



Report to the Partnership for South Hampshire Overview and Scrutiny Committee

Date: 07 March 2024

Report of: Simon Kennedy
PfSH Strategic Environmental Planning Manager

Subject: NUTRIENT MITIGATION - Update on Environmental Mitigation
(nutrients and biodiversity net gain) - Supply and Demand
Analysis

SUMMARY

The report provides an update on the supply and demand of nutrient mitigation around the Solent.

RECOMMENDATION

It is RECOMMENDED that the Overview and Scrutiny Committee:-

- a) NOTES the contents of this report;
- b) NOTES that the Joint Committee will be asked to NOTE the contents of this report; and
- c) CONSIDERS any comments to be passed to the Joint Committee for its consideration.

PLEASE NOTE this report is a draft version of the PfSH Joint Committee report and is subject to change before being considered by the PfSH Joint Committee. The final report will be published ahead of the PfSH Joint Committee.

1. Background

- 2.1. The Nutrient Mitigation Update Report to Joint Committee on 26 September 2023, along with other reports provided previously¹, provides background to nutrient neutrality in the Solent. Additionally, the Partnership for South Hampshire (PfSH) website provides additional information on nutrient neutrality in the context of the Solent, which is updated as required.
- 2.2. Government reporting of nutrients has been changeable over the past six months. However, the requirement to provide nutrient mitigation in affected catchment areas now seems very likely to remain in the short term. In addition, the housing minister wrote to all council leaders affected by nutrient neutrality in December 2023 outlining successful catchments for the Local Nutrient Mitigation Fund (LNMF)².
- 2.3. Furthermore, the Levelling Up and Regeneration Act (LURA) received Royal Assent on 26 October 2023. The Act includes the provision for upgrading wastewater treatment works (WWTWs) to technically achievable limits by 2030.
- 2.4. This report also provides a brief update on Biodiversity Net Gain (BNG) specifically regarding the supply of offsite BNG units. The requirement for BNG, introduced by the 2021 Environment Act, became mandatory on 12 February 2024. The draft Planning Practice Guidance (PPG)³ makes clear that on site BNG should be considered first, followed by registered off site BNG. This report includes a brief analysis of the proposed supply of BNG units from current nutrient mitigation providers.

2. Nutrient Mitigation Supply and Demand Analysis

- 3.1. It remains the case that there is a sufficient supply of strategic **nitrogen** mitigation options to aid the delivery of growth across the Solent region in the short to medium term. There are fourteen strategic mitigation sites listed on the PfSH website⁴ to guide developers to potential mitigation schemes. The supply of nutrient mitigation in the Test and Itchen catchment remains constrained against the required demand. For calculations of strategic nutrient demand the figure is based on the receiving WWTW permit level for developments. The assessment of nutrient demand in all catchments includes the proposed technically achievable limits⁵ in 2030 for WWTWs that do not already meet this standard.

¹ [PfSH Joint Committee Meeting Page - Nutrient Neutrality Updates from 2019 - 2021](#)

² [Letter from Minister for Housing, Planning and Building Safety on nutrient neutrality, December 2023 - GOV.UK \(www.gov.uk\)](#)

³ [Draft biodiversity net gain planning practice guidance - GOV.UK \(www.gov.uk\)](#)

⁴ <https://www.push.gov.uk/work/mitigation-schemes-available-to-developers/>

⁵ The proposed permit limit for Total Nitrogen is 10mg/l and for Phosphorus is 0.25mg/l.

3.2 As well as further information becoming available as local plans progress, this report has further refined demand assessments for individual authorities. The PfSH SEPO team assessed individual allocated sites using the updated Crop Map of England (CROME) 2020 in order to produce anticipated nutrient budgets for each site. The use of individual nutrient budgets for site trajectories increases the accuracy of assessments made for strategic nutrient mitigation.

East Hampshire Catchment – current supply and demand:

3.3 The current supply and demand of total nitrogen mitigation is represented in figure 1. Where a supply of credits is indicated in figure 1 this relates to a mitigation site that is actively marketing credits to the development industry and has received confirmation from Natural England that the mitigation site is suitable in principle.

3.4 As highlighted in previous reports development in the East Hampshire Catchment is predominantly served by WWTWs at Peel Common and Budds Farm. Both treatment works employ a level of technology comparable to the technically achievable limit set out in the Levelling Up and Regeneration Act (LURA). As such, these WWTW’s will not be upgraded as part of the TAL requirements and there will be no change to the calculations currently used.

3.5 Figure 1 shows that there is a current availability of approximately 4,300Kgs/TN/Yr in the catchment. Therefore, it is anticipated that the current available supply of total nitrogen mitigation in the catchment would be exhausted in approximately 4 years.

