

Nutrient Neutrality Budget Calculator (Tees Catchment) Guidance Note for Darlington Borough (Updated June 2024)

1.0 Introduction

- 1.1 This guidance note has been produced by Darlington Borough Council to guide and advise applicants on the inputs to be used when completing the Natural England Tees Catchment Nutrient Neutrality Budget Calculator (“the calculator”) for development proposals in the Borough of Darlington.
- 1.2 The Instructions tab of the calculator does already include detailed instructions on how to complete it and access various datasets to identify the inputs to be used. Natural England has also provided further guidance available at <https://www.gov.uk/guidance/using-the-nutrient-neutrality-calculators>
- 1.3 This guide does not seek to duplicate Natural England guidance but rather offer tailored guidance on certain inputs for proposals in the Darlington Borough.

2.0 Worksheet 1 Nutrient loading from additional wastewater inputs

Date of first occupancy

- 2.1 The date entered should be when you estimate the first occupation of the development will take place.

Average Occupancy Rate

Residential Dwellings

- 2.2 Natural England’s guidance recommends that, as a starting point, Local Planning Authorities should consider using the average national occupancy rate of 2.4 persons per dwelling as calculated by the Office for National Statistics (ONS). The standard calculator produced by Natural England works off such an assumption.
- 2.3 On behalf of the Tees Catchment, Stockton on Tees Borough Council commissioned ORS to consider the weight to be placed on that assumption and prepare a local evidence-based review of the relationship between population growth and provision of new homes within the River Tees catchment to ensure that a suitable robust and evidence based approach can be taken.

- 2.4 Based on local evidence, ORS concluded that the resident population living in the Tees Catchment increased by 24,800 persons over the intercensal period 2011 to 2021 and the housing stock increased by 41,000 dwellings, equivalent to an average gain of 0.60 persons per dwelling across the area. Allowing for natural population change and a reduction of residents living in communal accommodation this increased the average to 0.71 persons per dwelling.
- 2.5 Justification is given by ORS that within the Tees catchment, many of the people occupying new homes would have already been residents living within the local area and would therefore not have added to the number of people living in the area. Had these new homes not been provided, it is unlikely that this would have had any material impact on the natural population change – there would still have been broadly the same number of births and deaths recorded over the decade.
- 2.6 However, despite the internal migration within the Tees catchment, it is also acknowledged that there is variation between each authority and therefore it was decided an individual figure will be adopted by each of the various Tees Catchment Authorities.
- 2.7 In determining the figure to be used to assess population growth arising from new dwellings within Darlington Borough, the Local Planning Authority has been mindful of the requirement of the Habitat Regulations and the need to employ a precautionary approach to ensure that the methodology taken is both reasonable and would prevent an impact on the SPA.
- 2.8 Although it is noted that within the 2011-2021 baseline period each new dwelling within Darlington yielded an average of 0.64 persons per dwelling, applying a sensitivity test of +10% would increase that growth to a figure of 0.77 (figures 7 and 8 of the ORS report) which is less precautionary than the adopted Local Plan's gain over the Plan period of 0.98 persons per dwelling.
- 2.9 The research shows that for the Borough if we used the baseline period of 2011-2021 it would show an increase of 0.64, whilst the highest 5 year average would show an increase of 1.1 per dwelling. Due to the recent accelerated growth, which was partly down to a period of constraint, suggests the highest 5 year average is not a resilient figure and a more appropriate approach would be to use the recently adopted annual housing requirement as indicated in the Local Plan which indicates a gain of 0.98 persons per dwelling.
- 2.10 Consequently, rather than simply apply a 10% buffer to the average population growth, Darlington Borough Council have in line with the Habitat Regulations opted to follow a precautionary approach (which will be subject to future reviews) and have resolved to use the figure of 0.98 persons per dwelling derived from the 'adopted annual housing requirement' in the Darlington Borough Local Plan with a 10% buffer applied.

- 2.11 It is considered that such as approach gives a robust evidenced based approach and that a local population growth figure of 1.1 persons per dwelling for Darlington is more appropriate than Natural England's 'starting point' of 2.4 persons per new dwelling.
- 2.12 **An average occupancy rate of 1.1 should be used in the calculator for developments of new residential properties in Darlington Borough.**

Tourism & Serviced Accommodation

- 2.13 An average occupancy rate of 2.4 should continue to be used for tourism and serviced accommodation. This is because visitors are generally from outside the Tees catchment so the evidence gathered regarding residential dwellings explained above can't be applied in the same manner. The only circumstances where an alternative figure can be used is if the applicant can evidence that the accommodation can only physically accommodate 1 or 2 people for example.
- 2.14 The Council is currently gathering evidence to see if an alternative rate can be identified which reflects the actual occupancy levels of tourism accommodation in the Borough per month/year instead of the 100% assumption which, without this evidence, currently has to be used.
- 2.15 **An average occupancy rate of 2.4 should be used in the calculator for developments of new tourism and serviced accommodation in Darlington Borough.**

Water Usage

- 2.16 The calculator is auto-populated with 120 litres/person/day by Natural England. An alternative rate can be used such as the optional higher Building Regulations Water Use Standard of 110 litres/person/day where robust evidence can be provided to demonstrate how this will be achieved. This will then be secured via planning condition.

Development Proposal

- 2.17 This is the number of units the development will comprise of. So, houses, flats/apartments or for tourism accommodation lodges/chalets, caravans or shepherd huts for example. For hotel or serviced accommodation this is the number of rooms.
- 2.18 The Councils approach to Houses in Multiple Occupation (HMO) is as follows:
- HMO up to 6 persons = 1 house/unit
 - HMO over 6 persons = 1 house/unit for 6 persons plus 1 house/unit for every extra person over 6

- 2.19 So for example a 7 person HMO would equate to 2 houses/units and a 10 person HMO would equate to 5 houses/units to be entered into the calculator.

