Nutrient Neutrality Principles

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Nutrient neutrality principles and use of Diffuse Water Pollution Plans (DWPPs) and Nutrient Management Plans (NMPs)

Nutrient neutrality is a means of ensuring that a plan or project does not add to existing nutrient burdens so there is no net increase in nutrients as a result of the plan or project (i.e. it "consumes its own smoke"). Where nutrient neutrality is properly applied and the existing land use does not undermine the conservation objectives[1], Natural England considers that an adverse effect on integrity alone and in combination can be ruled out.

Where neutrality measures are needed, the purpose of these mitigation measures is to avoid impacts to the designated sites, rather than compensating for the impacts once they have occurred.

There are a number of principles that any nutrient neutrality mitigation would need to meet in order for it to meet the requirements of the Habitat Regulations. Natural England's advice is that any neutrality measures relied on in an Appropriate Assessment (AA) should:

1. Have scientific certainty that the measures at the time of the AA will deliver the required reduction to make the plan or project 'neutral'.
    a. The competent authority should explain in its AA how any measures relied upon are certain at the time of assessment. Natural England considers that references to 'certainty' in the context of a HRA means that **"no reasonable scientific doubt remains as to the absence of such effects"**. Absolute certainty is not required; a competent authority could be certain that there would be no adverse effects even though, objectively, absolute certainty is not proven.
    b. For some types of mitigation, particularly those that are more novel or complex, there will be uncertainty as to the exact effectiveness the mitigation may deliver. One approach to ensure sufficient certainty may be to apply a precautionary efficacy value based on the evidence and/or providing greater mitigation than is required. Were a precautionary figure is used, monitoring of the mitigation measure may provide evidence and therefore certainty in a higher efficacy at a point in the future, which at that point could then be relied upon in an AA for future development. There may be instances where reasonable scientific doubt remains around the effectiveness of a mitigation measure (e.g. an extremely novel form of mitigation) In such instances it may not be possible to use this type of mitigation until further evidence is

[1] See Appendix

collected to provide the sufficient level of certainty e.g. the measure is put in place and the efficacy monitored before it is relied upon in an AA.

2. Have practical certainty that the measures will be implemented and in place at the relevant time when the AA is undertaken, e.g. secured and funded for the lifetime of the development's effects.
    a. The competent authority should explain in its AA how any measures relied upon are certain at the time of assessment. There may be different ways to achieve this certainty. One common method of ensuring full implementation of measures that are relied on in an AA would be for the measures to be secured through legally binding obligations that are enforceable.
    b. Mitigation must be in place for the lifetime of the proposed development so in most cases this will be in perpetuity. We generally define in perpetuity between 80-125 years, however, it does not follow that mitigation is not needed after that period.

3. Be preventative in nature so as to avoid effects in the first place rather than offset or compensate for damage. This applies both temporally and spatially.
    a. Temporally:
        i. Consideration will need to be given as to (i) when the measures will come online and into effect and (ii) when the pollutants come online as the impact may be phased and take place over the lifetime of a development, rather than on day one. It may be that a range of measures may be needed to address impacts over time.
        ii. There may be cases where nutrient neutrality is not, at first, achieved because there is a time lag between the initial effects from the plan or project at the Habitats site compared to the benefits of neutrality measures (on-site or off-site) being felt at the Habitats site. One option is to consider whether bridging measures or reasonable restrictions on occupation or phasing could close that time lag so that neutrality can be achieved.
    b. Spatially:
        i. Consideration will need to be given as to the location of any mitigation relative to where the development will have its impact on the Habitats site to ensure that it avoids any increase in nutrients within the site. The mitigation measure will need to be upstream of the location where the development site run off and wastewater input will have its effect on the Habitats site. This means if the wastewater/run off is direct to (i.e. within) the Habitats site boundary the measures will need to be upstream of this location. If the discharge is indirect i.e. upstream in the catchment of the Habitats site, then the mitigation measures can be up or downstream within the catchment, as long as it will provide the offsetting before the point at which the development impacts the Habitats site.
        ii. There may be cases where it is not possible to provide mitigation on land outside of the development, because it will not actually remove

the impact from the development. For example, a terrestrial wetland (e.g. fen/bog) where there is a direct discharge to the wetland which is not to open water but to the wetland itself, then there may be no or very limited ability to avoid this localised impact, due to there being no or very limited other sources which contribute to this exact location.

4. Not undermine the objective of restoring the site to favourable condition by making the 'restore' objective appreciably more difficult or prejudicing the fulfilment of that objective.
    a. For example, where there is only a limited pool of measures available for addressing an existing exceeded threshold and these are used to enable growth rather than bring the site into favourable condition, this may undermine the 'restore' objective. The key question would be whether, in fact, there is actually a limited pool of measures in the relevant circumstances.
    b. Additionally, the implementation of mitigation measures through nutrient neutrality should not prevent the implementation of future measures under Articles 6(1) and 6(2) of the Habitats Directive (incorporated through Regulations 9(1) and 9(3) of the Habitats Regulations) aimed at restoring the site to favourable conservation status in the long term. This may be the case where, for example, proposed off-site mitigation land has been earmarked for the implementation of positive measures designed to improve the conservation status of the site and this opportunity for improvement in the quality of the site would be lost if the land were instead used for mitigation for a specific project.