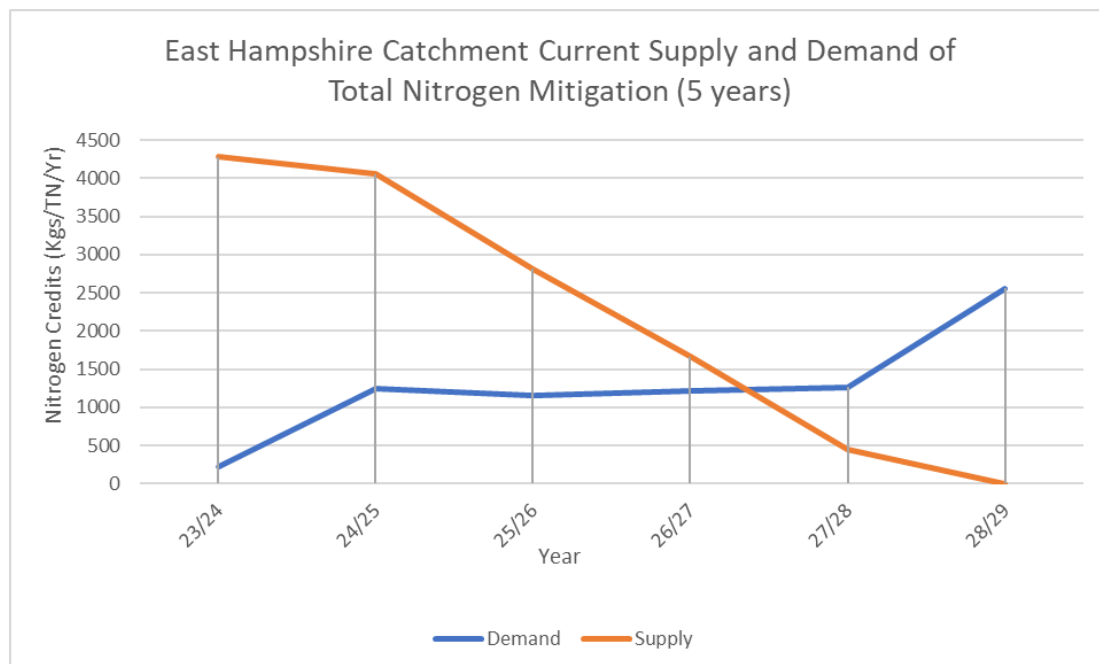


Figure 1 – Current Supply and Demand of Total Nitrogen in the East Hampshire Catchment over 5 years

- 3.6 The current shortfall in supply of mitigation, over the next five years of planned development, is approximately 1690Kgs/TN/Yr.
- 3.7 The potential shortfall in available mitigation over the next 15 years is currently 16,453Kgs/TN/Yr.
- 3.8 The projected shortfall of mitigation is now lower than represented in the 26 September 2023 Joint Committee Report⁶. This reduction is primarily due to authorities progressing local plans and providing detailed site trajectories and locations. This decrease in demand also accounts for the increase in time for which supply will be available over a five-year period.
- 3.9 It should also be noted that supply in the East Hampshire catchment, for some mitigation sites, has not been exhausted during the last six months as quickly as the previous reporting periods. This is considered to be due to wider market forces rather than as a direct result of the requirement for nutrient neutrality.

East Hampshire Catchment – emerging supply and demand

- 3.10 Figure 2 below shows that there is a potential emerging supply of approximately 5,400Kgs/TN/Yr in the East Hampshire catchment. If these sites continue to come forward to deliver mitigation, then the the emerging supply would be exhausted towards the beginning of the 2028/2029 financial year.

