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Briefing Note

Our ref 65056/01/GW
Date 15 May 2023
To James Stevens, HBF
From Simon Coop

Subject **Nutrient Neutrality solution finding: input into HBF response to Government call for evidence on scale of impact of nutrient neutrality**

1.0 Introduction

1.1 The Government has launched a call for evidence relating to the challenges that local authorities face in dealing with nutrient pollution and its specific implications on the delivery of new housing. Whilst the consultation is principally oriented towards local authorities, the document states that *"We are also interested in hearing from others who have evidenced proposals which could reduce nutrient pollution and unlock housing."* HBF has been invited by the Government to respond to the call for evidence on behalf of the house building industry.

1.2 This note is intended to inform the HBF response. It focuses specifically on the population component of the nutrient calculator by:

1 Reviewing the approach that Natural England has adopted in respect of average household size and why this over-states the impact of new residential development on a local population.

2 Using the latest (2021) census data to assess the average household size of individual local authorities within the affected catchments and showing the extent to which these deviate from the (2011-based) national average figure of 2.4 people per household.

3 Demonstrating the importance of the net additional population when considering the nutrient impact of new residential development and calculating the net additional average household size within the affected local authorities.

4 Identifying those authorities that currently apply a locally specific average household size figure for the purposes of the assessment of nutrient mitigation.

1.3 The purpose of this is to demonstrate that the application of Natural England's recommended average household size figure of 2.4 is inappropriate and serves to over-estimate the additional population – and hence the nutrient load – associated with any new residential development. The effect of this is significant in that it over-states the mitigation requirements associated with new residential development and, in the context of the requirement for nutrient neutrality, is serving to prevent much-needed new housing from coming forward.

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2.0 Use of average household size figures to inform calculations of nutrient load

2.1 Natural England initially issued guidance to the Solent authorities in June 2020 on how nutrient neutrality might be achieved. It's proposed methodology and calculator – which is summarised in Table 1 – has subsequently been applied in other catchments.

Table 1 Natural England methodology for calculating the nutrient load of new developent

Stage	Task
1	Calculate the total amount of nitrogen that would be discharged via Wastewater Treatment Works (WwTW) into catchments Step 1: Calculate additional population Step 2: Confirm water use Step 3: Confirm WwWT and nitrogen permit level Step 4: Calculate total nitrogen derived from the proposed development that would exit the WwTW after treatment
2	Calculate existing (pre-development) nitrogen) from the current land use of the development site
3	Calculate nitrogen for the non-built land uses proposed for the development site (e.g. public open space)
4	Calculate the change in the total nitrogen as a result of the development
Result	If stage 4 shows a positive number, mitigation is required If stage 4 shows a negative number, mitigation is not required

Source: Lichfields summary of Natural England advice

2.2 In respect of Stage 1.1, the calculation of population is based on the application of an average household size figure to the number of dwellings that are proposed. Natural England's starting position is that the national average household size of 2.4 should be applied:

"Natural England recommends that, as a starting point, local planning authorities should consider using the average national occupancy rate of 2.4, as calculated by the Office for National Statistics (ONS), as this can be consistently applied across all affected areas." (Natural England's advice on achieving nutrient neutrality for new development in the Solent Region. Version 5, June 2020, paragraph 4.18).

2.3 However, it goes on to accept that local authorities may apply alternative figures where there is evidence to support this approach:

"However competent authorities may choose to adopt bespoke calculations tailored to the area or scheme, rather than using national population or occupancy assumptions, where they are satisfied that there is sufficient evidence to support this approach. Conclusions that inform the use of a bespoke calculation need to be capable of removing all reasonable scientific doubt as to the effect of the proposed development on the international sites concerned, based on complete, precise and definitive findings. The competent authority will need to explain clearly why the approach taken is considered to be appropriate. Calculations for occupancy rates will need to be consistent with others used in relation to the scheme (e.g. for calculating open space requirements), unless there is a clear justification for them to differ." (Natural England's advice on achieving nutrient neutrality for new development in the Solent Region. Version 5, June 2020, paragraph 4.19).

2.4 Application of the recommended figure of 2.4 persons per household would identify the total population living within a new development. However, the analysis relates to the amount of nutrients to be discharged into the affected catchment and so a wider perspective is required. Stage 1.1 of the methodology refers specifically to the need to calculate the additional population arising.

2.5 Natural England issued further advice in March 2022[1] in the light of the Wyatt case which is detailed below. This again identifies the first stage as being to *"calculate the increase in population due to the development"* (emphasis added). Reference to an *"increase"* in population is important as this would not arise as a result of new household formation by existing residents. However, the guidance continues to suggest that an average household size figure should be applied even though this would identify the overall population living at the site.

