Creating a world
fit for the future

Interim Phosphate Delivery Plan Stage 3

Mechanisms for obtaining and distributing developer contributions to mitigation

Report for Herefordshire Council

Ricardo for Herefordshire Council – ED14585

ED 14585 | Issue number 2 | Date 13/08/2021

Customer:

Herefordshire Council

Customer reference:

ED14585

Contact:

Dr Jenny Mant,
30 Eastbourne Terrace,
London,
W2 6AA

T: +44 (0) 1235 753 422

E: jenny.mant@ricardo.com

Author:

Sophie Elmhirst

Ben Sullivan

Dr Gabriel Connor-Streich

Approved by:

Dr Jenny Mant

Signed

Date:

13/08/2021

Ref: ED 14585

Ricardo is certified to ISO9001, ISO14001, ISO27001 and ISO45001

Executive summary

Following the Court of Justice of the European Union's 2018 judgement referred to as the "Dutch Case", HRAs of new development require Competent Authorities to consider the potential impact of additional nutrient loading on National sites where the ecology of a site is suffering due to excessive nutrient input. Herefordshire Council's Interim Phosphate Delivery Plan (IDP) has provided an approach to calculating phosphorous budgets for residential developments in Stage 1, with Stage 2 of the IDP assessing the potential mitigation options that can be used to offset additional phosphorous loading from new development. Stage 3 of the IDP provides an analysis and set of recommendations on the options Herefordshire Council has for a) getting developer contributions to pay for phosphorous mitigation; b) distributing these contributions onto mitigation schemes.

An analysis of the mechanisms Herefordshire Council can use for obtaining developer contributions for phosphorous mitigation assessed the potential to use either planning conditions, the Community Infrastructure Levy (CIL) or Section 106 (S106) agreements. This analysis highlighted that planning conditions are limited in scope, as they are generally only applicable to land within a development's redline boundary or on land owned by the developer. This limits the ability to use planning conditions to secure offsite mitigation. Developer contributions obtained using CIL *can* be distributed onto offsite mitigation, however they are limited by not being able to explicitly link payments made under a CIL Charging Schedule to a mitigation scheme. Making this explicit link between the development contributing funds and the mitigation scheme the funds are being directed to is necessary for HRA compliance. The recommended approach is the use of S106 agreements and if Herefordshire Council pursues a strategic mitigation scheme, Unilateral Undertakings can be used as the primary mechanism for obtaining developer contributions. Unilateral Undertakings are likely to present the most efficient approach to obtaining developer contributions to a strategic scheme. S106s are not recommended for securing developer contributions to strategic mitigation schemes but may be necessary for large/complex developments or where a developer wishes to pursue a private mitigation scheme.

Once developer contributions have been obtained, they need to be distributed onto mitigation schemes. Here there are particular considerations around whether the mechanism for distributing funds is compliant with an HRA. This report assessed four options for distributing funds onto mitigation schemes:

1. Developer-managed mitigation
2. Strategic schemes operated by Herefordshire Council
3. The mitigation scheme bank
4. Strategic schemes and phosphate trading

Options 3 and 4 were not recommended due to problems with making explicit links between a development that is providing funds and the mitigation scheme that is being funded, as well as potential issues with who is responsible for monitoring and verification of the efficacy of a mitigation scheme. Option 1 is viable, however Herefordshire Council needs to be aware of the risk posed by privately managed mitigation schemes losing private financial backing and thus financial support for maintenance and monitoring within the required lifetime of a mitigation scheme. Option 2 was recommended as the most secure approach to distributing developer contributions onto mitigation schemes, as Herefordshire Council can explicitly state which scheme a development is using for mitigation and will be able to ensure funds for monitoring and maintenance are secured in perpetuity, thus having the lowest risks for subsequent non-compliance with the Habitat Regulations.

Table of Contents

Table of Tables

Glossary

Abbreviation	Definition
CJEU	Court of Justice of the European Union
HRA	Habitats Regulations Assessment
CIL	Community Infrastructure Levy
S106	Section 106
SAC	Special Area of Conservation

1 Introduction

1.1 Background to nutrient neutrality and the Interim Phosphate Delivery Plan

Following a ruling in the Court of Justice of the European Union (CJEU) known as the "Dutch Nitrogen Cases" or "Dutch Case"[1], Herefordshire Council is currently facing limitations on new housebuilding. The outcomes of the "Dutch Case" resulted in changes to the way Habitat Regulations Assessments (HRAs) consider the potential impact that could arise from increased nutrient loading (e.g., nitrogen and/or phosphorous) to designated sites protected under the Habitats Regulations or Ramsar Convention (post-Brexit these European designated sites are now referred to as "National Network sites" or just "National sites"). Consequently, legal consent may not be given to new developments that are expected to increase overnight occupation, and therefore increase the production of wastewater and associated nutrient loading to European sites already in unfavourable condition or close to unfavourable condition due to such nutrients, unless mitigation of such nutrients is put in place.

Located partially within the jurisdiction of Herefordshire Council, the River Wye Special Area of Conservation (SAC) is a National site that covers the whole of the River Wye and the stretch of the River Lugg downstream of Hope under Dinmore. The areas of the River Lugg that are within the Wye SAC are currently in unfavourable condition as a result of excess nutrients (phosphorous). Furthermore, the Upper Wye, upstream of the confluence with the River Lugg is close to unfavourable status due to excess phosphorous loading.