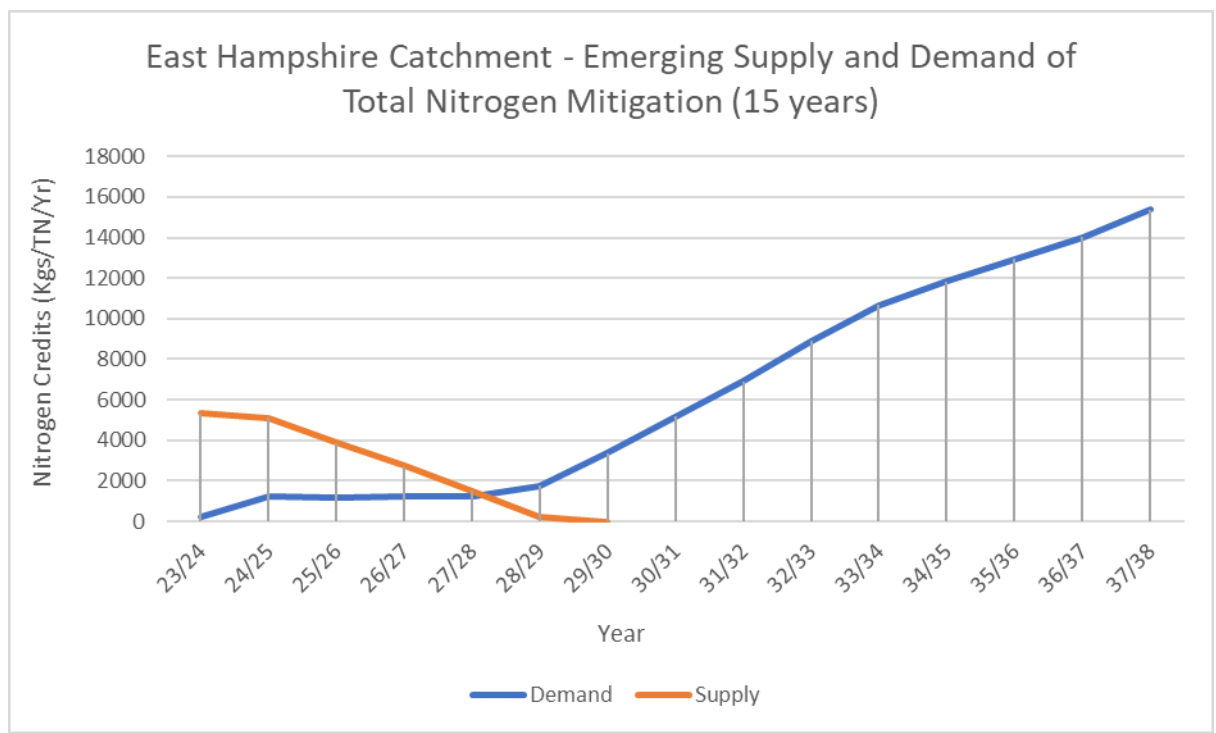


Figure 2 – Emerging Supply and Demand of Total Nitrogen in the East Hampshire Catchment over 15 years

⁶ [\(Public Pack\)Agenda Document for Partnership for South Hampshire \(PfSH\) Joint Committee, 04/04/2023 18:00 \(push.gov.uk\)](#)

- 3.11 The projections shown in Figure 2 are supported by two emerging total nitrogen mitigation schemes. The two emerging strategic mitigation schemes have been granted planning permission and are expected to be delivered mid 2024:
- Interceptor wetland at Shalfleet sewage treatment works
 - Interceptor wetland at Knowle sewage treatment works
- 3.12 Both schemes are anticipated to provide around 1,100Kgs/TN/Yr in total for the 2023/2024 financial year and are likely to be fully operational in the next six – twelve months. However, it should also be noted that construction has not commenced at either site.
- 3.13 Since some degree of policy certainty has returned relating to nutrient neutrality requirements, there has been an increase in emerging mitigation schemes. However, due to technical constraints it is unlikely these will come forward in the short term.
- 3.14 In order to ensure a 5-year supply of mitigation, work is also ongoing to determine whether the Local Nutrient Mitigation Fund can be used to provide further mitigation options in the East Hampshire catchment.

Conclusion from analysis of supply and demand of nutrient mitigation in East Hampshire Catchment

- 3.15 The East Hampshire Catchment provides sufficient nutrient mitigation for development to continue in the short term. Should the emerging sites at Knowle and Shalfleet come forward, this is likely to meet the overall strategic five-year demand of nutrient mitigation across the East Hampshire catchment. However, due to uncertainty of final delivery of the identified emerging sites, it is important that further sites come forward at pace.

Test and Itchen Catchment – Current Supply and Demand of Total Nitrogen Mitigation

- 3.16 The current supply and demand of total nitrogen mitigation is highlighted in figure 3. Where a supply of credits is indicated in figure 3 this relates to a mitigation site that is actively marketing credits to the development industry and has received confirmation from Natural England that the mitigation site is suitable in principle.
- 3.17 A number of WWTWs in the catchment will benefit from the proposed upgrades now confirmed to take place through the Levelling Up and Regeneration Act (LURA) in 2030⁷. This has been accounted for in the calculations presented.