2.6 In November 2022, Natural England published an updated version of its Nutrient Neutrality Generic Methodology[2]. The methodology document states that:

"Competent authorities must satisfy themselves that the residents per dwelling/unit value used in this step of the calculation reflects local conditions in their area. The residents per dwelling value can be derived from national data providing it reflects local conditions. However, if national data does not yield a residents per dwelling/unit value that reflects local occupancy levels then locally relevant data should be used instead. Whichever figure is used, it is important to ensure it is sufficiently robust and appropriate for the project being assessed. It is therefore recommended that project level Appropriate Assessments specifically include justification for why the competent authority has decided upon the occupancy rate that has been used." (Page 13)

2.7 This document did not differentiate between the total population of a development and the additional population that will arise from its delivery. It went on to recommend the continued application of an average household size of 2.4 *"when using national occupancy data"*, albeit that noting that this was subject to change in the light of the 2021 census data and that:

[1] https://www.north-norfolk.gov.uk/media/7687/letter-from-ne-water-quality-and-nutrient-neutrality-advice.pdf
[2] http://publications.naturalengland.org.uk/file/4929269741649920

"If the national average occupancy rate does not correspond with local conditions, then a locally relevant average residents per dwelling value may be more appropriate. If a Local Planning Authority decides to use a locally relevant value, that value needs to be supported by robust and sufficient evidence which should be included in the project level Appropriate Assessment." (Page 14).

2.8 Whilst the updated guidance and methodology document continues to advocate the application of a national average household size figure, the focus continues to be on the total population, even though Table 1 of the guidance makes specific reference to the need to calculate the increase in population. This disconnect is clearly seen in the explanation of the calculation in Table 1, as being:

"No. of new dwellings/units x residents per dwelling value (number of people)"

2.9 Going forward, it will be important to ensure that assessments consider the *"increase in population due to the development"*, as indicated by Natural England's overview of the steps in Stage 1, rather than the total population residing within the development. Whilst the two might be the same at the site level, they are likely to be very different at a local authority or catchment level. This disconnect will give rise to contrasting mitigation expectations.

Relevant Legal Context

2.10 The application of the average household size of 2.4 in the Natural England calculator was considered by the High Court (and subsequently the Court of Appeal) in the case of *R (Wyatt) v Fareham Borough Council*[3]. The first ground of challenge that *"the use of the 2.4 person per dwelling occupancy rate in the nutrient budget was irrational, unreasoned and contrary to the precautionary principle"* (paragraph 53). The basis for this view was that the application of *"an average for all dwellings in England and Wales, regardless of size, is by definition not precautionary"* (paragraph 54).

2.11 Whilst this ground was dismissed – as were all other grounds – Jay J stated in paragraph 87 that *"this judgment should not be interpreted as necessarily giving a clean bill of health to the use of a 2.4 occupancy rate in all circumstances, even those which cannot be described as atypical"*.

2.12 The judgment of Jay J was subsequently challenged in the Court of Appeal[4] which issued its judgment in July 2022. The appellant had sought to appeal five of the eight grounds considered by Jay J, although permission was only granted in respect of four of these. One of the points of challenge related to the reasonableness of the average household size figure of 2.4 that was applied by Fareham Borough Council. Again, the issue under consideration was whether a higher occupancy rate should have been applied given that the dwellings were likely to be larger than average and reflecting the fact that the Council had used bespoke calculations for a sheltered housing development elsewhere in the Borough. Paragraph 34 of the Court of Appeal judgment summarised in detail the evidence that a

[3] 2021, EWHC 1434
[4] 2022 EWCA Civ 983

witness for Natural England had set out in their statement prepared for the High Court. It stated:

"Natural England had assumed '100% inward migration', whereas in reality 'some occupants of new dwellings will be moving within the affected catchments, so do not represent an entirely new burden'."

2.13 This approach was intended to reflect the *"precaution that is built into the methodology as a whole".*

2.14 In paragraph 37, Lindblom LJ summarised part of the High Court judgment, stating that:

"Jay J. was critical of the approach to occupancy rates in Natural England's technical guidance note, and of the council's use of an occupancy rate of 2.4 persons per dwelling in this case. But adopting the degree of deference he thought right in the circumstances, and approaching the matter on a Wednesbury basis, he concluded that the use of the 2.4 occupancy rate was sufficiently precautionary. He concentrated, in particular, on two "precautionary elements" of the appropriate assessment that could "legitimately be brought into account": first, that "the relationship [between occupancy rates and water usage] is not one of direct proportionality", and second, that "the algorithm assumes 100% migration to the area" (paragraph 84 of his judgment). He was "satisfied that there was an adequate precautionary leeway afforded by [these] two key factors" (paragraph 86). He added, however, that the technical guidance note would need to be reviewed in the light of his judgment (paragraph 87)."

2.15 In considering this judgment it is important to note that the claim was that a higher average household size figure should have been applied because of the size of the dwellings. The conclusions of the courts related specifically to that point and not whether a lower figure should have been applied to reflect the net additional population.

2.16 Lindblom LJ concluded at paragraph 56 that:

"I do not think there can be any proper challenge in these proceedings to the lawfulness of the advice given by Natural England in its technical guidance note, which seems to have been the real target for much of the argument advanced on behalf of Mr Wyatt."