Wastewater Treatment Works & N permit

- 2.20 The Wastewater Treatment Works (WWTW) that the development proposal is served by should be selected from the dropdown list in the calculator. Northumbrian Water have a [Drainage and Wastewater Management Plan Mapping Portal](#) which can be used to help identify the Wastewater Treatment Works drainage area that your proposal is located within.
- 2.21 Many of the larger settlements in the Borough including Darlington, Hurworth and Middleton St George along with High & Low Coniscliffe, Merrybent and Piercebridge are served by Stressholme WWTW. Heighington, Redworth, Coatham Mundeville and Brafferton in the northern part of the Borough are served by Aycliffe WWTW.
- 2.22 Many of the smaller villages and settlements such as Bishopton, Great Stainton, Sadberge, Archdeacon Newton, Denton and Summerhouse are served by their own Wastewater Treatment Works.
- 2.23 If you select a Wastewater Treatment Works this will then auto populate the current Wastewater Treatment Works N permit. It will also populate the Post 2030 Wastewater Treatment Works N permit if the Wastewater Treatment Works you have selected is one that is required to be upgraded by 2030. The only two Wastewater Treatment Works serving Darlington Borough that are required to be upgraded by 2030 are Stressholme and Aycliffe
- 2.24 If your proposal is not in a location served by a Wastewater Treatment Works then you should select either the Septic Tank or Package Treatment Plant option from the dropdown list depending upon which you intend to connect to or install. The default options should be used for these unless a performance certificate can be provided which demonstrates that an alternative total mg of nitrogen per litre can be achieved for the particular tank or plant that is going to be used.

3.0 Worksheet 2 Nutrient loading from current land use inputs

Catchment

- 3.1 The river catchment that your proposal is in should be selected from the drop-down list. The calculator advises to obtain this from <http://environment.data.gov.uk/catchment-planning/>
- 3.2 The three river catchments within the Darlington Borough are the Tees Middle, Skerne and Tees Lower and Estuary. The Tees middle generally covers the western

part of the Borough, with the Skerne covering the northern and central parts of the Borough and the Tees lower and Estuary the eastern parts of the Borough.

Soil Drainage Type

- 3.3 The soil drainage type of your proposal site should be selected from the drop-down list. The calculator advises to obtain this from <http://www.landis.org.uk/soilscapes/#>.
- 3.4 The majority of the Borough is identified as impeded drainage but there are also some areas identified as freely draining and some as slightly impeded and naturally wet.

Annual Average rainfall (mm)

- 3.5 The Annual Average Rainfall should be selected from the drop-down list. The calculator advises to obtain this from <https://nrfa.ceh.ac.uk/data/station/spatial/25005>
- 3.6 The majority of the Darlington Borough including Darlington main urban area has an annual average rainfall figure of 625-650mm although some eastern parts of the Borough are 600-625mm and some western parts 650-675mm and 675mm-700mm.

Nitrate Vulnerable Zone

- 3.7 You will be able to identify if your proposal is located in a Nitrate Vulnerable Zone as advised by the calculator here <https://mapapps2.bgs.ac.uk/ukso/home.html?layers=NVZEng>
- 3.8 Most of the Borough is located in a Nitrate Vulnerable Zone. The main exceptions to this are the western and eastern edges of Darlington main urban area and southern parts of the Borough.

Existing Land Uses

- 3.9 The most appropriate existing land use types should be selected from the drop-down list. The area should be inputted that matches the site location plan and application form.
- 3.10 The Natural England calculator [guidance](#) provides further detail on which land use types fall in to each category. Dairy, Pig or Poultry should only be used where the land has been used for the intensive farming of any of these. Grazing land should be identified as lowland and land used for the growing of arable crops such as wheat, barley and oil seed rape should be identified as cereals. Barns and farm buildings proposed for conversion should generally be identified as industrial/commercial land. In residential developments green infrastructure such as gardens, grass verges, incidental open space and sports fields should be identified as residential urban land not greenspace.

4.0 Worksheet 3 Nutrient loading from future land use

- 4.1 The most appropriate future land use types should be selected from the drop-down list. The area should be inputted that matches the site location plan and application form.
- 4.2 The Natural England calculator [guidance](#) provides further detail on which land use types fall in to each category. Dairy, Pig or Poultry should only be used where the land has been used for the intensive farming of any of these. Grazing land should be identified as lowland and land used for the growing of arable crops such as wheat, barley and oil seed rape should be identified as cereals. Barns and farm buildings proposed for conversion should generally be identified as industrial/commercial land. In residential developments green infrastructure such as gardens, grass verges, incidental open space and sports fields should be identified as residential urban land not greenspace.

5.0 Worksheet 4 Nutrient loading from future land use after treatment through SuDs inputs

- 5.1 This sheet should only be used if SuDs are being implemented within the boundary of the development as part of the plan or project. Further guidance on completing the inputs in this worksheet are available in the Natural England [guidance](#)

6.0 Worksheet 5 Nutrient budgets calculations

- 6.1 This stage of the calculator identifies the total annual nitrogen load to be mitigated. If this is 0 then the proposal is nutrient neutral. If it is a positive figure above zero, then this is the amount of nitrogen that you will need to identify and secure mitigation for. Further information on mitigation options is provided on the Council [website](#).
- 6.2 If there are 2 values given because of an upgrade at the wastewater treatment works the development is connecting to, the calculator will show the nutrient mitigation needed both before and after the upgrade post-2030.