⁷ An exemption list will be published by Defra by 1st April 2024

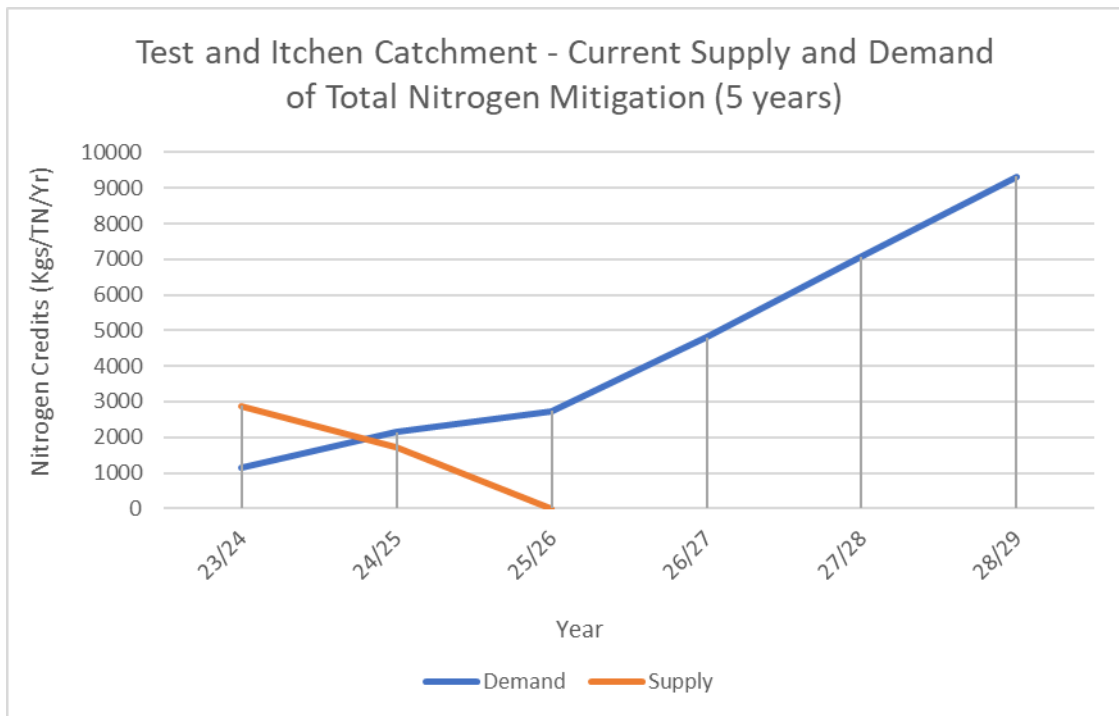


Figure 3 – Current Supply and Demand of Total Nitrogen in the Test and Itchen Catchment over 5 years

- 3.18 Figure 3 shows there is a current availability of 2,875Kgs/TN/Yr of strategic mitigation in Test and Itchen catchment. Since the previous report 475Kgs/TN/Yr has been used and no further schemes have come forward in the catchment. The supply has stretched a further six months since the previous reporting period for two reasons. The take up of mitigation credits has been slower than expected due to economic factors, and the refinement of demand using CROME analysis for two authorities in the catchment. The currently supply of mitigation is expected to be exhausted in the mid 2024/25 financial period.
- 3.19 The unmet demand for strategic nutrient mitigation over five years is 7,068.46Kgs/TN/Yr. Furthermore, over fifteen years the unmet demand is 25,183Kgs/TN/Yr which is a significant reduction in the overall unmet demand since the last reporting period, the drop in demand is even more pronounced than previous reporting periods due to the introduction of the LURA requirements for WWTW upgrades.

Test and Itchen Catchment – emerging supply and demand

3.20 Figure 2 below shows that there is a potential emerging supply of approximately 3,100Kgs/TN/Yr. This means that the emerging supply would be exhausted at the end of the 2024/2025 financial year.

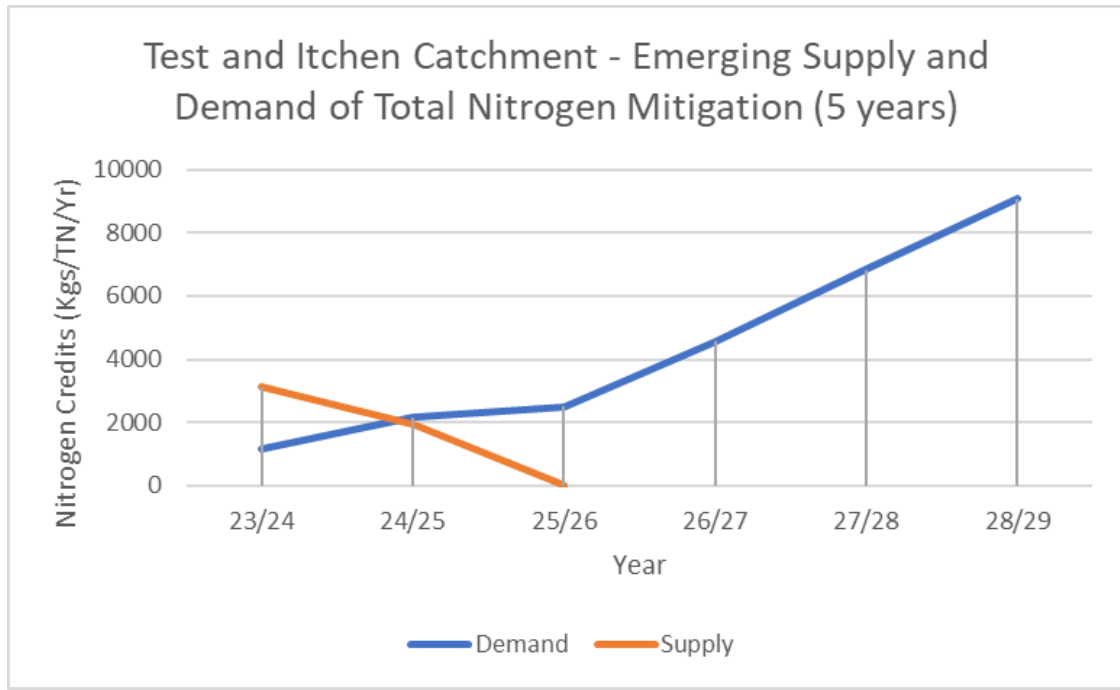


Figure 4 – Emerging Supply and Demand of Total Nitrogen in the East Hampshire Catchment over 15 years

3.21 The projections shown in Figure 4 are supported by an emerging total nitrogen mitigation scheme at Blackburn Farm in the Test Catchment. The emerging scheme is anticipated to provide around 230Kgs/TN/Yr in total for the forthcoming financial year. Additionally, there is some potential for existing mitigation sites to increase the amount of mitigation they can provide to the market.

