



## PAS - Workshop 3

## A Deeper Dive into Nutrient Neutrality

26<sup>th</sup> April 2022





# Agenda

- Introductions
- Part 1 Nutrient Neutrality Nutrient Calculations
  - Simon Thompson, Natural England
  - Questions and Answers
- Break
- Part 2 Nutrient Neutrality Permitting and Nutrients
  - Andy Rogers, Environment Agency
  - Questions and Answers
- Close



## **Nutrient Neutrality – Natural England**

**Habitats Regulations Assessment Nutrient Budget Calculator** 

# Habitats Regulations Assessment Overview



- Habitats Regulations Assessment 3 Stage Process
- Stage 1 Likely Significant Effect
  - Course filter Is there anything to assess?
- Stage 2 Appropriate Assessment
  - Detailed consideration of proposal Will it lead to an Adverse Effect on Integrity of the Habitats Site?
- Stage 3 Derogations
  - No Satisfactory Alternatives
  - Imperative Reasons of Over-riding Public Interest

## Habitats Regulations Assessment Stage 1 – Screening (LSE)



- Screening for Likely Significant Effects
  - Essentially determining whether the plan/project has the potential to have an impact on the Habitats Site.
  - Mitigation cannot be considered at this stage
- For Nutrient Neutrality considerations would include:
  - Does the proposal generate additional waste-water
  - Is the proposal outside of scope (e.g. householder application)
  - Is there an impact pathway between the proposal and the Habitats Site (is the proposal within the catchment)
  - Are specific criteria agreed with Natural England met (e.g. Discharge to Ground criteria for Phosphorus)

### Habitats Regulations Assessment Stage 2 – Appropriate Assessment (AA)



- Having Screened in a Plan/Project has having potential for LSE an Appropriate Assessment considers whether the Plan/Project will have an Adverse Effect on the Integrity of the Habitats Site
  - AA ascertains whether there would actually be AEoI as a result of the proposal (in the absence of avoidance and/or mitigation measures)
  - Considers whether proposed avoidance and/or mitigation measures are sufficient
  - Natural England are a Statutory Consultee on all AAs
- For Nutrient Neutrality:
  - Nutrient Budget Calculator provides the amount of nutrient (impact) that requires mitigation
  - AA should assess whether proposed avoidance and/or mitigation are sufficient
  - Certainty that mitigation will be effective, take effect before impact, and secured for duration of impact
  - If AEoI cannot be excluded permission should not be granted

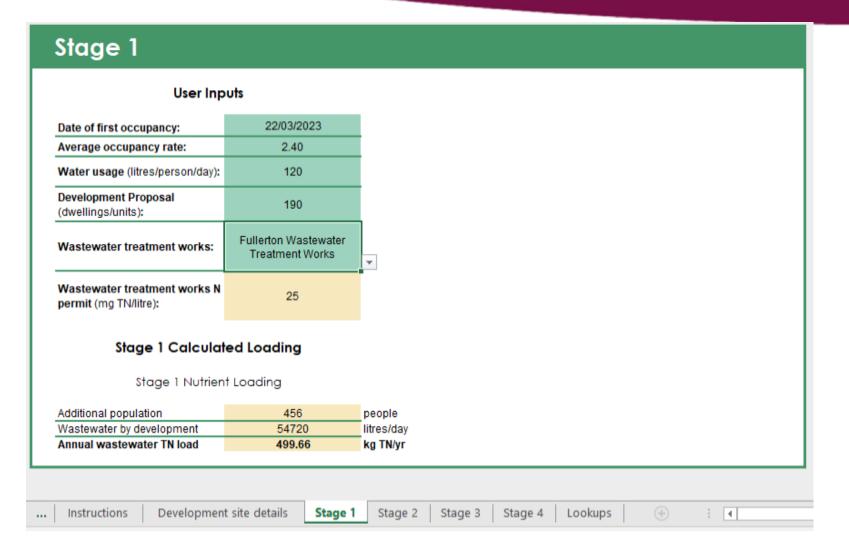
## Habitats Regulations Assessment Stage 3 – Derogations



