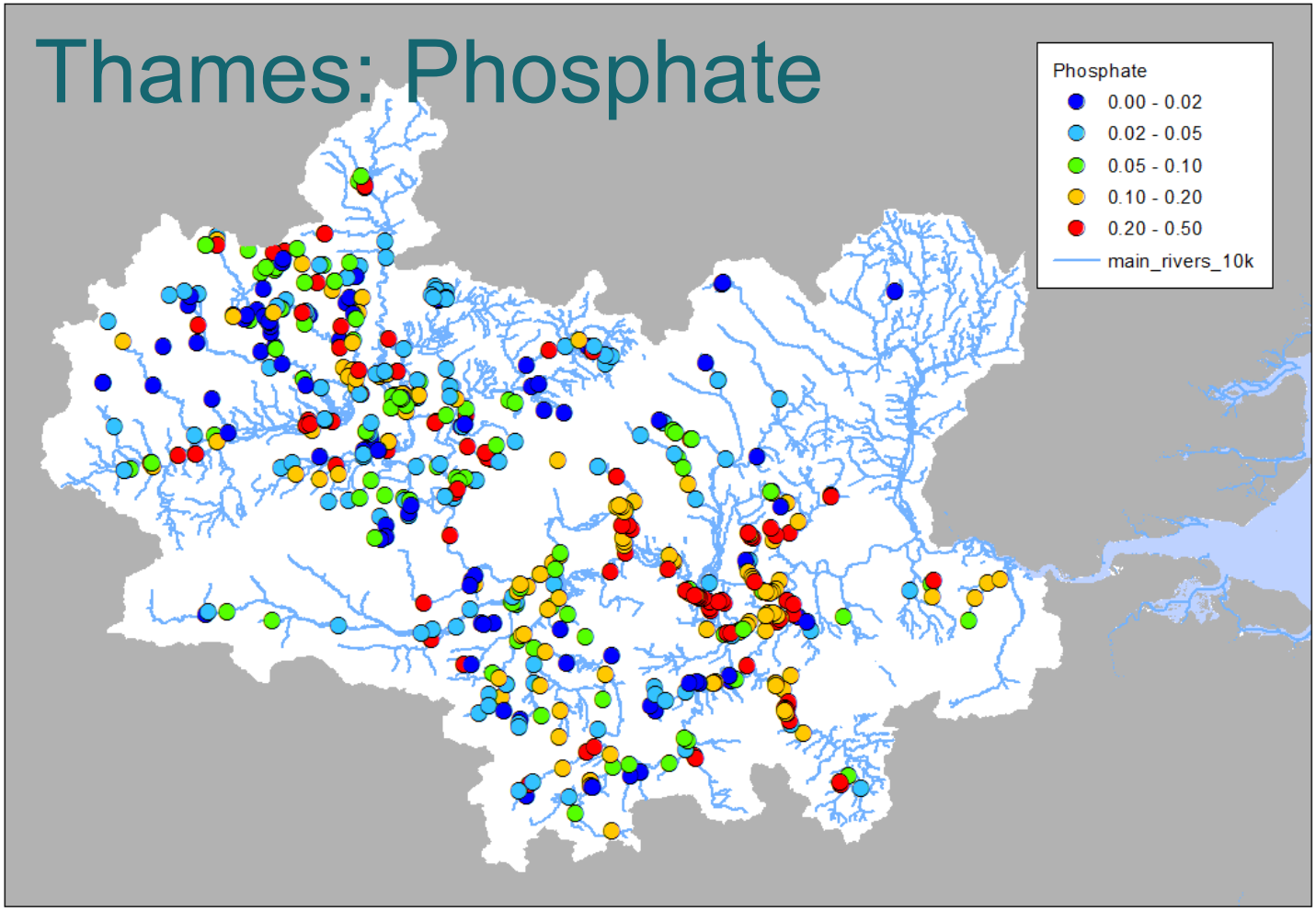
Research in the Thames catchment has shown that phosphate concentrations need to be less than 0.10mg/l to reduce the risk of eutrophication