2.17 However, he went on the in next paragraph to recognise that:

"It should be remembered that the technical guidance note is not statute. It does not create some additional legal requirement or test. It is an advisory document, which is neither mandatory in effect nor prescriptive of a single correct procedure to be followed. It contains guidance, whose purpose is to assist competent authorities in performing their functions under the habitats legislation. It does not assert that the approach it suggests is the only means of conducting an appropriate assessment. On the contrary, it expressly acknowledges that this approach is only "a means" or "one way" of undertaking that task (paragraphs 1.3, 2.6 and 4.1)."

2.18 The implication of this is that an authority is not obliged to apply the average household size figure of 2.4 and that it might reasonably deviate from this.

2.19 In his concurring judgment, Males LJ explained that a local planning authority can undertake a lawful appropriate assessment despite deviating from the approach set out in Natural England's technical guidance where there is a good reason to do so. His conclusion at paragraph 146 states:

"Despite this, however, I consider that the use of the national average occupancy rate of 2.4 persons per dwelling did not render the "appropriate assessment" carried out by the Council unlawful. The question for the Council was not whether it had followed precisely the methodology set out in the 2020 Advice, but rather whether it had carried out a sufficient "appropriate assessment" for the purpose of the Habitats Regulations. ***It was not mandatory to follow precisely the methodology set out in the 2020 Advice and the use of the national average occupancy rate was not questioned by Natural England when consulted about the proposed development. Rather, Natural England stated that it had no concerns. That was a view to which the Council was entitled and required to have regard. It provided a good reason not to follow precisely the methodology set out in the 2020 Advice****. In those circumstances we can only interfere with the conclusion of the Council, based on the assessment which it had undertaken, that the proposed development would not contravene Regulation 63 of the Habitats Regulations, if that conclusion was Wednesbury unreasonable. That is a demanding test and I am not persuaded that it is satisfied here."* (Lichfields emphasis).

2.20 The short postscript goes even further and notes that further variations from the average occupancy rates are now expressly supported in the 2022 guidance:

"I would add that we have been provided with the latest version of Natural England's Advice to planning authorities, issued in March 2022 and updated expressly in the light of (among other things) the judgment of Mr Justice Jay in this case. This Advice is not limited to the Solent region.

"Interestingly, the 2022 Advice emphasises the importance of local conditions in selecting an occupancy figure, and the need to focus on the particular project being assessed. It recognises that the average national occupancy rate of 2.4 persons per dwelling (which it notes will be subject to change when the results of the 2021 Census become available) may not be appropriate for certain types of development:

> ***Occupancy rates based on dwelling type***
>
> *'Should the nature or scale of development associated with a particular project proposal suggest that the use of an average occupancy rate is not appropriate, then the Local Planning Authority may decide to adopt an occupancy rate based on the dwelling types proposed for that particular project, provided it meets the criteria outlined above …'*
>
> *Those criteria include that the rate selected reflects local conditions, is sufficiently robust and appropriate for the project being assessed, and is derived from a reliable source which can show trends over a protracted period of time, such as data from the Office for National Statistics.*

"For the future it is the 2022 Advice which planning authorities will need to consider."

2.21 In considering the wider implications of this case, it is important to bear in mind that:

1 Prior to the publication of the Lichfields demographic analysis of Natural England's advice in March 2022, no evidence has been forthcoming as to whether Natural England has over-estimated the additional population;

2 Although Jay J concluded that the figure of 2.4 people per household was *"sufficiently precautionary"* in that case, the courts have not yet considered if this is overly precautionary in the context of the reality that not all residents will migrate in from another catchment; and,

3 In the light of the 2022 advice, one must question whether the courts would interfere with decisions by local authorities to substitute occupancy rates, so long as adequate evidence is provided to justify the rates that are applied.

3.0 Application of locally specific data

3.1 The figure of 2.4 people per household is the national average taken from the 2011 census. The release of 2021 census data means that it is no longer up to date. Furthermore, the availability of information specific to individual local authorities means that it is possible to move away from generalised inputs that were the subject of criticism by the courts in the Wyatt case.

3.2 A review of 2021 census data relating to the number of households and number of residents living in households provides an indication of the average household size by authority. Of the 67 authority areas that are subject to nutrient neutrality requirements (excluding six national park authorities and The Broads Authority):