- Should AA not be able to conclude that an AEol can be excluded, then either new or additional measures should be sought to enable AEol to be excluded at AA, or...
- Proceed to apply the Derogations:
  - No Satisfactory Alternatives
  - Imperative Reasons of Over-riding Public Interest
- Derogations enable compensatory measures to be provided in the absence of sufficient or suitable avoidance or mitigation measures
- Challenges of applying Derogations to overnight accommodation/Nutrient Neutrality:
  - There are alternatives (deliver development outside of catchment)
  - Challenging to demonstrate that delivering housing (in a specific location) satisfies IROPI
  - Requires Compensation to be delivered to 'off-set' the impact of the proposal

## Nutrient Budget Calculator: Stage 1 Waste Water



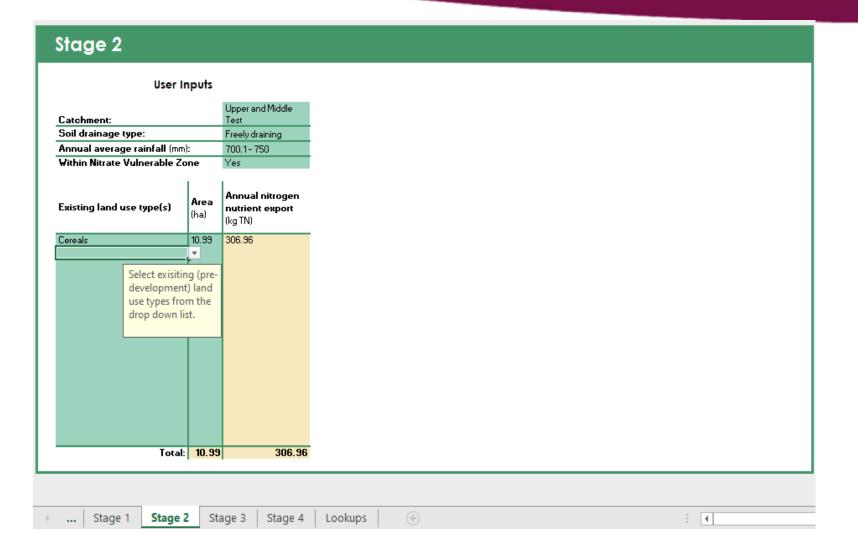


Average Occupancy: rate should be determined by LPA – either National or Locally derived - detailed advice in Calculator Guidance document.

Water Usage: figure is the daily rate secured by Policy/Condition/Building Regs + 10 litres per day

# Nutrient Budget Calculator: Stage 2 Existing Land Use



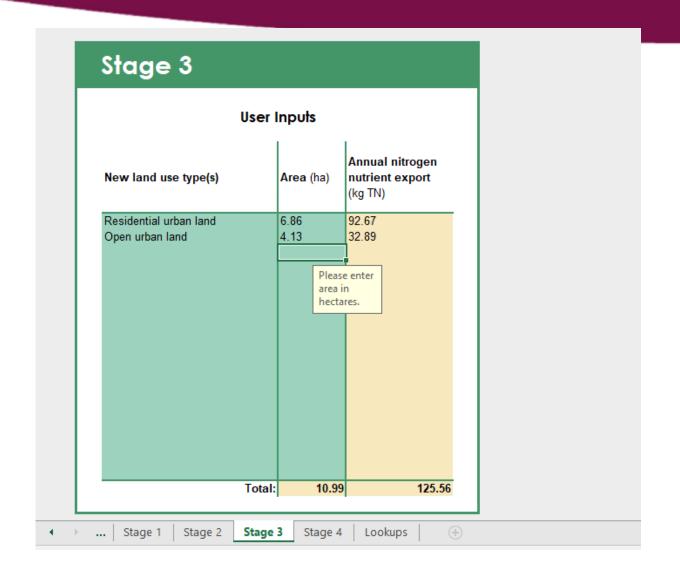


The **Catchment**, and **NVZ** information can be found by following the links to searchable websites in the Calculator Guidance document.

**Soil Drainage Type** and **Annual Average Rainfall** values can be found by following the locally specific links provided in the Calculator Guidance document.