Overall, about half the samples were in the high or good categories and half were in the moderate to bad categories



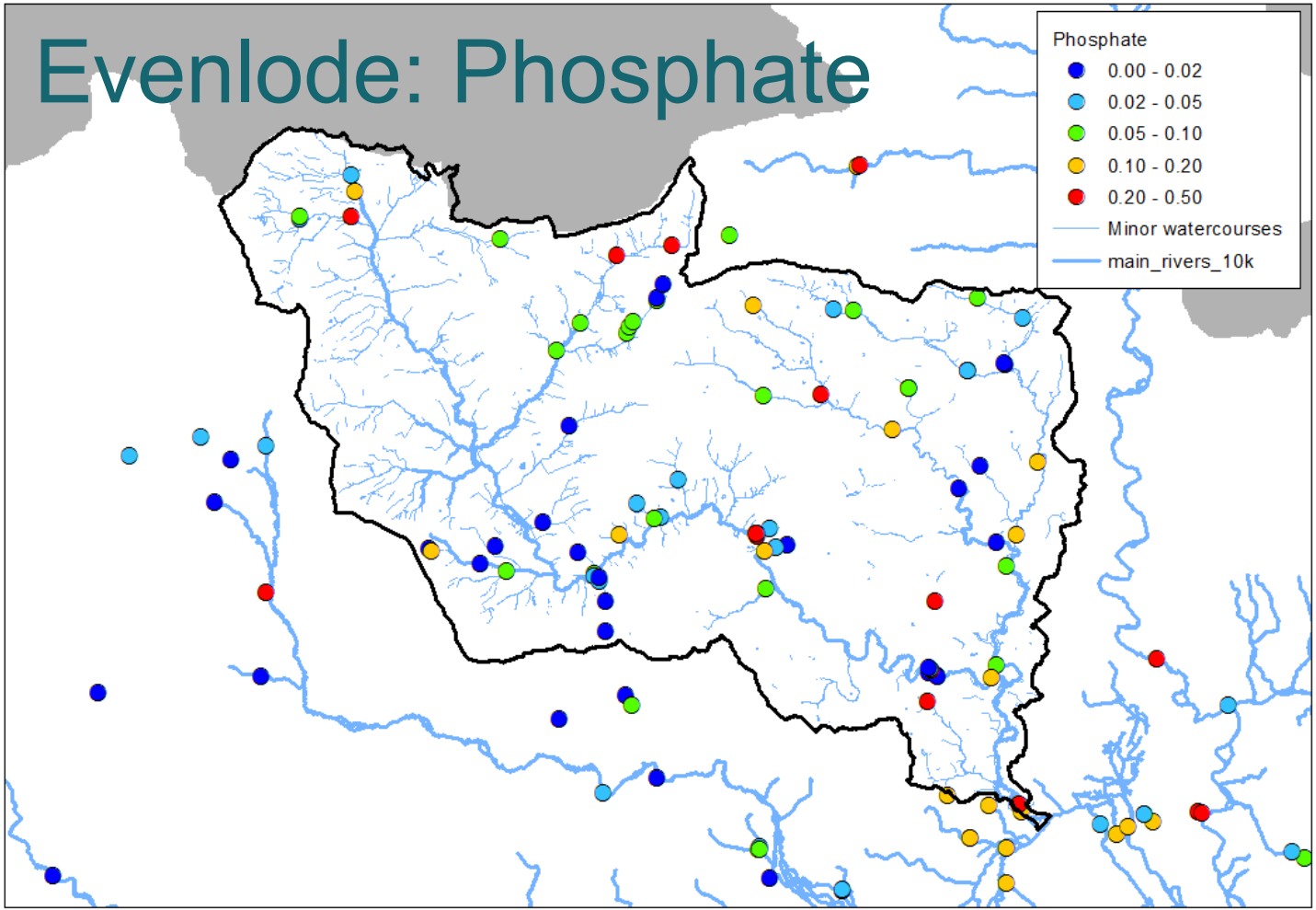
ATKINS

Thames: Phosphate



ATKINS

Evenlode: Phosphate



ATKINS

Nitrate

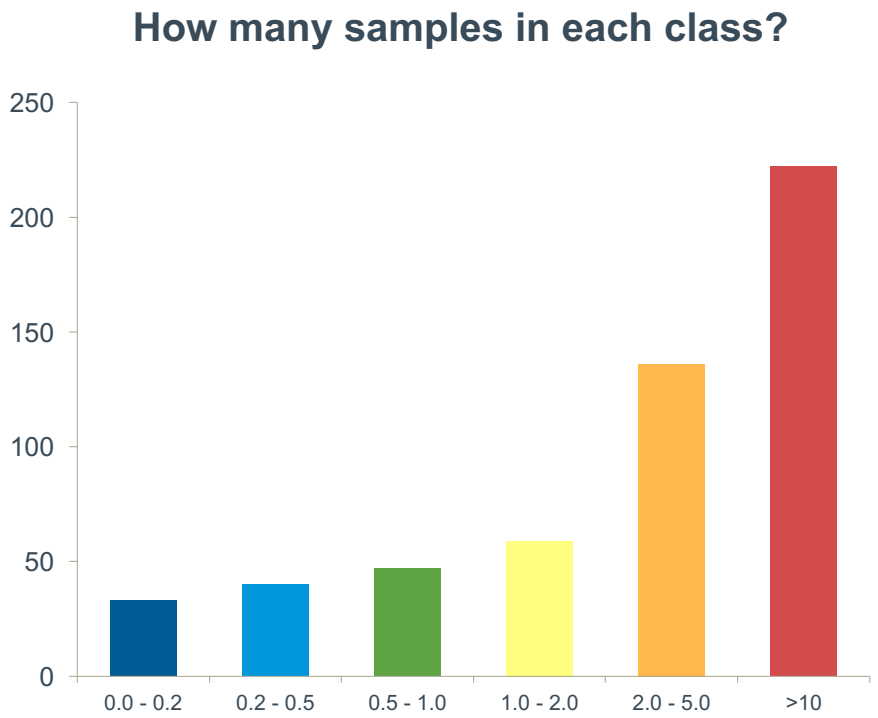
The nitrate results are shown in the chart on the right.

There are no explicit targets for nitrate in surface waters and it is not regularly considered as an indicator of ecological health in rivers.

However, in lake systems it is generally agreed that concentrations of nitrate greater than about 5mg/l have the potential to influence macrophyte growth.

A significant number of locations in the Thames catchment have levels similar to this. It is important to note that concentrations of nitrogen in rainfall are also very high.

Nitrate and human health?