1 Only one authority (Basingstoke and Deane) has an average household size of 2.4; and,

2 Just four authorities have an average household size that is greater than 2.4:

a Ashford: 2.46

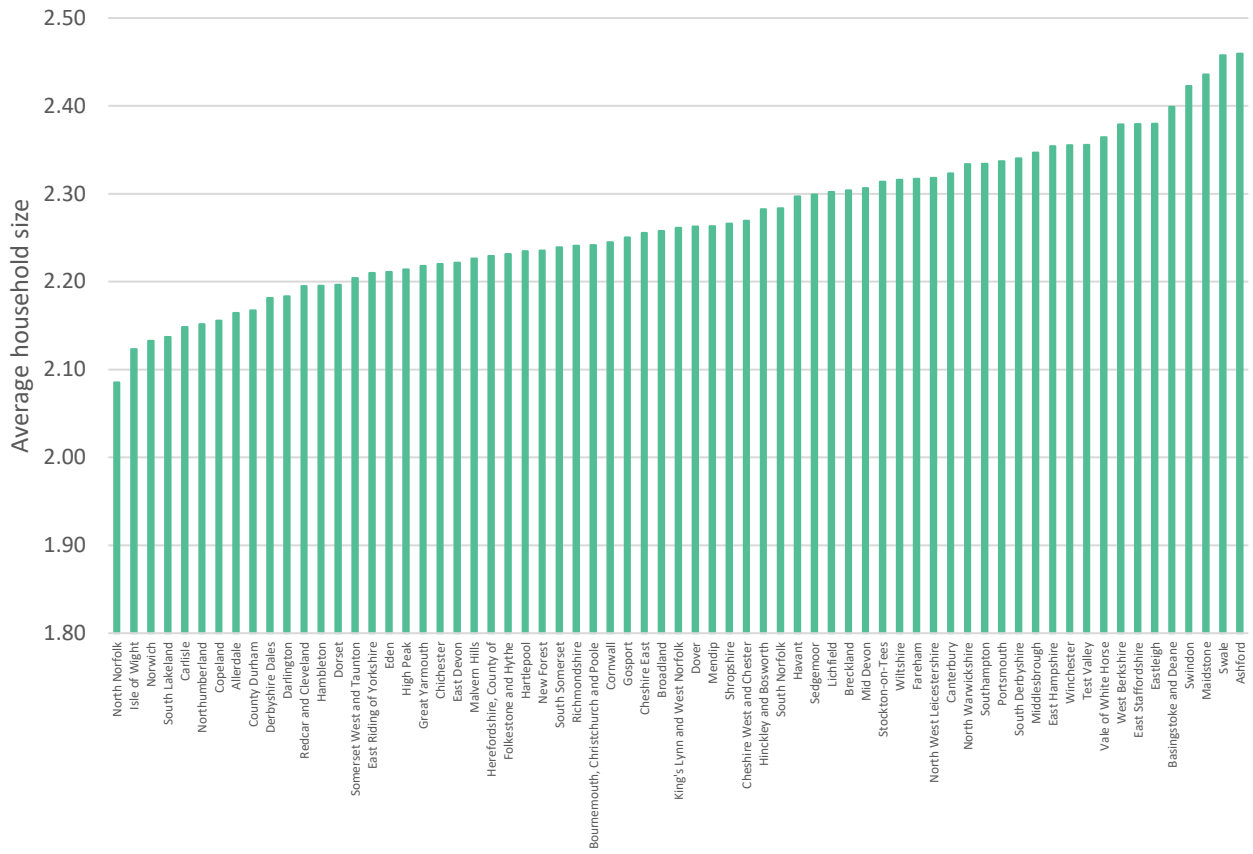
b Maidstone: 2.44

c Swale: 2.46

d Swindon: 2.42

3.3 All of the others have an average household size of between 2.09 (North Norfolk) and 2.38 (Eastleigh). The mean average household size of the affected local authority areas is 2.26. This compares to the national average of 2.37. Only eight of the affected authorities have an average household size that exceeds this figure.

Figure 1 Average household size of affected local authorities



Source: Lichfields analysis of 2021 census data

3.4 Full details of the average household size by local authority are set out in Appendix 1.

3.5 This analysis highlights two key points:

1 The 2011-based national figure of 2.4 people per household no longer represents the most up-to-date information and should therefore be updated; and,

2 Locally-specific data should be applied in preference to the national-average.

4.0 Net additional average household size

4.1 The evidence set out above highlights the importance of applying locally specific data in preference to an out-dated national average. However, as with Natural England's recommended figure, application of the local data would continue to generate a total population figure. Application of this for the purposes of the assessment of nutrient mitigation would therefore assume 100% in-migration into the local catchment/area. As set out in Section 2, Natural England has acknowledged that this assumption does not reflect the reality of house moves.

4.2 A review of data contained in the 2020/21 English Housing Survey shows that 77.9% of households in market housing and 82.3% of households in affordable housing moved less

than 20 miles from their previous home, whilst 66.5% of households in market housing and 78.0% of households in affordable housing moved less than ten miles. This data highlights the extent to which the assumption of 100% in-migration to the local area is unrealistic. Even taking account of the typical housing chain, it is clear that a very large proportion of people would move within a local authority or catchment area.

4.3 In March 2023, HBF published a report that had been prepared by Lichfields which sought to assess mitigation requirements to 2030 and provide a basis by which housing delivery might continue[5]. The report included a detailed review of the issue of the net additional population within new housing. Paragraphs 4.14 to 4.16 stated:

"The issue of nutrient neutrality is – or should be – centred upon population. Were a local population to remain the same size, the nutrient load associated from that population would also remain the same, irrespective of how that population divides itself into households and the number of houses that are required to accommodate them. Consequently, a static overall population has no role in generating additional nutrients. It is only net additional people, moving into the catchment from outside, who will need to be catered for by providing mitigation.