Herefordshire Council has issued a position statement in agreement with Natural England that details the impact of the Dutch Nitrogen Cases on HRAs of new planning applications, with a focus on the River Lugg which is currently exceeding the River Wye SAC targets for phosphorous concentrations (Herefordshire Council, 2020). The position statement notes the uncertainty associated with the current actions to reduce phosphorous inputs to the Wye and Lugg that are detailed in the River Wye SAC Nutrient Management Plan (NMP). Due to the precautionary nature of the HRA process and the requirement to eliminate any reasonable uncertainty over effects on a National site, the Dutch Case ruling suggests that a proposed project or plan cannot rely, for mitigation purposes, on external programmes (i.e. that are not part of that project or plan) unless there is certainty that mitigation will be delivered before the impacts of the development come into effect. Therefore, the uncertainty of the current actions means that the NMP cannot be relied on to provide mitigation for adverse effects on the integrity of the River Wye SAC that may arise from additional loading of phosphorous from new planning applications.

Whilst Herefordshire Council seeks a long-term solution to this issue, an interim approach is needed to demonstrate that new residential developments are "nutrient neutral", thus overcoming the limitations on new housebuilding. The Interim Phosphate Delivery Plan seeks to achieve this and facilitate new development through three distinct stages.

Stage 1 provides a framework for calculating the level of phosphorous mitigation required per development. This is a site-specific phosphorous budget that can support an HRA of new planning applications and forms a key component of evidencing nutrient neutrality. The phosphorous budget demonstrates whether a new development will result in net additional phosphorous entering the River Wye SAC and therefore show the amount of phosphorous mitigation required at the Appropriate Assessment stage to achieve nutrient neutrality, thus removing the risk of adverse effects on National site integrity. The budget calculator is outlined in detail in the Interim Phosphate Delivery Plan Stage 1 report (Ricardo, 2021a).

Stage 2 assesses potential options for mitigating phosphorous loading to the River Wye SAC that will result from new housing developments. Potential on-site and off-site phosphorous mitigation options

[1] Since 2018, the ruling for People Over Wind and Sweetman ('Sweetman II') vs Coillte Teoranta, Case C-323/17 confirmed that that mitigation can no longer be considered in HRA screening (HRA Stage 1) and must be reserved for the Appropriate Assessment stage.

were assessed in the context of key HRA tests in order to determine the suitability of different mitigation measures. To be compliant with the Habitats Regulations, the efficacy of a mitigation measure needs to be demonstrable using *best available evidence* in order to show *beyond reasonable scientific doubt* that the mitigation measure will achieve the required phosphorous reductions. The estimates of reductions that can be achieved by a mitigation measure also need to be suitably *precautionary* and the mitigation measure needs to remain effective *in perpetuity* (80-125 years[2]). The Interim Phosphate Delivery Plan Stage 2 report (Ricardo, 2021b) provides a reference for determining suitable mitigation options that can be used to offset the additional phosphorous load from a new development, as well as a reference for assessing potential strategic options.

Following *Stage 1 and Stage 2,* ***Stage 3*** looks to establish a mechanism for developer contributions to mitigation schemes that comprise the options outlined in Stage 2. This mechanism includes:

1) How to elicit payments from developers to finance mitigation measures to offset additional phosphorous loads from new projects/plans.
2) A framework for administering these financial contributions and mitigation schemes; and
3) How to price a unit of phosphorous.

1.2 Purpose of this report

As outlined in Section 1.1, following Stage 1 and Stage 2 of the Interim Phosphate Development Plan, Stage 3 looks to establish the mechanisms by which phosphorous mitigation can be realised. This report explores the different mechanisms for obtaining financial contributions from developers towards mitigation, and explores the different options for distributing these contributions, providing overall recommendations and outlining practical considerations.

The final high-level recommendations were informed by a review of approaches to developer contributions being used in other local authorities tackling the nutrient neutrality issue, internal discussions with planning experts and discussions with Herefordshire Council and Natural England. It is intended to provide a reference for determining suitable options that can be used to design the final mechanism. The report is structured as follows:

- *Section 2* provides a short overview of the different mechanisms that may be used to obtain developer contributions and provides an **overall recommendation.**
- *Section 3* provides a review of the different options for distributing these developer contributions in the context of the HRA requirements, provides an overall **recommended option** and outlines the **practical considerations** that underpin the success of this option.
- *Section 4* gives the **conclusion and final recommendations.**

2 Mechanisms for obtaining developer contributions

Depending on the nutrient mitigation option chosen by Herefordshire Council, contributions from developers may be required. For example, if Herefordshire Council decide to adopt an internal strategic scheme (similar to the approach adopted by Havant Borough Council to mitigate similar nutrient neutrality issues), they would require contributions by developers in order to:

- Ensure the strategic scheme remained operational and financially viable; and
- Provide a connection between developments that create nutrient release, and the scheme which has been established to negate what would otherwise be a net increase in nutrient loading to the River Wye Special Area of Conservation (SAC).

A mechanism must be established by Herefordshire Council in order to secure financial contributions from developers. There are several potential options for securing this funding, however only one has been considered viable. These mechanisms are described in detail below.

[2] Natural England have indicated that the precise period of time mitigation needs to be secured for within the window of 80-125 years is down to the discretion of the Council.

2.1 Overview of mechanisms for obtaining developer contributions

2.1.1 Planning condition

A planning condition is a condition imposed on a grant of planning permission (in accordance with the Town and Country Planning Act 1990) or a condition included in a Local Development Order or Neighbourhood Development Order (MHCLG, 2019). The National Planning Policy Framework states that local planning authorities should consider whether otherwise unacceptable development could be made acceptable through the use of conditions.