ATKINS

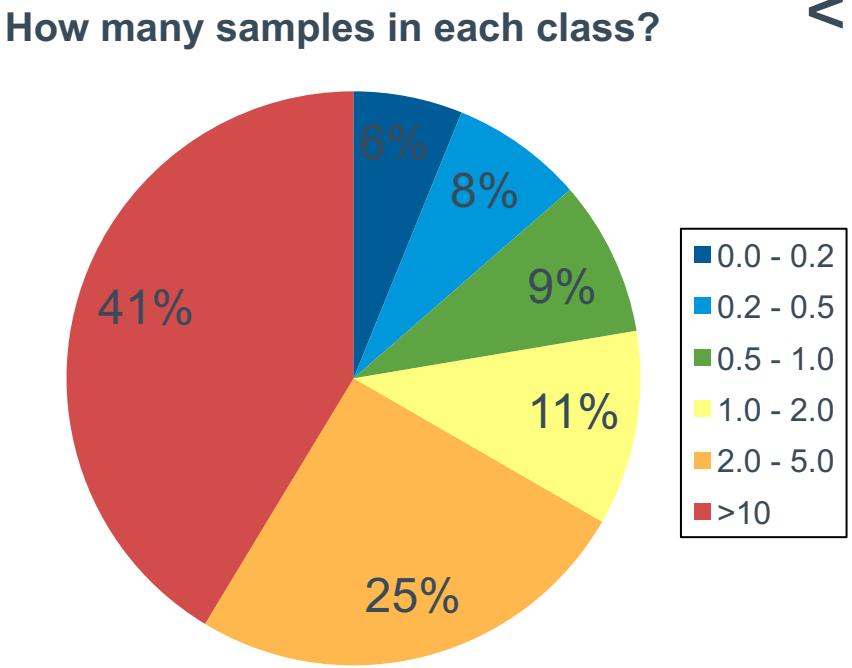
Nitrates

There are no explicit targets for nitrate in surface waters and it is not regularly considered as an indicator of ecological health in rivers.

However, in lake systems it is generally agreed that concentrations of nitrate greater than about 5mg/l have the potential to influence macrophyte growth.

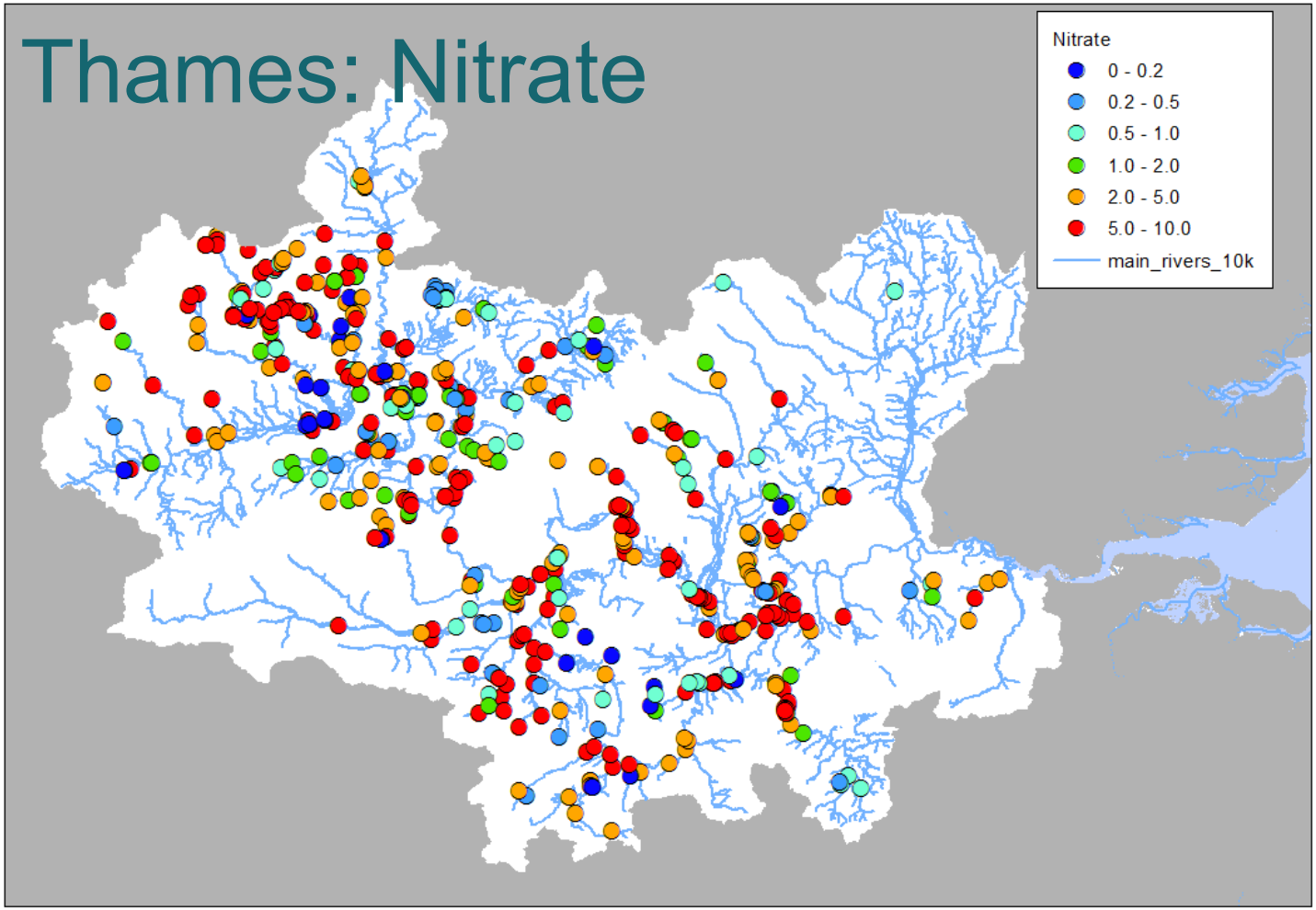
A significant number of locations in the Thames catchment have levels similar to this. It is important to note that concentrations of nitrogen in rainfall are also very high