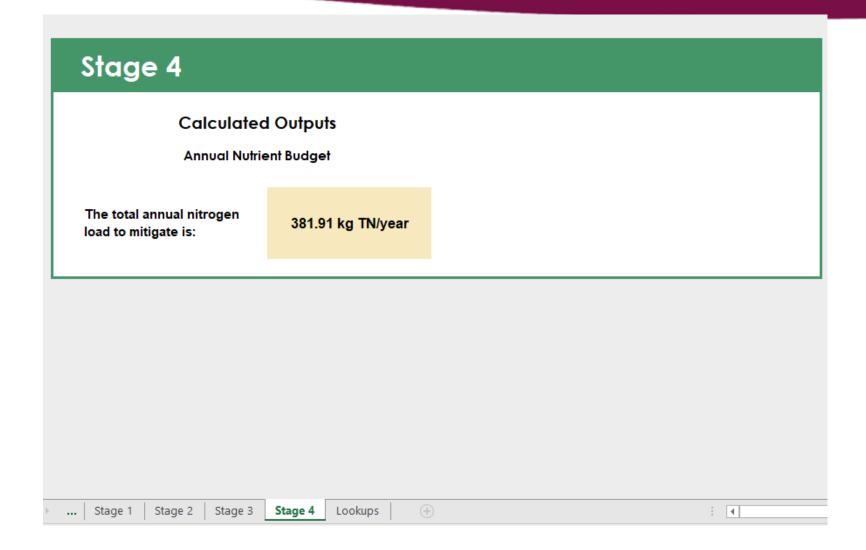
## Nutrient Budget Calculator: Stage 3 Proposed Land Use





## Nutrient Budget Calculator Stage 4 Annual Nutrient Budget





## Nutrient Budget Calculator Look-up Table



#### **Look Up Tables**

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Discharge Site Name	Phosphorus, Total as P (mg	/l) Nitrogen, Total as N (mg/l)	Phosphorus, Total as P (mg/l), permit post 2025	Nitrogen, Total as N (mg/l), permit post 2025
All Cannings WRC	1	27	1	27
Amesbury STW	1	27	1	27
Barford St Martin WRC	2	27	2	27
Berwick St.James	8	27	8	27
Bishopstone	8	27	8	27
Chitterne WwTW	8	27	8	27
Christchurch STW	8	27	8	27
Collingbourne Ducis	8	27	8	27
Crockerton STW	8	27	8	27
Downton STW	1	27	1	27
East Knoyle WRC	1	27	1	27
Etchilhampton	8	27	8	27
Everleigh WwTW	8	27	8	27
Fordingbridge WRC	1	27	1	27
Fovant WRC	1	27	1	27
Gorley STW	8	27	8	27
Great Wishford WRC	1	27	1	27
Hindon WwTW	8	27	8	27
Hurdcott WwTW	1	27	1	27
Maiden Bradley WwTW	8	27	8	27
Marden STW	2	27	2	27
Matchams Close WwTW	8	27	8	27
Monkton Deverill WRC	8	27	8	27
Netheravon STW	1	27	1	27
Pewsey WwTW	1	27	1	27
Ratfyn STW	1	27	1	27
Stage 1   Stage 2   Stage 3	Stage 4 Lookups +		1	

Lookups tab contains all the Waste-water Treatment Works within the catchment, along with their current permit limit, and any known revised permit (PR19 improvements).

The 8mg/l TP and 27mg/l TN figures are the default figures for WwTW without a specific permit.

# Nutrient Budget Calculator Differences between old and new



- Water usage figures:
  - The new calculator/methodology advises using the figure secured by the permission (e.g. Building Regulations Higher Standard) + 10 litres. The additional 10 litres is to account for changes to less efficient fittings during the lifetime of the development (precautionary)
- Agricultural land use figures:
  - Based on Farmscoper v5 which is the latest release
  - Includes location specific information (rainfall, soil drainage) rather than catchment averages
- Urban run-off figures
  - Urban rates now take account of pet waste
  - Greenspace rate now excludes pet waste
- Waste-water Treatment Works without permit
  - 'Default' figure now provided for WwTW without permit
  - Bespoke figures can still be agreed with Water Company, but must be based on evidence and account for growth