In situations where the applicant has chosen to adopt a developer-managed mitigation scheme that will operate entirely within the site covered by the planning application (i.e. within the 'Red Line Boundary'), a planning condition may be an appropriate mechanism to achieve nutrient neutrality.

Positively worded planning conditions can only enforce actions either within the proposed development boundary or on land outside of the development boundary that is under the control of the applicant. As such, if the applicant is proposing off-site mitigation (or a mix of both on-site and off-site mitigation); enforcement of developer contributions via planning condition is not viable, due to the geographical limitations of this mechanism.

Conditions requiring works on land that is not controlled by the applicant could be proposed using a condition worded in a negative form (a Grampian condition)[3]. However, Grampian planning conditions are not a method of securing developer contributions.

2.1.2 Community Infrastructure Levy (CIL)

A CIL is a charge which can be levied by local authorities on new development in their area (MHCLG, 2020). It is generally used to help deliver any new infrastructure that may be required due to the presence of a proposed development, e.g., a CIL could be used to fund an extension to a road network that would be required because of a proposed housing development.

In order to adopt the CIL as a mechanism to collect funding from developers, the local planning authority must first set out their charging rates in a CIL Charging Schedule[4]. In the schedule, it should be clearly stated what types of development are liable for the levy and the relevant rates for these development types (in £/m^2).

CILs have advantages over Section 106 agreements (see below). For example, they are non-negotiable and apply to all development over a given threshold. However, there is no mechanism within CILs for directing funds to a certain scheme or function. Instead, collected funds are pooled, and spent anywhere within the given district. Section 106 agreements, in contrast, are levied to mitigate against a particular impact arising from a particular development. As a result, a CIL is not recommended as an appropriate mechanism to use for collecting funding for a council-operated strategic nutrient mitigation scheme, as there is no mechanism within the CIL to connect a development to a specific mitigation scheme.

It is also recognised that Herefordshire Council paused adoption of CIL locally in 2018, in response to a government White Paper[5]. In 2020, the UK Government released *Planning for the Future,* a set of reforms of the planning system in the UK. Within this was a commitment to replace the current system of Planning Obligations and CILs with a new system:

"The Community Infrastructure Levy and the current system of planning obligations will be reformed as a nationally set, value-based flat rate charge (the 'Infrastructure Levy'). A single rate or varied rates could be set…This reform will enable us to sweep away months of negotiation of Section 106 agreements…We will deliver more…by capturing a greater share of the uplift in land value that comes

[3] Gov.uk – Guidance Use of planning conditions.
[4] Gov.uk – Planning Act 2008 **211**(1) – A charging authority that proposed to charge CIL must issue a document (a "charging schedule") setting rates, or other criteria, by reference to the amount of CIL chargeable in respect of development in its area is to be determined.
[5] Herefordshire Council, Community Infrastructure Levy, available at: https://www.herefordshire.gov.uk/local-plan-1/community-infrastructure-levy, accessed on: 08/06/2021

with development… we will also look to extend the scope of the consolidated Infrastructure Levy and remove exemptions from it to capture changes of use through this route" (MHCLG, 2020).

It is not currently clear how these reforms will change the practicable operation of CILs and Planning Obligations. It is also not currently clear when these proposals will become active.

2.1.3 Section 106 agreements

A planning obligation, otherwise known as a Section 106 Agreement (after the section of the Town and Country Planning Act that describes their use in law), is a legal agreement, made between a local planning authority and a prospective developer. They generally result in the developer making a financial contribution to the local authority, in order to mitigate the impact of a development on a receptor or range of receptors. As they can be adopted to mitigate a wide range of adverse community impacts, the financial contribution required from developers can vary widely.

Financial contributions received through a Section 106 agreement are for mitigating specific impacts from the development. Unlike CILs, Section 106 agreements are negotiated with the applicant on a case-by-case basis, rather than being adopted by means of a standard charging schedule. As a result, they can, subject to lengthy negotiations and potential for renegotiations create uncertainties about the size of the contributions. For the majority of developments it is not recommended that Section 106 Agreement be used as the primary source of developer contributions relating to nutrient neutrality.

Where large or complex major developments require Section 106 agreements regardless (i.e. due to matters un-related to nutrient neutrality) the agreement for off-site mitigation can be secured through part of the Section 106 Agreement.

2.1.3.1 Unilateral Undertakings

A Unilateral Undertaking is a form of planning obligation (S106), that follows a simplified format, which removes much of the negotiation of a standard planning obligation. Unlike a traditional Section 106 Agreement, a Unilateral Undertaking is entered into by the landowner (and any other party with an interest in the land), but not the local planning authority. They can be adopted via a standard template and can ensure that planning permission is granted without the delays often associated with lengthy Section 106 agreement negotiations.

Due to their simplified nature, a Unilateral Undertaking is only appropriate if all the following conditions are met (South Gloucestershire Council, 2019):

- The party agreeing to the Undertaking is the owner of the concerned land, and the land is not under lease, or tenancy.
- The planning obligation will only concern a financial contribution agreement, to be paid once development of the land concerned begins.
- The Undertaking should contain an obligation to pay an administrative fee to the LPA, in order to cover the costs of review and monitoring of the Undertaking.