**% of sites have high nitrate concentrations



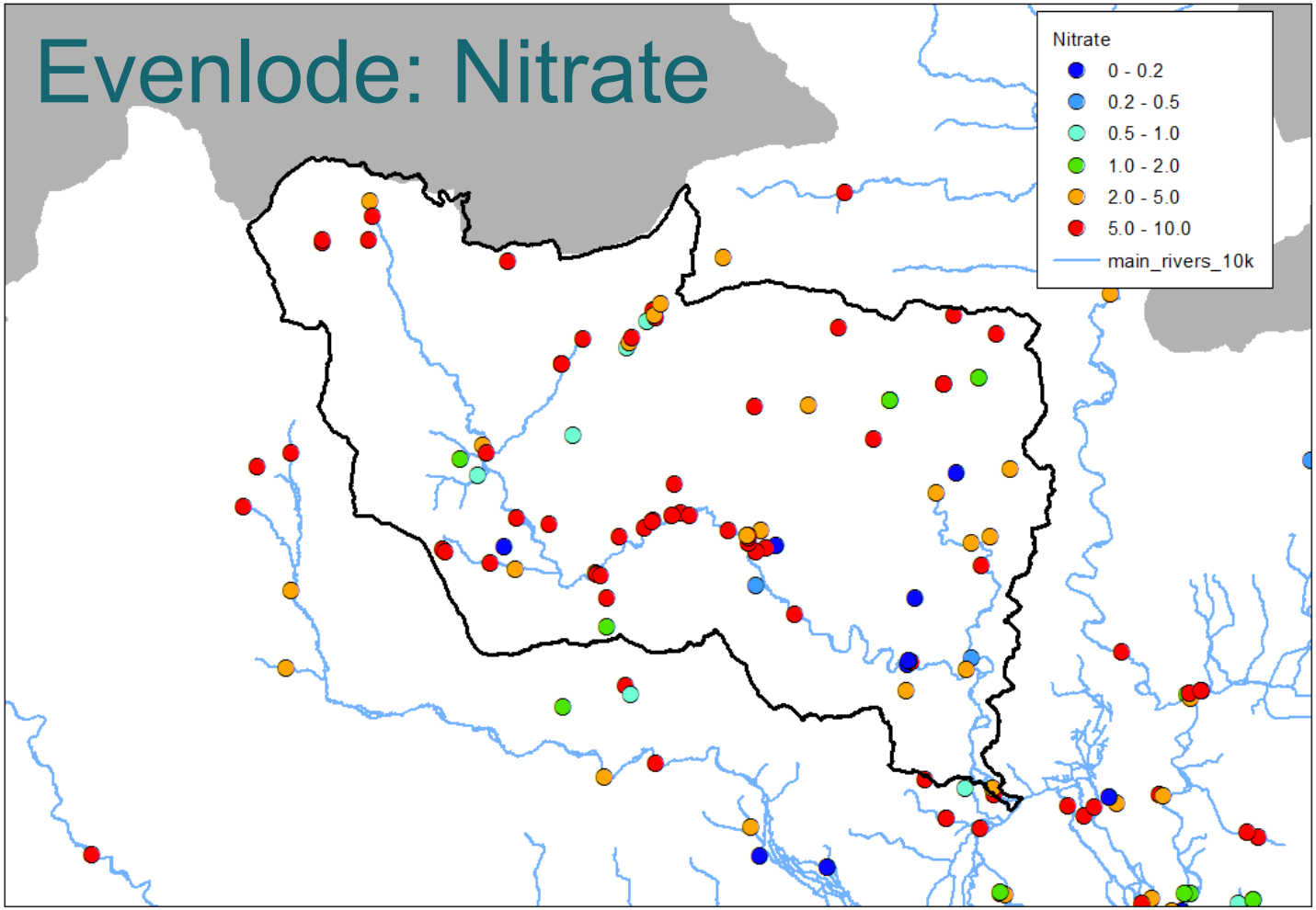
ATKINS

Thames: Nitrate



ATKINS

Evenlode: Nitrate



ATKINS

But…

Not quite as simple as that

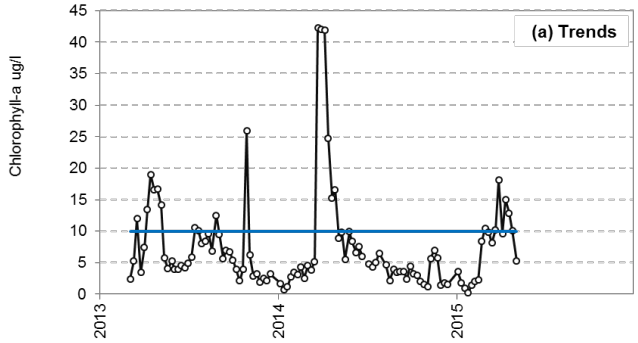
Ecological health of rivers is based on a range of factors, one of which is nutrients

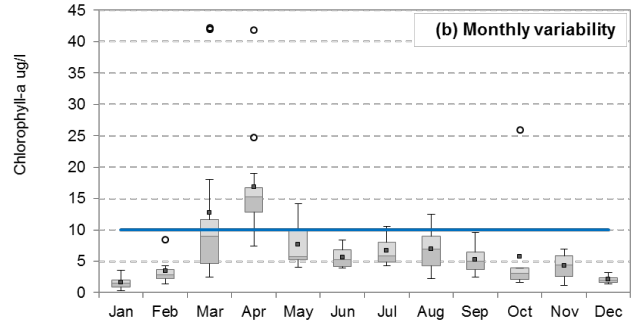
For example, even though there are high phosphate and nitrate levels in the River Evenlode, data collected by CEH shows that algal growth is confined to the early spring months and at other times is low

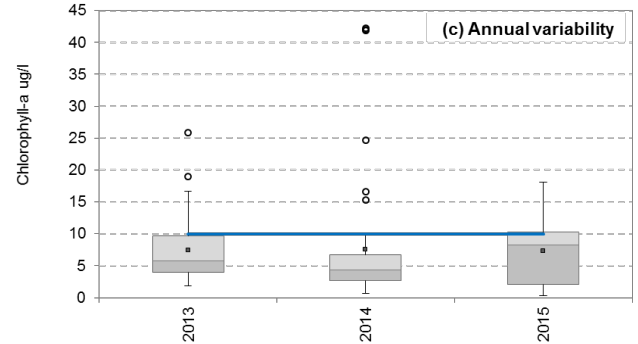
Need to understand the interplay between different nutrients

Important role for data collection by regulators (Environment Agency) and research bodies over longer time periods to understand some of these linkages in more detail

Working at the catchment scale is the only way to understand these links







ATKINS