"The use of a calculator for the assessment of the nutrient load of new development pre-supposes that population growth and associated nutrient outputs will be controlled by restricting new housing delivery. This is not a direct relationship as those people unable to access new housing might simply decide to house share leading to higher average occupancy levels, particularly in areas of high demand.

"The relationship between population and household growth is complex and application of an average household size figure therefore fails to reflect the dynamics of change within an existing population. Any mitigation measures should be proportionate to the impact arising from development – the actual increase in population that will occur. Work undertaken by Lichfields for the HBF in March 2022 demonstrated how basing mitigation on the Natural England calculator will overestimate significantly the likely increase in population associated with new development and result in a requirement for mitigation that is neither needed nor compliant with the Section 106 tests."

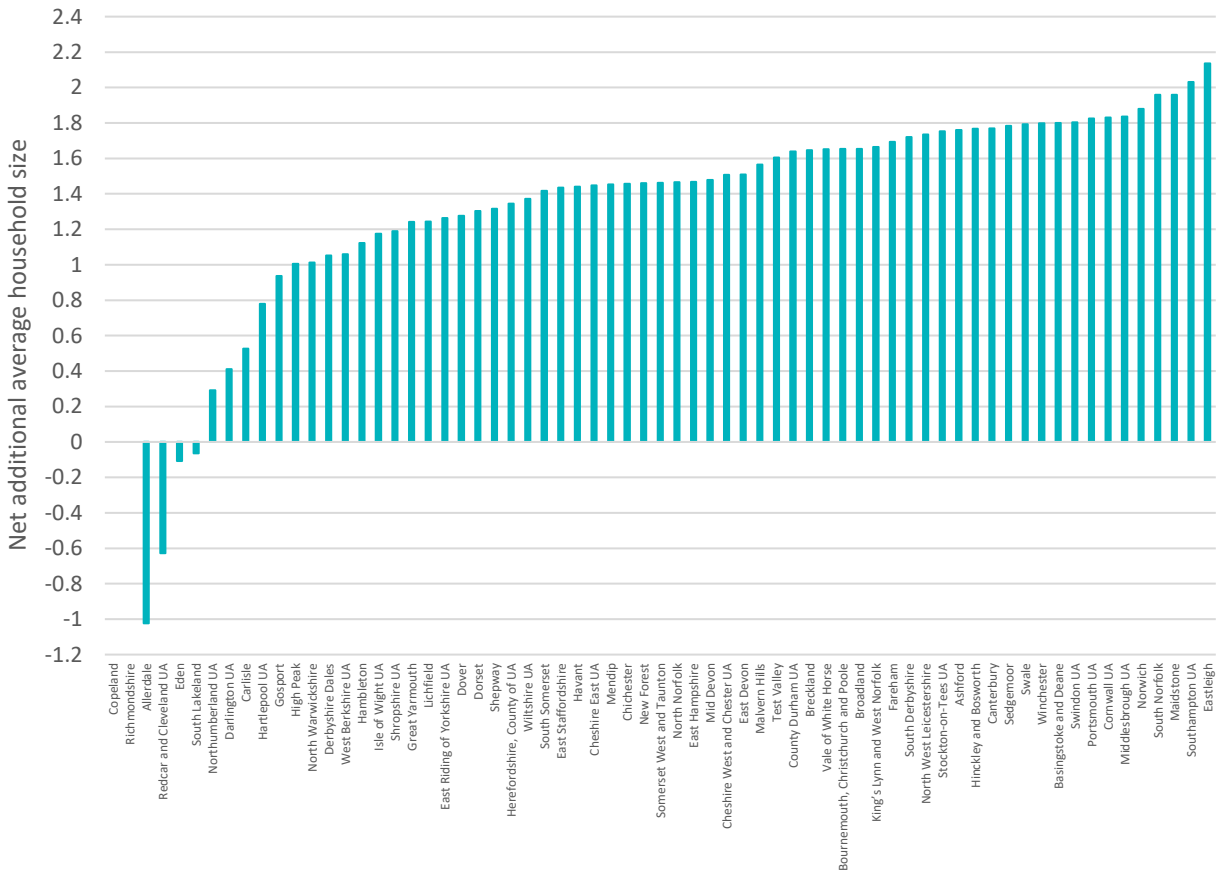
4.4 The *Solution Finding* report identified the net additional average household size by dividing the projected increase in the household population[6] by the increase in the number of households between 2023 and 2030. This time period was selected to reflect the date by which water companies will be required to improve their wastewater treatment works to the best technically achievable limits. As the focus of the nutrient neutrality calculator is forward looking, our analysis was informed by analysis of the 2014-based sub-national household projections[7].

[5] https://www.hbf.co.uk/documents/12361/Nutrient_Neutrality_-_Solution_Finding_Report_-_HBF_Update_-__March_2023_-_FINAL.pdf
[6] The household population represents the population that reside in households. It excludes those that live in institutions such as care homes, boarding schools, halls of residence, army barracks and prisons.
[7] The 2014-based SNHP was applied as these are the projections that the Government has selected to form the basis of the Standard Methodology.