Havant Borough Council in Hampshire, for example, faces significant nutrient neutrality challenges in regard to new development, as the Chichester and Langstone Harbours Ramsar and Special Protection Area and Solent Maritime Special Area of Conservation fall within the LPA's boundary. In order to mitigate this, Havant Borough Council has established their own mitigation scheme, Warblington Farm, that developers can pay into, if it is not feasible for them to mitigate on site. Applicants wishing to take advantage of the Mitigation Scheme are sent a Unilateral Undertaking in order to collect the fees. The planning application cannot progress past a certain point until the fee has been collected. If the fee has been collected and the planning application is subsequently refused, the fee, minus the administration costs, is refunded. However, Havant Borough Council has noted that refunds are rare as the HRA and subsequent payment for mitigation normally happens towards the end of a planning application. By this point, the LPA and the applicant normally have good idea as to the likely success of the application and where applications are likely to be refused, payment is not progressed.

2.2 Recommended approach to obtaining developer contributions

For the reasons outlined above, it is considered that in a scenario where Herefordshire Council is seeking developer contributions for an LPA-managed nutrient mitigation scheme (such as the Warblington Farm scheme adopted by Havant Borough Council), the most effective, and least limiting, mechanism to collect these financial contributions would be by way of a Standard Unilateral Undertaking. Alternative methods of collection are either not viable in this specific case or carry the risk of becoming overly time-consuming, causing unnecessary delays to development. It is noted, however, that Section 106 agreements may be required for major developments or if a developer chooses to pursue a private mitigation scheme that is not being managed by the Council.

Following consultation with Herefordshire Council[6], it has been decided what the Council will be pursuing s106s and Unilateral Undertakings as the mechanism to obtain developer contributions for phosphorous mitigation.

3 Mechanisms for distributing developer contributions to mitigation schemes

This section provides a review of the different options for distributing developer contributions obtained by the recommended approach of Unilateral Undertakings in the context of the HRA requirements.

Four options were examined to address the issue of managing phosphate inputs and were assessed against several criteria including:

1. **HRA requirements**, including certainty of mitigation and the need for a development to be bound to a specific mitigation measure.
2. **Effectiveness** of the options (and their associated risks).
3. **Feasibility** of the options, including the requirements of Unilateral Undertakings for obtaining developer contributions.
4. **Administrative burden and transaction costs.**

Of these criteria, the HRA requirements were the key determinants of whether an option was rejected. Table 3-1 provides a summary of the performance of the options considered against these requirements. Further detail of the options examined and the conclusions of the assessments are outlined in the following sections.

Table 3-1 Options assessment against HRA requirements: summary of results

Option considered	Certainty of mitigation	Mitigation options directly linked with development	Recommended
Option 1: Developer managed mitigation (BAU)	Yes, with external management	Yes	✓ **Yes, with specific requirements**
Option 2: Council-led Strategic schemes	Yes	Yes	✓ **Yes**
Option 3: Mitigation scheme bank	No	No	× **No**
Option 4: Strategic schemes with phosphate trading	Yes, with external management	Yes	× **No**

[6] Meeting between Herefordshire Council and Ricardo on 20/07/2021.

The assessments and recommendations regarding each option were based on the review of approaches to developer contributions being used in other local authorities tackling the nutrient neutrality issue, internal discussions with planning experts and discussions with Herefordshire Council and Natural England.

3.1 Options for distributing developer contributions

The following sections detail four options that have been identified as having the greatest potential as approaches to distribute developer contributions onto mitigation schemes. Box 3-1 is provided as a quick reference to the key findings from the Interim Phosphate Delivery Plan Stage 2 report, highlighting the most viable mitigation solutions.

Box 3-1 Key recommendations from Stage 2 of the Herefordshire Council Interim Delivery Plan

1. Wetlands at WwTWs treating final effluent are likely to provide **the best current strategic mitigation options**.
2. Other, smaller wetland schemes distributed around the River Wye catchment may also provide viable mitigation options.
3. Riparian buffer habitats and short-rotation coppice may provide alternative natural solutions, but they likely **require a better evidence base or period of monitoring** to ensure efficacy.
4. **All measures will require maintenance/management plans** to be secured to ensure they continue to deliver mitigation in perpetuity.

3.1.1 Option 1 – developer-managed mitigation

This option represents the “business as usual” or default option for developers and Local Authorities as a result of the “Dutch Case”. Option 1 is considered “business as usual” because when an HRA finds the need for mitigation, it is typical that the process of arranging the mitigation is managed by the developer.

Under Option 1, a developer would first be required to determine whether the development in question will result in a net increase in phosphorous loading to the River Wye SAC. The methodology for calculating and evidencing the nutrient budget of a development is outlined in Stage 1 of the Herefordshire Council Interim Delivery Plan (IDP) (Ricardo, 2021a). Under this option, the developer would propose and cost their own on-site or offsite mitigation measures for any additional phosphorous generated by the development. These mitigation measures must fulfil the following requirements:

- Using *best available evidence,* it must be demonstrable *beyond reasonable scientific doubt* that the mitigation measure in question will achieve the required phosphorous reductions.
- The mitigation measure must remain effective *in perpetuity* (80-125 years).

Solutions for phosphorous mitigation that could be used to deliver the reductions in phosphorous loading to the River Wye that will make a development nutrient neutral are reviewed and presented in Stage 2 of the Herefordshire Council IDP, alongside fact files with key considerations regarding HRA compliance (Ricardo, 2021b). These considerations also highlight the requirement for maintenance of mitigation measures to achieve phosphorous reductions in perpetuity and thus to achieve HRA compliance.

In this case, the developers would be responsible for demonstrating that the mitigation measures employed are compliant with the Habitats Regulations at the Appropriate Assessment stage of an HRA (Ministry of Housing, Communities & Local Government, 2019)[7]. In practice, the requirements of an HRA stipulate that the mitigation measures must be in place and operational from the point that the development is occupied.

