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Interactive comment on "Weekly water quality monitoring data for the River Thames (UK) and its major tributaries (2009–2013): The Thames Initiative research platform" *by* Michael J. Bowes et al.

Anonymous Referee #2

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General Comments

"Weekly water quality monitoring data for the River Thames (UK) and its major tributaries (2009–2013): The Thames Initiative research platform" is a good introduction to the freely available Thames Initiative data set.

The authors state the objective of the "paper is to present an overview of the . . . data. . . detailing how samples were taken and analysed. . . providing a general description of . . . patterns . . .. and basic interpretation. . ."

They accomplish all aspects of the above objective and provide some interesting interpretations for the patterns in nutrients and chlorophyll-a, data quality and cations. An introduction to a new time series could delve into more in-depth analyses and interpretations. The authors have done this in other works that they cite within the ms. For the purpose of this publication they focus on the general description of patterns and basic interpretation.

With regards to the data itself, the dataset is clean and easy to work with (it was possible to reproduce the time series figures).

I agree with the first reviewer's comment about the need for the authors to identify data uncertainties (error bars, confidence intervals) and the process the authors took for quality checking data.

Specific Comments

Availability of data. I have an account with the Environmental Information Data Centre. Upon my electronic request, an e-mail with a link to download the data was delivered within minutes.

Introduction, page 3 Line 5. "The fourth feature of the Thames Initiative has that it needed to be long term (decadal). . ." the manuscript presents results on the years 2009 to 2013 so it seems misleading to present this as a main focus in the introduction.

2.1 Design of Monitoring Programme line 2 page 4. "Data is presented up to the end of Febraury 2013, although the monitoring programme is ongoing." Perhaps the authors should explicitly state that although the monitoring programme is ongoing, freely accessible data is only available until 2013.

2.2 River Sampling lines 5-11. Was there any specific storage of samples between the point of collection and analysis? What temperature were they stored at? Where certain samples kept in the dark?

2.5 Site Characteristics line 28. "The physical characteristics of the catchments were

determined . . . " do these refer to "catchment area" and "distance to source". Might be clearer to rephrase as "Catchment area and distance to source were determined using the Flood Estimation. . ."

2 Sampling and analytical methodology Although no time series for phytoplankton and bacterioplankton is presented in this manuscript, the authors stated "The third feature of the Thames Initiative was that it would characterise aquatic ecology (particularly phytoplankton and bacterioplankton communities) at the same weekly frequency as the water chemistry."

It might be useful if the authors make mention of such a dataset, whether methods for collection of phytoplankton and bacterioplankton are presented elsewhere and whether the data exists elsewhere.

Technical corrections

Abstract Line 15. Suggest changing the word "Comparing" to "combining"

Introduction, page 3 Line 5. Replace the word "has" with "is" in the sentence, "The fourth feature of the Thames Initiative has that it needed to be long term (decadal). . ."

3.2 Spatial data line 11 page 7. "all STWs along its length had tertiary phosphorous stripping installed, . . ." could the authors provide a citation for this

3.3.2 Nutrient data line 28. Suggest adding the word "likely" or "possibly" between the "April 2012," and "due to in-wash"

3.4.1. Phosphorus line 6 page 11. Add bracket before "between 1996"

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