Conclusion from analysis of supply and demand of total nitrogen mitigation in Test and Itchen Catchment

3.22 The supply of total nitrogen mitigation remains sufficient for sustainable development to continue in the short term, with supply likely to be exhausted towards the end of the 2024/2025 financial year. Although there is some potential for emerging sites to provide new mitigation options, there is an acute need for further mitigation to come forward at pace in the Test and Itchen catchment. Due to this acute need, work is ongoing to identify ways in which the Local Nutrient Mitigation Fund can provide an increased supply of mitigation.

Itchen Catchment – supply and demand of phosphorus mitigation

- 3.23 Due to the way in which development impacts phosphorus levels in the Itchen, and the need to deliver mitigation where the impact of mitigation is upstream of proposed development, two assessments have been made of in relation to supply and demand of phosphorus in the Itchen. An assessment has made in relation to the supply and demand of nutrient mitigation for development draining to Chickenhall WWTWs. In addition, a separate assessment has been made for phosphorus mitigation to development draining to remaining waste water treatment works in the Itchen.
- 3.24 In some areas of the Upper Itchen, including a small part of the East Hampshire District Council administrative area, development primarily drains to package treatment plants and septic tanks due to the lack of mains sewerage. Although there is little planned development in these areas without a phosphorus solution it is unlikely that development will be able to suitably mitigate against phosphorus in the short to medium term.

Itchen Catchment – Development draining to Chickenhall Waste water treatment works

- 3.25 Development draining to Chickenhall waste water treatment works is primarily within the Eastleigh administrative area, part of Test Valley and part of south Winchester areas. The data used to calculate the supply and demand of nutrient mitigation for development that drains to Chickenhall WWTW assumes the programmed upgrade to the permit limit⁸ will take place by March 2025. It is also anticipated that Chickenhall will be upgraded to a tighter permit limit⁹ in 2030 as indicated in the LURA which is assumed in the assessment of demand below. The proposed upgrades to Waste Water Treatment Works in 2030 are included in the assessment of demand figures below.
- 3.26 Figure 5 provides an analysis of the 15-year supply and demand of phosphorus mitigation to Chickenhall WWTWs.

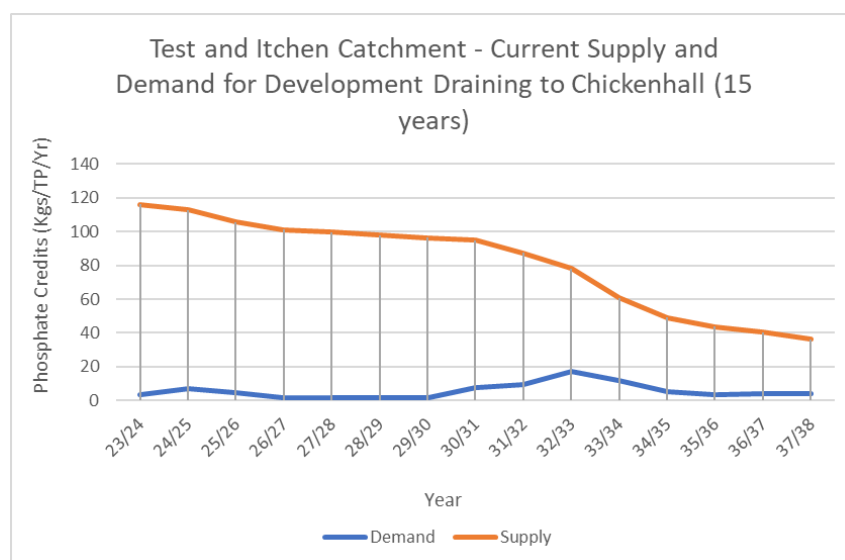


Figure 5 – Current Supply and Demand of Phosphorus for Development Draining to Chickenhall over 15 years

⁸ Reduction from 1ml/l to 0.6ml/l

⁹ Reduction from the planned 0.6ml/l to 0.25ml/l

3.27 As highlighted in the 26 September 2023 Nutrient Mitigation update¹⁰ the supply of mitigation for Chickenhall WWTWs is entirely from the Eastleigh Borough Council strategic mitigation scheme. The precise quantum of phosphorus mitigation is still to be formally agree with Natural England, however, for the purposes of this report it is anticipated that the supply of mitigation will cover demand up to and beyond 2037/38.

Conclusions from analysis of supply and demand of phosphorus mitigation from development draining to Chickenhall wastewater treatment works

3.28 There is sufficient supply of strategic phosphorus mitigation to satisfy demand in the long term for development draining to Chickenhall WWTWs.