5. Not directly use or double count measures that are already in place or must be put in place to protect, conserve or restore the site (to meet article 6(1) and (2) requirements) in order to justify new growth.
    a. For example, those measures that have been identified in a Diffuse Water Pollution Plan (DWPP) or Nutrient Management Plan (NMP) as needed to restore the site (such as wastewater treatment work upgrades that do not take account of growth) cannot also be used as mitigation for development[2].

6. Be carefully justified together with calculations of the change in the nutrient contribution before and after the development taking account of any mitigation on land outside the development.

[2] These improvements under article 6(1)(2) obligations (accessed through regulation 9 of the Habitats Regulations) may give context to the environmental condition of the site. At the time of AA, where these measures can be accurately and soundly established to change the baseline, Natural England considers that the impact of the plan or project can be considered against that changed baseline

a. Over-estimating the existing nutrient contribution from development land or mitigation land outside the development site and/or under-estimating the nutrient contribution from the development to reduce the scale of nutrient reduction mitigation needed to meet ‘nutrient neutrality’ would not satisfy the precautionary requirements of the Habitats Regulations. The national generic nutrient neutrality methodology sets out how calculations can be undertaken.
b. To be able to take account of WwTW upgrades in any NN calculations, the upgrades need to have been agreed and funded through the water companies Periodic review process. Those that have already been agreed as part of the Water Industry National Environmental Program (WINEP) for PR19 and will therefore be implemented by end of 2024 can be taken into account and have been included within the NN calculators

7. Ensure that there is no real risk that the existing land use, which may be maintained by neutrality (or an improvement), undermines the conservation objective to ‘restore’ the site to favourable condition. This applies to the existing land use at the development site and at any off-site mitigation land. See Appendix for further details.

Mitigation within the development site should ideally be considered first to minimise the contribution from the development itself, but where it is not possible to provide or secure the necessary mitigation in this way, then mitigation on land outside the development can be considered.

Use of Diffuse Water Pollution Plans and Nutrient Management Plans

Natural England’s experience to date is that the current DWPPs/NMPs may not necessarily provide sufficient certainty to enable a conclusion of no adverse effect on site integrity where plans or projects contribute additional nutrient loading, particularly where there is a lack of clarity on:

- The efficacy of measures to deliver the required reductions in nutrient levels, including whether all necessary measures have been identified to bring the site into favourable condition with respect to water quality. Although a precautionary approach to the identification of the measures needed could enable there to be greater certainty e.g. by assuming worst case efficacy or adding a % increase or safety factor to address residual uncertainties; and/or
- Whether the plan creates sufficient environmental capacity below the water quality objectives for the new development; and/or
- The mechanisms for delivery, the required uptake and how their implementation is secured.

In such cases, it may be possible to further develop the DWPPs/NMPs to move them to a place where they do have sufficient certainty in the future to rely on them in an AA, as a longer-term solution.

Whilst current DWPP/NMPs may not be sufficiently certain to rely on in a HRA so nutrient neutrality is not needed, they can still be important in informing adoption of nutrient neutrality for a given scheme. They will help to provide an understanding of the risk of the development undermining actions by others to deliver the restore target e.g. whether there are indeed only a limited pool of measures available and whether maintaining the current nutrient contribution of the development and any avoidance land will undermine site restoration.

Appendix

Ensuring Nutrient Neutrality does not sustain a nutrient contribution that will undermine the achievement of the restore objective

The basis of nutrient neutrality is that there is no increase from the existing nutrient contribution at a Habitats site as a result of the plan or project. Where a Habitats site is already unfavourable, there is the potential that making a fresh decision under the HRA process to sustain the current nutrient contribution could mean that development may inadvertently undermine the achievement of the restore objective by others.

When determining whether nutrient neutrality is appropriate for certain types of plans or projects in a particular catchment, consideration should be given to the existing land use contribution which may be maintained under nutrient neutrality. This applies to the existing land use at the development site and at any off-site mitigation land. In some cases, there may be no real risk that the existing land use undermines the conservation objective to restore the site to favourable condition. Under the HRA authorisation regime (e.g. regulation 63), developers are not responsible for achieving the restore objectives of the site. Instead, competent authorities must ensure, prior to giving their authorisations, that their plans or projects do not undermine the achievement of the conservation objectives.

However, where there is a real risk that the existing land use would undermine the conservation objective to restore the site to favourable condition, then plans or projects which lock in high nutrient sources may need to do more to reduce the contribution from the existing land use to a level which is compatible with restoration (e.g. where reductions in existing land use from those types of plans or projects are needed across the catchment).

Before authorising a plan or project, competent authorities must be certain that an adverse effect on site integrity can be ruled out. Therefore, competent authorities should be considering in their AAs whether or not the plan or project will hinder achievement of the conservation objectives. In addition, Natural England will advise competent authorities where it considers that to be credible evidence that the existing land use contributions represent a real risk to compromising the restore objectives in a meaningful way. The DWPP/NMP may provide useful evidence for both the competent authority and Natural England to understand where this may be the case and what nutrient levels may be needed to achieve favourable condition from different sources e.g. agricultural land or existing private discharges etc.

List of abbreviations

AA – Appropriate Assessment

DWPP – Diffuse Water Pollution Plan

HRA – Habitats Regulations Assessment

NMP – Nutrient Management Plan

NN – Nutrient Neutrality

WINEP – Water Industry National Environmental Program

WwTW – Wastewater Treatment Works

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