[7] Following Natural England Nutrient Neutrality Principles. Further information can be found in the Stage 2 IDP

The recommendations and considerations outlined in the Stage 2 review of measures highlighted that *"all measures will require maintenance/management plans to be secured to ensure they continue to deliver mitigation in perpetuity".* In practice, management obligations for different onsite mitigation measures vary depending on mitigation measure. For SuDS, which are the onsite mitigation measure with the most potential for phosphorous reductions, the default maintenance responsibility lies with the landowner, however this responsibility may be passed on to another party if the SuDS are "adopted" (Susdrain, 2015). Adoption of SuDS should require a legal and financial agreement to ensure they are maintained over the lifetime of a development. There would be added pressure to ensure this legal and financial agreement is robust enough to not risk non-compliance with the developments HRA for nutrient neutrality, which highlights the additional complexity of how to verify guarantees of maintenance of onsite mitigation measures in perpetuity. However, given SuDS should be included within all new developments of 10 or more dwellings, to not design SuDS for additional nutrient removal benefits is a missed opportunity. To establish an ongoing governance structure which extends for the lifetime of a development, it may be beneficial to involve a third-party, for example an organisation who may adopt the onsite SuDS, or other mitigation measures, from the outset. In this case, a transaction to pay for the mitigation measure would occur directly between the third-party and the developer.

Where developers are buying into a privately run offsite mitigation scheme, these schemes would again be owned and managed by a third-party other than the Council or the developer. The key risks associated with privately run offsite schemes can be attributed to the timing of their mitigation provision relative to development and ensuring mitigation in perpetuity (for a minimum of 80 years[2]). Appropriate legal mechanisms are required in these cases to ensure that private schemes are both operational and providing verified reductions in phosphorous loading to the appropriate areas of the River Wye SAC, and that mitigation scheme continues to operate over the required timeline. Furthermore, it is not guaranteed that privately run mitigation schemes will be established in the required timeframe, i.e., to be operational when a development is occupied. In the case of both of these options there will be a role for the Local Authority, or a body acting on their behalf, to review these mitigation measures and monitoring on an ongoing basis.

Regarding the risk that a mitigation scheme may not be provided in perpetuity or if it is suspected that the mitigation is not being delivered effectively, the key risk is that a development's Appropriate Assessment will become invalid. In practice, most HRAs do not rely on mitigation schemes with as much uncertainty or management and maintenance requirements as most viable phosphorous mitigation schemes and thus this has rarely if ever happened. As such, there is little precedent to understand the potential ramifications. However, it is likely that the Council would rapidly need to find a solution to provide continuity of mitigation for the particular development.

To mitigate this risk associated with private mitigation provision, the Council should look to encourage developers to partner with mitigation delivery partners that have a greater likelihood of maintaining a mitigation scheme in perpetuity. These partners could be established environmental non-governmental organisations, such as wildlife or rivers trusts, or private entities such as water companies. The Council also has the option of requesting 'step-in rights', where the Council or another third-party may acquire the scheme. Once acquired, the Council will then be liable for the scheme's functioning. Without an appropriately designed 'step-in' arrangement, there is a significant risk around the availability of adequate funds to maintain a mitigation scheme acquired using 'step-in rights'. Due to the nature of Unilateral Undertakings, there is only one opportunity to elicit payments from developers. Therefore, any 'step-in' arrangement should consider the costs associated with the acquisition over the lifetime of a mitigation scheme and look to cover variations from these costs with insurance. A contractual / legal agreement that is written to protect the Council, either using insurance or another means, against future liabilities associated with taking on responsibility for a third-party mitigation scheme would add to the viability of developer managed mitigation schemes.

As a fallback position, it is also suggested that the Council could determine a set of compensatory measures that would be activated should a private mitigation scheme cease to deliver. For compliance with the Habitat Regulations, compensatory measures need to be technically, financially and legally feasible at the point of the Appropriate Assessment being agreed. These compensatory measures could take the form of short-term mitigation, such as paying farmers to plant cover crops or the deployment of silt traps in the Wye or Lugg.

Overall, the key consideration that may affect the viability of Option 1 is the guarantee of maintenance and monitoring of the mitigation measure to ensure its functioning, and the delivery of mitigation in perpetuity. Whilst this is a key consideration, as suggested above, there are legal and practical options that can be used to limit the risk associated with developer-managed mitigation.

3.1.2 Option 2 - strategic schemes operated by Herefordshire Council

Option 2 involves a situation whereby developers will calculate the phosphorous required to offset; however, instead of looking to mitigate onsite, developers will be given the option to "buy-in" to an existing offsite mitigation scheme that is managed by Herefordshire Council. An example of such a mitigation scheme would be a strategic wetland that acts as a phosphorus sink, removing the additional phosphorous load from relevant waterbodies.

This option would look to acquire financial contributions through Unilateral Undertakings in the form of a set payment or credits purchased, whereby 1 kg/yr of removed total phosphate is equivalent to 1 credit. The purchase of credits would be used to secure these offsite mitigation measures. This method has been demonstrated to be practicable for managing other nutrients, e.g. the Havant Borough Council Warblington Farm scheme for nitrogen mitigation, where the strategic scheme is linked with the local development plan (Havant Borough Council, n.d.).

In comparison to Option 1, the advantage of Option 2 is that it would enable developments to proceed where they are not able to achieve nutrient neutrality onsite and the developer does not have a private offsite mitigation solution. In addition, the Council would have direct oversight of the functioning and maintenance of the mitigation mechanism, and therefore have further certainty regarding the delivery of mitigation.