#### **Nutrient Neutrality - Mitigation**



- The Nutrient Neutrality approach is based on the principle of reducing existing sources of nutrient pollution to mitigate the nutrients generated by new development
- Mitigation principles:
  - Needs to be in place before the new development causes it's effect (e.g. occupation);
  - Needs to be in place for the duration of the effect (for housing in perpetuity);
  - Mitigation needs to be suitably located to remove the affect of new development within the same catchment as the development; upstream of the Habitats site and/or the development
- Mitigation can be provided on a case by case basis by the project/developer; strategically by the LPA; or by third parties (e.g. Wildlife Trust)
- Examples of mitigation:
  - On-site measures such as SuDS (can also be retro-fitted to existing development);
  - Agricultural land use change (e.g intensive agriculture to woodland);
  - Treatment wetlands (WwTW, PTPs); Interceptor wetlands (agricultural run-off)
  - Replacement of inefficient PTPs/Septic Tanks with new efficient PTPs

## Questions?







# Environment Agency – permitting and nutrients

Andy Rogers
Water Quality Planning Manager

## The nutrients problem

- Nutrients are a major problem to achieving clean and plentiful waters
- Over many years, nutrient pollution (or nitrate and phosphate pollution in water) has caused the declining condition of internationally important and protected sites across England.
- There is too much phosphorus in rivers and too much nitrate in estuaries .... it kills wildlife and threatens the water we drink.
- There is no structured funding mechanism for tackling pollution from agriculture and controls are mostly through advice and voluntary.
- Water industry discharge permit limits can be made more stringent via improvement works if society wants to pay for it through water bills.



## Our role in improving water quality

- The EA can identify changes to water company discharge permits and secure their implementation
- These permits will set limits on the amount of certain pollutants that can be included in the discharge to protect the environment and ensure it complies with relevant legislation.
- In the granting and onward review of permits, the EA is a competent authority under the Habitats Regulations. This requires us to assess the effects of such permits on European sites.



## Permit and Environmental Headroom

- Permits can include headroom. <u>Permit headroom</u> is when the flow and/or concentration limits specified are higher than what is being discharged. In these instances, there is capacity for an increase in the flow and/or concentration up to the permit limits without the need for a change to the environmental permit.
- The difference between the current water quality and the objective is the <a href="environmental">environmental</a>
  <a href="https://en.wise.no.en/">headroom</a> available that can be used without having an adverse effect on the European site. European sites that are currently unfavourable for water quality have no environmental headroom.



## Permit and Environmental Headroom

- Where there is environmental headroom at a European site, and the use of the permit headroom will not cause the site to become unfavourable for water quality, then this permit headroom can be used for development.
- Nhere a European site has no environmental headroom, or where the use of any permit headroom would cause a site to become unfavourable for water quality, the use of any permit headroom may have the potential to have an adverse effect on the integrity of the site, and therefore would not be compliant with the Habitats Regulations.



## **Nutrient neutrality**

- Where a site is in unfavourable condition due to nutrient inputs, there should be no increase in current levels as a result of new activities unless these can be offset
- Nutrient neutrality offers a legally robust means of allowing development to proceed, whilst protecting sites from deterioration.
- This will remain the case until such time that measures or plans are in place that provide the necessary degree of certainty and create environmental headroom for new development.



## Price Review (PR)

- ♦ From 2020 to 2025 (PR19), water companies are investing £2.5 billion in measures that reduce nutrient pollution
- ◆ For the 2025 to 2030 price review period (PR24), we will be setting more stringent nutrient targets needed to help restore protected sites
- ♦ EA will assess WwTW permits as part of the PR24 planning work
- Some WwTW permits may need to be varied to reflect the new requirements



## **Maintenance of load**

- Water companies must take account of predicted growth in housing development in their business plans and have a duty to maintain and upgrade their wastewater systems.
- They are also required to meet permit limits set to prevent exceedance of the relevant quality standards downstream of wastewater discharges.
- If companies expect that predicted levels of housing growth will result in deterioration against these standards, they are required to inform the EA and apply for a permit variation. The EA will review the permit and tighten permit limits where appropriate, which will subsequently drive improvements in wastewater treatment to ensure no deterioration against the relevant quality standards.