Supply and demand of phosphorus mitigation for development draining to remaining WWTWs in the Itchen Catchment

3.29 Figure 6 shows the estimated supply and demand of phosphorus mitigation for development draining to all other WWTWs in the Itchen. The demand calculations include a proposed upgrade to the Harestock WWTWs in 2025. However, both Morestead and New Alresford WWTWs will receive substantial improvements as part of the requirements under the LURA. The technically achievable limits that will take effect due to the proposed upgrades in 2030 are included in the assessment of demand figures below.

3.30 The supply of strategic phosphorus mitigation remains extremely low and will only mitigate a small proportion of the existing backlog of development in the Itchen catchment.

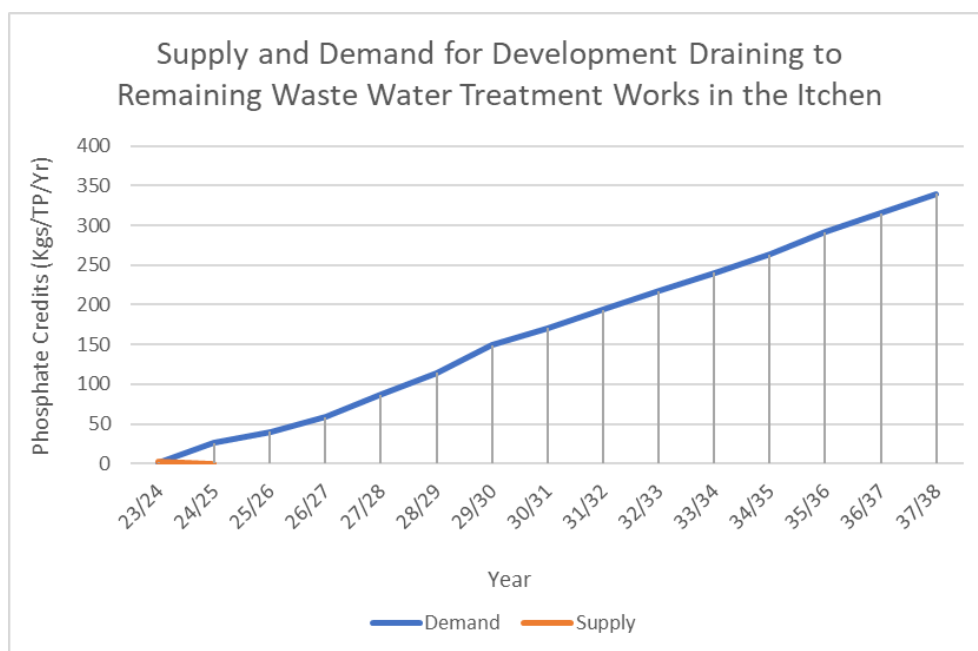


Figure 6 – Current Supply and Demand of Phosphorus for Development Draining to remaining wastewater treatment works in the Itchen

¹⁰ [\(Public Pack\)Agenda Document for Partnership for South Hampshire \(PfSH\) Joint Committee, 26/09/2023 18:00 \(push.gov.uk\)](#)

3.31 The backlog of applications will continue to increase whilst there is an absence of a suitable scheme that can provide strategic phosphorus mitigation. The current unmet demand for phosphorus mitigation draining to the remaining WWTWs in the Itchen is around 340Kgs/TP/Yr.

Emerging Strategic Phosphorus Mitigation Schemes

3.32 The first phosphorus scheme in the Itchen is in the process of being delivered by Winchester City Council, supported by the Partnership for South Hampshire. The scheme includes the upgrading of council owned package treatment plants to generate a reduction of phosphorus. This reduction can then be used to mitigate the existing backlog of planning applications. It is anticipated that the PTP project will be able to provide enough Phosphorus mitigation to enable all development currently within the Council's backlog.

3.33 There are currently a further two potential sources of strategic phosphorus mitigation in the Itchen Catchment at various stages of development. The potential schemes include:

- a) The retrofitting of Council owned housing stock with water efficiency measures. The reduction of water use has an associated effect on the amount of phosphorus entering the relevant waste water treatment works. This reduction can be used to mitigate new development.
- b) Further work at one of the existing nutrient mitigation schemes in the Test and Itchen catchment to generate further phosphorus and total nitrogen mitigation. Work is ongoing to identify the quantity of mitigation.

Conclusions from analysis of supply and demand of phosphorus mitigation from development draining to the remaining waste water treatment works in the Itchen

3.34 The first phosphorus scheme in the Itchen is in the process of being delivered to unlock the current backlog of planning applications in Winchester and provide phosphorus mitigation in the short term.

3.35 The Partnership for South Hampshire Strategic Environmental Planning Team are continuing work on further solutions to aid the delivery of phosphorus mitigation as soon as practically possible to meet the short to medium term demand.

New Forest Rivers Catchment Supply and Demand

3.36 All development draining to the Pennington WWTWs, as well as the smaller wastewater treatment works within the New Forest National Park area¹¹, are considered to represent demand related to the New Forest catchment, as shown in Figure 7.

¹¹ Including Ashletts Creek.