Issues may arise if the developments realised exceed the mitigation capacity included in the Local Development Plan. In these cases, the Council would need to demonstrate that there is further capacity to conserve or offset phosphorous loading or provide further "bridging measures" whilst other strategic mitigation schemes are brought forward. Further details regarding the practical considerations of this option are provided in Section 3.2.

Equally, a situation may arise whereby the mitigation provided by the Council exceeds the realised demand from development. While this scenario still ensures the delivery of mitigation to an extent that new residential developments are demonstrated to be "nutrient neutral", and therefore overcome the limitations on new housebuilding resulting from the "Dutch Case" ruling, such a situation is considered economically inefficient in terms of Council expenditure. Benefits to exceeding the amount of mitigation required to support residential development would be seen in a greater positive impact for the environment and the potential to have credits in reserve to support other types of non-residential development that may need phosphorous mitigation in the future.

3.1.3 Option 3 - the mitigation scheme bank

Option 3 involved the concept of a "mitigation scheme bank" whereby the same financial contribution described as part of Option 2, in the form of a set payment, would be used to secure offsite mitigation options either identified by the council or the developer, but which are developed and managed externally. For example, a developer would calculate their excess phosphorous export using the budget calculator and make their financial contribution as stipulated by the Council. This financial contribution would then be pooled with other contributions and set aside for "general" mitigation activities. These may include mitigation schemes that exist at the time of payment and schemes that are yet to be identified. Under this option, the Council would act as a central bank, processing payments and distributing them to the mitigation schemes.

The key advantage of this option in comparison to Options 1 and 2 is that as the mitigation options are managed externally, there may be less burden on developers and the Council. However, there are significant drawbacks when assessed against the requirements of the Habitats Regulations which make this option unviable. Primarily, the Dutch Case ruling suggests that a proposed development project or plan cannot rely, for mitigation purposes, on external programmes (i.e. that are not part of that project or plan) unless there is certainty that mitigation will be delivered before the impacts of the development come into effect. As the financial contributions may potentially be for schemes that are undefined at the

time of development, there is uncertainty as to whether the schemes will be in place at the time of occupation, as well as uncertainties around the supply of new mitigation schemes if the capacity of existing mitigation options is reached. As the HRA process is precautionary and must eliminate any reasonable uncertainty over effects on a National site, this option is considered impracticable.

In addition, this option shares a similar problem with Option 1 regarding monitoring and verification of the mitigation measures if they are run by a third-party. As a result, this was not considered a viable option for distributing developer contributions.

3.1.4 Option 4 – strategic schemes and phosphate trading

Option 4 presents an extension of Options 1 and 2, whereby a strategic scheme or schemes operates as a council-controlled credit scheme. This would involve an exchange market in which phosphorous credits are tradeable between privately run schemes, developments and the Council. This option is conceptually based on the water quality trading programmes established in the US to reduce water pollution in a cost-effective manner (Jones & Vossler, 2014; Shortle, 2013; US Environmental Protection Agency, n.d.). Under this option, if a developer uses a private mitigation scheme to mitigate a larger amount of total phosphate than required by their phosphorous budget, then they are able to sell this excess mitigation/credits to the Council or another developer. In addition, private mitigation schemes run by third parties such as those described in relation to Option 1 (Section 3.1.1) would also be in a position to sell credits to the Council or directly to developers. However, there are several key constraints that limit the scope of this option in the context of the River Wye SAC and the requirements of the Habitats Regulations.

As an example of these constraints, where a developer conducts a transaction directly with another developer or a private mitigation scheme, this results in the same challenges as encountered by Option 1 and 3, which relate to the need to ensure the monitoring and management of mitigation options in perpetuity. In addition, as for Option 3, there is uncertainty as to whether schemes will be in place at the right time, in order to accommodate the additional total phosphate load of development at the point of occupation. This has significant implications for the Council in regard to decisions concerning their provision of offsite mitigation.

Overall, this option was not recommended due to its complexity, which is likely to result in significant transaction and administrative costs for the developer and the Council in terms of securing the relevant mitigation options, and ensuring their verification, monitoring and functioning in perpetuity. However, it is noted that Defra are pursuing a nitrate trading scheme for the Solent region[8]. This scheme, once operational, could provide a blueprint for a trading platform model, with any Council-run strategic schemes, e.g., Option 2 (see section 3.1.2), being subsumed into the trading platform as a mechanism to sell the schemes' phosphorous credits.

3.2 Recommended option for distributing developer contributions

Due to the linked requirements of the Habitats Regulations and the mitigation scheme payment mechanism, the primary recommended option for distributing developer contributions is *Option 2: Strategic Schemes operated by Herefordshire Council.* This section outlines the practicalities of this option alongside any further aspects for consideration beyond the scope of this report. The possibility of accepting supplementary privately run mitigation schemes as part of delivering phosphorous mitigation is also discussed here, alongside the role of onsite mitigation by developers.

There are several key practical aspects that underpin the success of this option. One of the key requirements under an HRA is that offsite mitigation schemes must be linked to the development (Defra 2021). Subsequently, any strategic mitigation scheme managed by the Council must be linked to the relevant Local Development Plan in order to demonstrate that considerations have been made for development within this plan in regard to nutrient neutrality.