4.5 We have applied this methodology to the 67 local authorities that are subject to nutrient neutrality advice[8]. A full summary of the results is contained in Appendix 2.

4.6 A review of the figures shows that the net additional household size that should be used as a basis for the calculation of nutrient impacts and mitigation range from -91.29 people per household in Copeland to 2.14 people per household in Eastleigh. Excluding the negative figures (which are discussed below), the range is from 0.29 people per household in Northumberland to 2.14 in Eastleigh. In every case, the net additional average household size is lower than the average household size for the relevant authority as identified by the 2021 census and is substantially lower than the 2.4 figure advocated by Natural England.

Figure 2 Net additional average household size of affected local authorities



Source: Lichfields analysis of 2014-based Sub National Household Projection. Note figures for Copeland (-91.29) and Richmondshire (-9.93) are off the scale of this chart

4.7 The average net additional average household size across the affected authorities is 1.52 people per household.

[8] SNHP data is not available for national park authorities or The Broads

4.8 An accurate understanding of the dynamics of change within the wider population of an individual local authority (or catchment) area is essential to be able to fully assess the impact of a specific development. Whilst it is fully anticipated that some new dwellings will be occupied by larger family groups – including some that might migrate in from elsewhere – such increases would be offset by reductions in the size of existing households, for example as a result of death, family breakdown or grown-up children moving out of the family home. Whilst all of these trends will reduce the average household size, some will also necessitate the delivery of additional housing. However, the dissolution of a single household residing in one dwelling to two households in two separate dwellings cannot be expected to have any impact in terms of an increased nutrient load within the local catchment. The Natural England calculator would assume that if the newly formed household moved into a new property, it would have the same impact as 2.4 people moving from elsewhere. It is only by taking account of the overall demographic and household trend within the area that the true impact of development can be fully understood.

4.9 It is noted, however, that the 2014-based Sub National Household Projections anticipated a reduction in the household population of South Lakeland, Eden, Redcar & Cleveland, Allerdale, Richmondshire and Copeland. This results in a negative net additional average household size figure which creates difficulty for the calculation of nutrient impact of new residential development.

4.10 In these locations, we would advocate an alternative approach. This might comprise the application of:

1 A catchment-wide net additional average household size figure; or,

2 Historic rates experienced between 2011 and 2021, albeit that this is a backward-looking indicator and, as illustrated below, the figures still show a negative net additional average household size figure for but Copeland and Richmondshire:

Table 2 Change in net additional average household size between 2011 and 2021

Local authority	Change 2011-2021		Net additional average household size
	Household population	Households	
Allerdale	203	1,627	0.12
Copeland	-2,938	253	-11.61
Eden	2,803	1,570	1.79
Redcar and Cleveland	1,371	2,033	0.67
Richmondshire	-408	737	-0.55
South Lakeland	1,328	1,104	1.20

Source: Lichfields analysis of 2011 and 2021 census

5.0 Approach adopted by local authorities

5.1 Many of the local authorities that are subject to nutrient neutrality requirements have prepared guidance and/or nutrient calculators that can be used to identify the total

nutrients generated by a development. Whilst the majority of these have applied the standard figure of 2.4 people per household, we note that a number of authorities have adopted an alternative figure, as set out below. In the majority of cases, however, the key variation appears to apply to the application of different average household size figures for flats and houses.

Table 2 Alternative average household size figures applied

Catchment	Local Authority	Average household size applied	Evidence used to justify alternative figure / Notes
Camel	Cornwall[9]	House: 2.4 Flat: 1.65	Not stated
Hampshire Avon / Poole Harbour	Dorset[10]	House: 2.42 Flat: 1.65	Dorset Council assumes that anyone living in the catchment also works and uses facilities in the catchment, and therefore any sewage generated by that person can be calculated using the number of new homes built. It notes that this assumption provides a practical approach and assumes a worst case scenario, the precautionary principle as required for assessing effects on SPA.
Hampshire Avon / Solent	New Forest[11]	Studio/1-bed: 1.4 2-bed: 2.1 3-bed: 3.0 4+-bed: 3.75 Unspecified: 2.63	The rationale for these figures is not stated although the unspecified dwelling size assumes a housing mix compliant with 6.1 of Policy HOU1 in the Local Plan 2016 - 2036 Part One: Planning Strategy
Somerset Levels[12]	Mendip	House: 2.4 Flat: 1.65	These local authorities have adopted a common approach to the assessment of nutrient neutrality and a single calculator has been developed for use in all four authorities
	Sedgemoor		
	Somerset West and Taunton		
	South Somerset		
Stour Catchment	Ashford[13]	House: 2.4 Flat: 1.75	Any applicant wishing to deviate from these values will be required to provide robust evidence in support of their application in order to justify their approach.