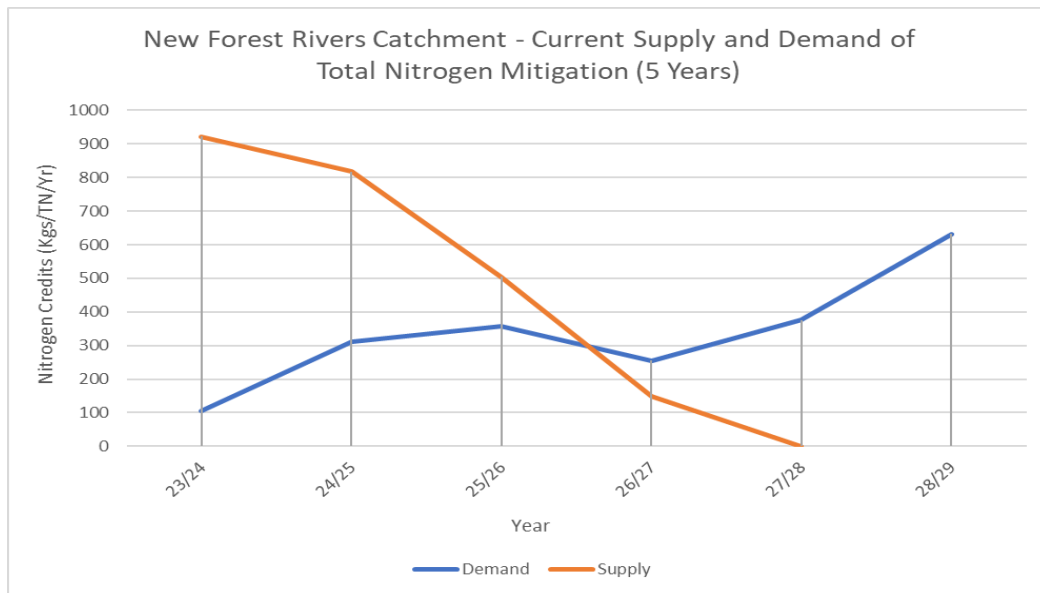


Figure 7 – Supply and Demand of Total Nitrogen in the New Forest Rivers Catchment - A figure of 1kg/TN/Per Year per dwelling was used to calculate demand

3.37 Figure 7 shows that the strategic supply of mitigation serving the New Forest Rivers catchment will be exhausted at mid-26/27 financial year. The estimated unmet need equating to approximately 1550Kg/TN/Yr.

New Forest Rivers Catchment – proposed upgrades to wastewater treatment works and emerging supply and demand of Total Nitrogen Mitigation

3.38 Pennington WWTWs already employs levels of technology comparable to the technical achievable limit described in the LURA. However, some development, particularly in the New Forest National Park, drains to smaller WWTWs. Although some of the works may be considered for upgrades through the LURA, the impact of these upgrades is negligible.

3.39 The projections shown in Figure 8 are supported by two emerging total nitrogen mitigation schemes. The first emerging mitigation scheme is the constructed wetland at Shalfleet sewage treatment works which also serves development draining to Peel Common wastewater treatment works in the East Hampshire Catchment and Pennington wastewater treatment works in the New Forest Rivers Catchment. The second emerging mitigation scheme is Keyhaven which includes the cessation of inputs on site. The two emerging strategic mitigation schemes are expected to be delivered in the 2024/2025 financial year. Both schemes are likely to provide approximately 1500/Kgs/TN/Yr.

3.40 Figure 8 shows the impact of the proposed upgrade and the additional emerging supply from Keyhaven and Shalfleet sites.