[8] Environment Minister and Natural England Chair launch wildlife protection plan to unlock Hampshire housebuilding, available at: https://deframedia.blog.gov.uk/2020/09/11/environment-minister-and-natural-england-chair-launch-wildlife-protection-plan-to-unlock-hampshire-housebuilding/, accessed on 28/05/2021

As discussed in section 3.1.2, the potential for developments that are realised to exceed the phosphorous load that is planned for in the Local Development Plan should be adequately accounted for. There are several ways in which this problem may be avoided or reduced. The first option is to account for uncertainty at the beginning of the Local Development Plan cycle, when reviewing or developing the plan. At this stage, it may be beneficial to include a buffer to the phosphorous credit capacity available and use this buffer to set aside subsequent "insurance" phosphorous credits to accommodate this uncertainty. This will require the Council to estimate the phosphorous that will be removed by a strategic scheme or schemes and have a scheme or schemes in place that provide the "insurance" credits. The buffer to provide insurance credits from mitigation schemes is independent of the 20% precautionary buffer applied within the phosphorous budget calculator, as detailed in Stage 1 of the IDP.

A second potential option is to accept supplementary privately run mitigation schemes as part of the overall mitigation delivery strategy. Due to the issues around uncertainty of provision discussed under Option 1 (Section 3.1.1), it is recommended that only those privately run schemes that are established prior to the review of the Local Development Plan are included as part of the overall calculated mitigation capacity. It is also recommended that only private schemes managed by certain organisations, such as the Herefordshire Wildlife Trust or Wye and Usk Foundation, be accepted as part of the overall portfolio of mitigation delivery. The use of non-governmental organisations with a demonstrable record of providing similar mitigation or environmental management schemes will help add certainty to the effective and long-term delivery of mitigation. Risks around certainty of private mitigation scheme provision in perpetuity may also be accounted for when determining the requirements for the buffer of phosphorous credits, i.e. a larger share of private mitigation schemes equates to a higher risk of guaranteeing mitigation delivery, which should be reflected in a large phosphorous credit buffer being set aside.

For any third-party mitigation schemes, it is also recommended that the Council require the implementation of a monitoring scheme with reporting aligned with internal monitoring processes regarding their own centrally managed mitigation scheme(s). Monitoring of the reductions delivered by the Council or privately managed mitigation schemes and their overall functioning are a key determinant of the viability and success of the recommended options. Initially, monitoring activities should focus on the achieved level of phosphorus reduction against the baseline load without mitigation. It is noted that for most mitigation schemes, the baseline phosphorous load prior to reduction and the efficiency of reductions achieved by the scheme are unlikely to stay constant over time. To account for this variability, it is recommended that a precautionary estimate of phosphorous reductions that will be achieved by the mitigation scheme under most conditions is determined as the baseline credits that the scheme will provide. If monitoring data subsequently provides robust evidence that the scheme is consistently providing more credits than the baseline, the baseline available credits could be shifted to a higher level.

There may be a lag period between the construction of a mitigation scheme and achievement of its full mitigation potential. For example, a constructed wetland is expected to require up to three years to reach maturity (Ellis, et al., 2003). As there is a requirement for mitigation to be in place before the development is occupied, there is a need for an established scheme that is functioning to a reasonable level. Temporary measures[9] or bridging solutions (i.e. farm management above Catchment Sensitive Farming requirements) may be used to supplement the main mitigation scheme before it achieves its full mitigation capacity.

It is important to note, however, that some temporary measures may also have inherent uncertainties that must be accounted for when selecting and deploying bridging solutions. For example, as identified in the Stage 2 review of mitigation options, it was noted that for mitigations options such as agricultural land abandonment, there may be issues of "legacy phosphorus leaching" (Stage 2) (Ricardo, 2021). In these cases, it would be appropriate to factor these uncertainties in the application of a phosphorous credit buffer as discussed above.

[9] It was advised by Natural England that temporary measures must be done through the Local Authority. Therefore, privately run mitigation schemes are limited to longer term delivery.

3.2.1 Pricing a unit of phosphorous

As the recommended option does not represent a true marketplace where buyers and sellers compete, the price of a phosphorus credit is determined by the Council.

There are several ways in which a unit of phosphorous may be priced. In the context of the proposed scheme, following discussions with Herefordshire Council who engaged directly with the housing development community, it was concluded that a fixed “average” price for a unit of phosphorous is the optimal solution. The alternative of varying the unit price according to the location and context of the development to reflect the ‘risk’ per unit of total phosphate emitted was considered but not preferred due to its complexity and the potential consequence of a significant administrative burden, reduced transparency for developers and significant transaction costs.

The fixed “average” price of the unit of phosphorous must adequately cover the financial investment in the strategic scheme, its monitoring and maintenance for the duration of its lifetime, and any bridging measures required during its development phase, for example to cover any period between the development of a wetland and it functionally achieving its full mitigation potential. The price must also cover any administrative cost associated with eliciting payment via the recommended approach of Unilateral Undertakings.

When setting the price of a unit of phosphorous, there are several things to account for. First, it must be recognised that the mitigation potential of a strategic scheme, such as a wetland, is finite and as demonstrated in the case of Havant Borough Council, developers are most likely to opt to buy-in to the Council-run scheme rather than look to mitigate privately. Given these considerations, there are two ways in which the price can be set. The first option is to include a requirement for developers to demonstrate that they have explored and exhausted all feasible onsite mitigation options. This is an approach that has been adopted by Test Valley Council in the context of meeting nutrient neutrality requirements for nitrogen (Test Valley Borough Council, 2021). In their case, the developer may only be eligible to purchase credits for offsite mitigation to offset remaining nitrogen discharge after exhausting onsite mitigation options. In this case, the price of a phosphorous credit may be determined by dividing the total cost of the mitigation scheme (including investment, estimated annual operation and maintenance costs, and administrative costs) by the expected reduction in phosphorous to be delivered (in kg/yr of phosphorous removed by the mitigation measure).

