Planning and Transportation Policy Working Group	
Meeting Date	13th March 2025
Report Title	Water Cycle Study: Update Report
EMT Lead	Emma Wiggins, Director of Regeneration and Neighbourhoods
Head of Service	Joanne Johnson, Head of Place
Lead Officer	Anna Stonor, Principal Planner (Policy)
Classification	**Open**
Recommendations	1. To note the update

1 Purpose of Report and Executive Summary

1.1 This report provides an update on the Water Cycle Study, which forms part of the non-statutory evidence base for the Local Plan.

1.2 Due to delays in receiving, and absence of available data, and other issues discussed below, the Water Cycle Study is not yet finalised, however headline Phase 1 findings are set out in this report.

2 Background

2.1 Requests for Quotations for a Joint Water Cycle Study (Swale Borough Council and Medway Council) were issued in October 2023. The aim of the study was to interrogate issues of water quality and resources in relation to sustainable future growth (to inform the evidence bases for the Swale and Medway Local Plans) and, for Swale Borough Council, to satisfy the Council Motion of October 2022, in particular:

- *'the Planning and Transportation Policy Working Group be asked to consider commissioning an independent study into the sustainability of water supply to form part of the Infrastructure Delivery Plan for the Local Plan Review.'*
- *'that the Council notes that residents are deeply concerned about the regular untreated wastewater discharges into our local rivers, estuaries and seas and the cumulative impact this is having on wildlife and on human health'.*
- *'recognise this Council's obligation to protect its rivers, estuaries and seas, including from the cumulative impacts of pollution, in line with its local planning policy and the National Planning Policy Framework'.*
- *'recognise that there is clear evidence of deterioration of water quality due to cumulative impact of multiple sewage discharge events or 'sewage overload'.*
- '*ensure that an evidence base is compiled that assesses the cumulative impact of sewage discharge so that this is factored into decisions made in new iterations of the local plan, including the overall*

level of future development, if necessary, independently from the evidence produced by the utility providers'.

- *'seek to better understand the cumulative impact of wastewater discharge including untreated sewage on our local rivers, estuaries, wildlife and the health of our residents'.*
- *'takes a lead on addressing this issue, working constructively with other agencies'*

2.2 Only one quote was received, from Royal Haskoning DHV (RH DHV). The quotation sum met expectations and the three references received were all good, setting out that RH DHV either exceeded or met expectations.

2.3 The study was set out in three Phases:

- Phase 1 – to look at background data and evidence and the local situations, providing high level policy input.
- Phase 2 – to look at future development (broad locations and large potential sites) and potential impacts. This phase to involve modelling of impacts to feed into a broad analysis on limits and locations of development.
- Phase 3 – to look in detail at large sites, potential allocations and potential windfalls and give commentary on the feasibility and desirability of each site with reference to water quality and water resources. To look in more detail at limits and locations for development, as well as detailed advice on policy wording, the need for site-specific water cycle studies and specific opportunities for innovative approaches (eg creation of wetlands etc).

2.4 In late 2023/early 2024, RH DHV were appointed to carry out Phase 1 and 2 of the study and the project commenced in early 2024. A decision on the commissioning of Phase 3 was to be made at a later stage.

2.5 RH DHV have produced three iterations of the Phase 1 report to date (June, August and Oct/Nov 2024) – all in draft and not yet in publishable form.

2.6 As it has been some time since this project was commenced it has been decided to give an update report on the headline findings of the Phase 1 study, as follows:

Generally

I. Swale is classified as a highly water-stressed area according to the Environment Agency.
II. Given its unique environmental landscape, including numerous designated conservation sites, Swale faces significant concerns regarding water stress and water quality, to protect those environments.

III. Increasing built infrastructure poses challenges to mitigate water stress and water quality pollution.

Water Resources

I. Water supply in Swale is split 70% from groundwater and 30% from rivers. 90% of groundwater is abstracted from the chalk aquifer.
II. An overall deficit of potable water supply is predicted in Kent by 2030.
III. South East Water supplies potable water to the south and east of Swale. Water Resource Zone 8 (Ashford) supplies Faversham where the average consumption is 151.8 l/p/d, and for WRZ 6 (Maidstone) it is 139.9 l/p/d. The company plans to meet the Government's target of reduction in demand/supply to 110 l/p/d by 2050.
IV. Southern Water also supplies potable water to western Swale and the Isle of Sheppey and aims to reduce water usage to 109 litres per person per day by 2040 (currently 134 litres per day).
V. Water availability issues have been highlighted by events like the 2022 water shortage on the Isle of Sheppey.
VI. Reductions to some abstraction licences may be needed by 2027, to protect the environment if the increased nutrient loading in the water is not controlled, and to mitigate the potential lack of rainfall due to climate change.