[9] https://www.cornwall.gov.uk/planning-and-building-control/planning-applications/nutrient-neutrality-in-cornwall/#calculator
[10] https://moderngov.dorsetcouncil.gov.uk/Data/400/201703281415/Agenda/Appendix%202%20-%20Nitrogen%20Reduction%20in%20Poole%20Harbour%20Supplementary%20Planning%20Guidance.pdf
[11] https://www.newforest.gov.uk/article/2714/Nutrient-neutral-development
[12] https://ssccust1.spreadsheethosting.com/1/3d/08e177701b0026/Copy%20of%20P%20budget%20Calc_V3.1%20developer%20version/Copy%20of%20P%20budget%20Calc_V3.1%20developer%20version.htm
[13] https://www.ashford.gov.uk/planning-and-development/planning-applications/making-planning-applications/habitat-regulations-assessment/nutrient-neutrality-information-for-developers/

	Shepway (Folkestone & Hythe)[14]	2.18	This is the average dwelling occupancy for the District provided by the Council.
Teesmouth and Cleveland Coast SPA / Ramsar	County Durham[15]	1.38	Tees Catchment Area Planning Authorities commissioned a report to investigate likely occupancy rate of new dwellings in affected area and applied this as an alternative to the 2.4 set by Natural England
	Darlington[16]	0.8	
	Hartlepool[17]	0.8	
	Middlesbrough[18]	0.6	
	Stockton-on-Tees[19]	0.76	
River Wensum / Norfolk Broads SAC[20]	Breckland	Dwelling: 1.88 Additional rooms above 6 residents for HMO: 1.65	Calculator developed based on the basis that new dwellings will often be occupied by people who are already living within the catchment and are already contributing to wastewater
	Broadland		
	Great Yarmouth		
	North Norfolk		
	Norwich		
	King's Lynn and West Norfolk		
	South Norfolk		
River Wye	Herefordshire[21]	2.3	2011 Census had a figure of 2.3 persons per household for Herefordshire. Herefordshire Council and Dwr Cymru (Welsh Water) use an occupancy figure of 2.3 in relation to Section 106 calculations within the planning system and for determination of population growth, respectively

Source: Lichfields review of individual local authorities policies/nutrient calculators. Note that authorities not listed on this table have either not published nutrient calculators or have applied Natural England's recommended average household size of 2.4.

5.2 The local authorities that have not adopted an alternative household size figure to that used in the generic Natural England methodology are still reliant on the 2022 calculator. This calculator has not been updated since it was first issued, despite the fact that new census data on average household sizes has been issued.

[14] https://folkestone-hythe.gov.uk/media/3137/EB-02-95-HRA-Addendum-Nutrient-Neutrality-07-12-2020/pdf/EB_02.95_FHDC_Habitats_Regulations_Assessment_Addendum_-_Nutrient_Neutrality__07.12.2020.pdf?m=637429630190700000.
[15] https://www.durham.gov.uk/media/41915/Nutrient-Budget-Calculator/xls/NutrientBudgetCalculator.xlsx?m=638155274509670000
[16] https://microsites.darlington.gov.uk/local-plan/news/posts/2023/march/nutrient-neutrality-advice-updated-24-march-2023/
[17] https://www.hartlepool.gov.uk/downloads/file/8619/natural_englands_nutrient_mitigation_scheme_guidance_-_march_2023
[18] https://www.middlesbrough.gov.uk/planning-and-development/planning-policy/nutrient-neutrality/#:~:text=The%20term%20'nutrient%20neutrality'%20is,up%20in%20the%20River%20Tees.
[19] https://www.stockton.gov.uk/nutrient-neutrality
[20] https://www.southnorfolkandbroadland.gov.uk/downloads/file/5017/river-wensum-sac-and-broads-sac-nutrient-budget-calculator
[21] https://www.herefordshire.gov.uk/downloads/file/22150/interim-phosphate-delivery-plan-stage-1-report

5.3 Only the local authorities within the Teesmouth and Cleveland Coast and River Wensum/Norfolk Broads catchments have adopted an approach that reflects the net additional average household size. The basis for the calculation of these figures is likely to have differed to the approach that has informed our analysis in Section 4 but the underlying principle remains the same – and is agreed – that the assessment should be based on a review of the net additional, rather than the total population that would reside within any new development.

6.0 Conclusion

6.1 This note has been prepared to inform HBF's submissions to the Government's call for evidence on the scale of the impact of nutrient neutrality. The advice from Natural England is that the starting point for the assessment of the nutrient load associated with new residential development should be the national average household size of 2.4. This is taken from the 2011 census. It represents an out-dated one-size-fits-all approach which does not reflect the current reality in the overwhelming majority of affected authorities. However, as has been shown, most affected authorities do apply this figure in their assessment of nutrient mitigation requirements.

6.2 The advice of Natural England is somewhat contradictory in that it refers to both the increase in population arising from residential development and the total population that will reside in new homes. At a site level these will be the same, but they will vary considerably at an authority or catchment-wide level. The stated figure of 2.4 people per household assumes 100% inward migration. This fails to reflect the reality of how people tend to move locally – as reflected in EHS data. A much more appropriate basis for analysis should be the increase in the local population. Going forwards, the approach to mitigation should therefore be based on the net additional average household size. The methodology applied in this note – and in our *Solution Findings* report – provides a transparent basis by which the impact of new development on a local population might be calculated.