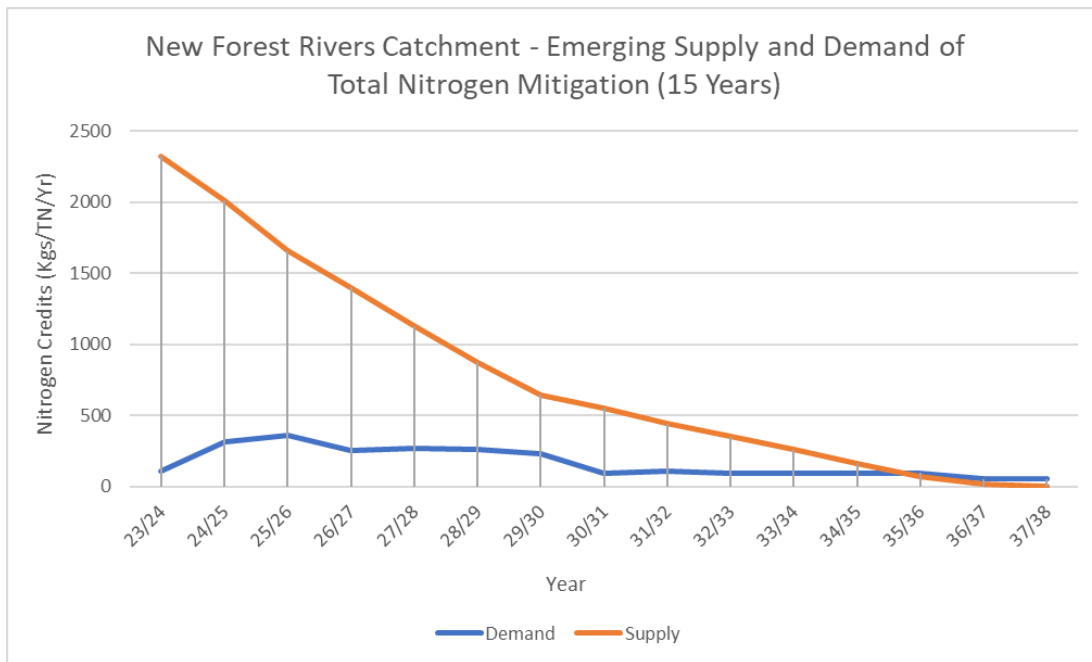


Figure 8 – Emerging Supply and Demand of Total Nitrogen in the New Forest Rivers Catchment

3.41 As can be seen in Figure 8 the emerging supply of strategic mitigation will be exhausted at mid 2036/37 financial year. The unmet need equating to approximately 53Kgs/TN/Yr.

Conclusions for New Forest Catchment Supply and Demand Analysis

3.42 There is currently sufficient supply within the New Forest Rivers Catchment to satisfy demand in the short to medium term. With the inclusion of the emerging nutrient mitigation sites at Shalfleet and Keyhaven it is anticipated that the long-term demand for the New Forest Rivers will be met.

3. Biodiversity Net Gain (BNG) Offsite Supply Analysis

4.1 This reporting round assesses the potential interest of current and emerging nutrient mitigation providers in stacking BNG Units on existing nutrient mitigation sites. A number of nutrient mitigation providers have expressed an interest in supplying offsite BNG units. Unlike nutrient mitigation, offsite units are not restricted to relevant catchments, but instead through National Character Areas and local authority administrative areas. A number of authorities have expressed that it is a priority of offsite units to be provided within their administrative area or if that is not possible within a neighbouring administrative area.

4.2 In terms of the current mitigation providers there are at least four sites that are interested in stacking with BNG offsite units. These providers are all at various stages of delivery of the units. However, it is anticipated that in the PfSH region there is the potential for the provision of approximately 950 (grassland, mixed scrub and hedgerow units) offsite units. Due to the current uncertainty of these schemes an assessment has not been made of the potential impact on of BNG unit supply and demand.

- 4.3 In addition, the PfSH SEPO team is currently project-managing a study on the potential to deliver BNG units on council owned land. The study has been undertaken on behalf of eight PfSH authorities and resulted in a shortlist of sites that are considered most suitable for delivering off-site BNG. Ecological surveys have been undertaken on each of the sites to establish a baseline and the Hampshire County Council Ecology Team have identified strategies for improve the biodiversity value of the site. This work establishes the potential BNG units that can be delivered from the council owned site.
- 4.4 Due to the potential undersupply of BNG units in the short term the SEPO team is collecting data in order to provide a more robust report related to the relative supply and demand of offsite BNG units.

5. Summary

- 5.1 The partnership and catchment-based approach to strategic nutrient mitigation in the Solent region, employed by the Partnership for South Hampshire local authorities, has facilitated an active nutrient mitigation market. This has resulted in sufficient mitigation to satisfy the short-term need for development in all catchments.
- 5.2 The total amount of mitigation delivery by fourteen strategic schemes¹² is approximately 23,000 nutrient credits (both total nitrogen and phosphorus), with the potential for a further 2,750 nutrient credits from four strategic schemes. The number of permissions reported to Joint Committee on the 26 September 2023 equates to approximately 14,500 Kg/TN/Yr.
- 5.3 The first phosphorus scheme is in the process of being delivered within the Itchen catchment to unlock the initial backlog of planning applications. In addition, the Solent is in successful receipt of funding to deliver nutrient mitigation schemes from the Local Nutrient Mitigation Funding as highlighted in Section 1 of this report. Substantive work is now being undertaken in relation to deployment of the Local Nutrient Mitigation Fund, and the results of this work will be presented in a future report.
- 5.4 The refinement of demand calculations for the remaining authorities in the Test and Itchen catchment using CROME analysis may reduce unmet demand and increase the nutrient mitigation supply in the catchment in the short term. It is essential that supply is maintained above the level of demand to avoid a situation where planning permissions cannot be issued for sustained periods of time across the sub-region.
- 5.5 It is clear that continued support will be required to ensure that sufficient supply of suitable nutrient mitigation comes forward in the Test and Itchen catchment so that planned development can continue across the impacted area to meet the residual need. It is also important for new mitigation to come forward in the East Hampshire catchment in order to demonstrate a five-year supply of mitigation for local plan processes.

¹² [Potential Nutrient Mitigation Schemes - Partnership for South Hampshire \(push.gov.uk\)](https://push.gov.uk/potential-nutrient-mitigation-schemes-partnership-for-south-hampshire)

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Enquiries:

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