Wastewater Management/Water Quality

I. Southern Water is the wastewater provider for all of Swale.
II. The absence of updated discharge consent quality and DWF (Dry Weather Flow) headroom data from Southern Water restricts the conclusions on potential risks that the Water Study Cycle has been able to undertake (more on this later).
III. Within Swale, Sittingbourne Wastewater Treatments Works currently exceeds capacity and requires urgent infrastructure investment.
IV. Like most WFD water bodies UK wide, all WFD water bodies in Swale fail chemical status.
V. The White Drain water body (near Boughton) is of particular concern regarding increased discharge due to an existing poor classification of its ecological status.
VI. Southern Water has proposed investment into Swale of £550 million by 2050 to manage spills, mitigate flood risk, reduce pollution and improve overall network resilience.

Policy Recommendations from RH DHV:

I. Continued adoption of water efficiency standards.

II. Close monitoring of water resource applications.
III. Phasing of/restricting developments that could harm water quality/green infrastructure.
IV. Swale and Medway Councils should liaise with Southern Water to determine whether it intends to upgrade WwTWs exceeding/close to capacity and identify the timescales over which any upgrades are likely to be implemented.
V. The Councils may wish to consider the timing of any new developments in the catchments of WwTWs exceeding/close to capacity in the context of future upgrade programmes.
VI. Discharges of substances such as ammonia and phosphate from WwTWs have been identified as contributing to pressures on the Ecological Status of surface water bodies in Swale such as Murston Lakes (classificed as poor for Phosphorous). The council may wish to *consider* proposed WwTW upgrades when proposing new development that could add to waste water loadings in these catchments.

To note:

I. The WCS does not set out the likelihood of proposed investment coming to fruition.
II. Language such as *consider* is included in the WCS, although it should be noted that it is not in the Council's power to, for example, progress WwTW upgrades.

2.7 Unfortunately, the project has not been straightforward, for reasons set out below, and as such there have been delays, additional consultant time and a final Phase 1 report which does not fully meet the original brief for the project nor, yet, the objectives of the Water Motion. The budget for Phase 1 (£6,529) has nearly all been spent, though the Phase 1 Report is not yet finalised.

2.8 The project has been delayed for the following reasons:

1/ Delays obtaining, and absence of available data:

- RH DHV first wrote to Southern Water on 26th February 2024, requesting information to inform the WCS. Some information was received on 26th April and subsequently, but Southern Water did not complete their data return until 30th July at which time they confirmed that they 'do not hold [all] the information you have requested…To confirm, Southern Water do not sample for the determinants [phosphorous and nitrogen] we don't have permits for so we will not have data on this'[1]. As such the study is missing expected discharge consent quality and dry weather flow headroom data.

[1] From Southern Water's website (Frequently Asked Questions): *Question: Why do some WWTWs not have a P or N permit? Answer: The substances and concentrations controlled by a permit are assessed*

2/ The repeated delays in receiving, and subsequent issues with availability of data meant that the draft Phase 1 reports have been written with incomplete information. This has been frustrating for the consultant and Swale and Medway Councils and has meant that the yet unpublished Phase 1 report is incomplete in terms of the original brief.

3/ Unresolved questions over modelling approach:

- In the initial tender return RH DHV proposed a modelling approach for Phases 2 and 3 called River Quality Planning tool (RQP). However, because the data around current nutrient load for Wastewater Treatment Works (WwTW) in Swale and Medway is so limited (which is essential for RQP modelling) the consultants proposed an alternative modelling approach called Load Standstill Modelling. This is a simpler approach, which would have provided limited results, but could be undertaken with the data that Southern Water had provided (which included Biochemical Oxygen Demand).

- Once officers received the proposal for this alternative approach, contact was made with the Environment Agency (EA) for their advice. Their initial/high level view (not based on a detailed assessment) was that RQP modelling was not the correct approach to use for WwTWs in transitional or coastal waters and that alternative approaches (examining plume modelling/mixing zones) should be undertaken.