6.3 It is noted that some local planning authorities have shown leadership in respect of this matter by identifying a locally appropriate average household size to apply. This is most welcome, but a more consistent approach supported by Natural England is required across all affected catchments and local authorities.

6.4 We believe that the approach identified in this note would maintain a precautionary approach in that it represents a short-term rate – noting that the reduction in average household sizes means that a lower figure would be derived from the application of longer-term rates – and, in any event, the buffer of 1.2 that is built into the nutrient calculator applies a 20% uplift for the purposes of precaution. Application of the recommended figure of 2.4 people per household is far in excess of what might reasonably be expected as a result of new residential development and serves only to prevent the delivery of much-needed new homes.

LICHFIELDS

Appendix 1: Average household size by local authority

Local authority	Av hh size
Allerdale	2.16
Ashford	2.46
Basingstoke and Deane	2.40
Bournemouth, Christchurch and Poole	2.24
Breckland	2.30
Broadland	2.26
Canterbury	2.32
Carlisle	2.15
Cheshire East	2.26
Cheshire West and Chester	2.27
Chichester	2.22
Copeland	2.16
Cornwall	2.24
County Durham	2.17
Darlington	2.18
Derbyshire Dales	2.18
Dorset	2.20
Dover	2.26
East Devon	2.22
East Hampshire	2.35
East Riding of Yorkshire	2.21
East Staffordshire	2.38
Eastleigh	2.38
Eden	2.21
Fareham	2.32
Folkestone and Hythe/Shepway	2.23
Gosport	2.25
Great Yarmouth	2.22
Hambleton	2.20
Hartlepool	2.23
Havant	2.30
Herefordshire	2.23
High Peak	2.21
Hinckley and Bosworth	2.28

Local authority	Av hh size
Isle of Wight	2.12
King's Lynn and West Norfolk	2.26
Lichfield	2.30
Maidstone	2.44
Malvern Hills	2.23
Mendip	2.26
Mid Devon	2.31
Middlesbrough	2.35
New Forest	2.24
North Norfolk	2.09
North Warwickshire	2.33
North West Leicestershire	2.32
Northumberland	2.15
Norwich	2.13
Portsmouth	2.34
Redcar and Cleveland	2.20
Richmondshire	2.24
Sedgemoor	2.30
Shropshire	2.27
Somerset West and Taunton	2.20
South Derbyshire	2.34
South Lakeland	2.14
South Norfolk	2.28
South Somerset	2.24
Southampton	2.33
Stockton-on-Tees	2.31
Swale	2.46
Swindon	2.42
Test Valley	2.36
Vale of White Horse	2.36
West Berkshire	2.38
Wiltshire	2.32
Winchester	2.36

Source: Lichfields analysis of 2021 census

LICHFIELDS

Appendix 2: Net additional average household size by local authority

Local authority	Net additional av hh size
Allerdale	-1.02
Ashford	1.76
Basingstoke and Deane	1.80
Bournemouth, Christchurch and Poole	1.65
Breckland	1.65
Broadland	1.65
Canterbury	1.77
Carlisle	0.53
Cheshire East UA	1.45
Cheshire West and Chester	1.51
Chichester	1.46
Copeland	-91.29
Cornwall	1.83
County Durham	1.64
Darlington	0.41
Derbyshire Dales	1.05
Dorset	1.30
Dover	1.28
East Devon	1.51
East Hampshire	1.47
East Riding of Yorkshire	1.26
East Staffordshire	1.44
Eastleigh	2.14
Eden	-0.11
Fareham	1.69
Folkestone and Hythe/Shepway	1.32
Gosport	0.94
Great Yarmouth	1.24
Hambleton	1.12
Hartlepool	0.78
Havant	1.44
Herefordshire	1.34
High Peak	1.00

Local authority	Net additional av hh size
Isle of Wight	1.17
King's Lynn and West Norfolk	1.66
Lichfield	1.24
Maidstone	1.96
Malvern Hills	1.56
Mendip	1.45
Mid Devon	1.48
Middlesbrough	1.84
New Forest	1.46
North Norfolk	1.47
North Warwickshire	1.01
North West Leicestershire	1.74
Northumberland	0.29
Norwich	1.88
Portsmouth	1.83
Redcar and Cleveland	-0.63
Richmondshire	-9.93
Sedgemoor	1.78
Shropshire	1.19
Somerset West and Taunton	1.46
South Derbyshire	1.72
South Lakeland	-0.06
South Norfolk	1.96
South Somerset	1.42
Southampton	2.03
Stockton-on-Tees	1.75
Swale	1.79
Swindon	1.80
Test Valley	1.60
Vale of White Horse	1.65
West Berkshire	1.06
Wiltshire	1.37
Winchester	1.80

Local authority	Net additional av hh size
Hinckley and Bosworth	1.77

Local authority	Net additional av hh size

Source: Lichfields analysis of 2014-based Sub National Household Projections