- Following this initial advice officers asked the EA for a quotation for a detailed examination of the Water Cycle Study to date and further advice on the approach to modelling. A quotation was received in mid-December. As yet, officers have not progressed this work due to the additional cost and possibility that (due to lack of available data), worthwhile modelling might not be possible at all, or if so, could be very expensive. RH DHV have also provided a quotation for meeting with the EA, which has also not progressed to date for the same reasons.

4/ Increased consultant, and other costs:

- Due to the issues outlined above, RH DHV have gone well beyond their initial human resource budget for Phase 1 of the project. As such, they have asked for further funds to complete the original scope, which are outside of budget. As mentioned earlier in this report, the budget for Phase 1 of this study is nearly all spent, and yet the project is not yet in publishable form. Officers are reluctant to spend more on this project (due to lack of data and uncertainty

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and determined by the Environment Agency based on the water quality objectives of any given waterbody into which our assets discharge.

about the most appropriate modelling approach) given concerns regarding value for money.

- It is also worth noting that due to this project taking much longer, and being much more complicated than anticipated, the time that the planning policy team has had to put into it is much greater than anticipated.

5/ Issues finalising report to standard required for publication:

- It has been noted above that officers have received three drafts of Phase 1 of the Water Cycle Study. Largely this is because of the delays and then absence of the necessary data from Southern Water, but there have also been repeated, yet to be fully addressed, comments, queries and suggested edits from Swale and Medway planning policy teams.

2.9 Furthermore, the Planning Policy team is currently in discussions with RH DHV about next steps to address the difficulties in undertaking Phase 2 and Phase 3. The Phase 2 and Phase 3 studies would have involved detailed modelling to determine whether the potential allocations proposed within the emerging Local Plans would be sustainable in terms of water quality and water resources. However, mainly due to the issues over lack of available data from Southern Water (making worthwhile modelling challenging), and increased costs associated with the project generally, progressing to further phases, with their inherent limitations under the current approach, might not yield the outcomes the motion intended.

2.10 Despite the many issues with this project, much useful information has been produced during the development of Phase 1 of the Water Cycle Study. This will be used to inform discussions with Southern Water and South East Water, the Environment Agency and Natural England going forward, and will inform the selection of allocations and the Infrastructure Delivery Plan.

2.11 A Water Cycle Study was commissioned to satisfy the Council's Water Motion, to inform the Swale and Medway Local Plans and because issues of water quality and water resources are important to the Councils and their residents. However, water cycle studies are not statutory pieces of evidence for Local Plan preparation and as such the implications, for the Local Plan, of not progressing this work to later phases are limited. Nevertheless, the issues of water quality and resources remain central to the development of the Local Plan and the Infrastructure Delivery Plan and will be progressed in dialogue with relevant authorities, organisations and statutory bodies.

3 Proposals

3.1 The Committee is requested to note this update on the Water Cycle Study.

4 Alternative Options Considered and Rejected

4.1 As this report is for information purposes, there are no alternatives.

5 Consultation Undertaken or Proposed

5.1 The Water Cycle Study has been a joint study between Swale and Medway Councils. No external consultation has been undertaken to date, although the consultants have corresponded repeatedly with the relevant water companies and the local authorities have had correspondence with the Environment Agency about the approach to modelling, as set out above. Official consultation between Royal Haskoning DHV and the Environment Agency, Natural England and the Drainage Board was due at the beginning of Phase 2 of the Water Cycle Study, but as that stage has not been reached this has not taken place.

6 Implications

Issue	Implications
Corporate Plan	The proposals in the report align with the following Corporate Plan action: • A Local Plan with local needs and capacity at its heart
Financial, Resource and Property	Resources for the Water Cycle Study form part of the Local Plan Budget.
Legal, Statutory and Procurement	Water Cycle Studies are not statutory pieces of evidence for Local Plan preparation and as such there are no implications identified at this stage.
Crime and Disorder	No implications identified at this stage.
Environment and Climate/Ecological Emergency	No implications identified at this stage.
Health and Wellbeing	No implications identified at this stage.
Safeguarding of Children, Young People and Vulnerable Adults	No implications identified at this stage.
Risk Management and Health and Safety	No implications identified at this stage.

Equality and Diversity	No implications identified at this stage.
Privacy and Data Protection	No implications identified at this stage.

7 Appendices

No Appendices

8 Background Documents

Swale Borough Council Water Motion, October 2022