The alternative option is to value the credits at a level whereby they incentivise onsite mitigation, for example by setting the payment at a level corresponding to the highest market price of viable onsite mitigation measures. This ensures that obligated parties are incentivised not just to opt to buy in to the Council-run strategic mitigation scheme. The Stage 2 IDP identified indicative high-level cost estimates for each shortlisted option. As the purpose of the financial contribution is to finance the mitigation schemes through which credits are generated, it must be ensured that the market price at which the credit price is benchmarked adequately covers the costs incurred by the Council managed mitigation schemes. Therefore, where the highest market price of onsite measures falls below the average cost of the Council managed scheme, the credit price would revert to this average cost.

This alternative option results in a higher degree of uncertainty when determining the appropriate level. Conversely, the first option concerning the estimation of the cost of wetlands or other strategic schemes is considered to be more robust, transparent and less subject to bias and thus the first option is recommended.

Based on the above considerations and in consultation with Herefordshire Council, the key recommendation for an approach to pricing phosphate credits is to adopt a fixed average price per phosphorous credit. This will enable the Council to have a single price for phosphorous credits even if they are operating multiple strategic mitigation schemes. There is also a need to ensure that the price remains current and relevant. It is therefore recommended that the credit price is subject to regular review to accommodate changes to the financial investment and maintenance needs of the strategic schemes. Herefordshire Council has indicated that the credit price will be reviewed annually. It is recommended that annual price reviews that coincide with the 5-year review of the Local Development Plan should account for the estimated need for mitigation capacity for future planned developments (Ministry of Housing, Communities & Local Government, 2020) .

4 Conclusion

Following the CJEU ruling referred to as the Dutch Case, the requirement for new housing development to be “nutrient neutral” has placed a significant burden on Competent Authorities through HRAs of new housing developments. Stages 1 and 2 of the Herefordshire Council Interim Phosphate Delivery Plan has set out a method for calculating nutrient budgets for new residential developments and provided a review of options for mitigating phosphorous loads from new developments to the River Wye SAC. New developments with phosphorous budgets that show an excess of phosphorous loading to the River Wye SAC will need to mitigate this load using a viable mitigation solution and this report has provided recommendations for how developer contributions can be obtained to finance mitigation schemes, as well has how the contributions can be distributed on to different schemes.

There are different legal mechanisms that can be used to obtain developer contributions. This report assessed the viability of using planning conditions, the Community Infrastructure Levy and Section 106 agreements/Unilateral Undertakings to obtain developer contributions to mitigation schemes. The key recommendation from this assessment is that Section 106 agreements and particularly Unilateral Undertakings provide the best solution for obtaining developer contributions to phosphorous mitigation schemes. Section 106 agreements, whilst providing a viable legal instrument for securing developer contributions, were assessed as being likely to onerous to be used in every case where a development is required to be nutrient neutral. As such, Unilateral Undertakings are likely to provide the most streamlined approach to obtaining developer contributions, especially if the contributions are to be administered onto a Council run strategic mitigation scheme, though Section 106 agreements may be required if developers pursue private mitigation schemes.

Linked to the recommendation of using Unilateral Undertakings as the best approach to obtaining developer contributions, the recommended option for distributing these contributions onto mitigation schemes is Option 2 – strategic schemes operated by Herefordshire Council. This option provides the greatest confidence that the development will be able to prove that a) the mitigation scheme is being carried out for the express purpose of nutrient mitigation; and b) provides the greatest confidence in the timing, monitoring and verification of the scheme to provide nutrient reductions for the duration of a development’s lifetime. These are key considerations in the context of HRA compliance. It is also noted that whilst Option 1 – developer-managed mitigation is not recommended due to complexities of linking developer contributions to mitigation schemes and monitoring and verification, it is recognised that developers may still pursue private schemes, particularly SuDS, and that Option 1 is viable if managed correctly, i.e., has suitable provision for maintenance, monitoring and verification of the efficacy of the mitigation scheme. Where developer-managed schemes are pursued, the Council should seek to limit their potential future liabilities if a third-party run scheme were to require the Council to step in and assume management.

Assuming Herefordshire Council pursue Option 2 as the method for distributing developer contributions, there is a requirement for determining the price of a phosphorous credit, which in practical terms is the cost of mitigating 1 kg/yr of phosphorous. It is recommended that an average pricing approach, whereby the Council sets an average cost of a credit is taken. This average cost should be determined either as a price based on total cost of a strategic mitigation option or options, or the Council could aim to set the price in such a way as to incentivise developers to mitigate as much as possible using onsite measures, e.g., SuDS.

Finally, it should be noted that a system of phosphorous credit allocation is likely to be developed by Herefordshire Council. It is beyond the scope of this report to make recommendations on how this system could be set up, however it should be recognised that phosphorous credits from Council run mitigation schemes may not be administered on a first come, first served basis. The Council may put some criteria on the allocation of credits that will determine how credits are allocated to planning applicants.

5 References

Ellis, J., Shutes, R. & Revitt, D., 2003. *Guidance Manual for Constructed Wetlands,* Bristol: Environment Agency .

Havant Borough Council, n.d.. *Local Plan 2036: Position statement on nutrient neutral development.* [Online]
Available at:
https://cdn.havant.gov.uk/public/documents/Position%20Statement%20on%20Nutrient%20Neutrality.pdf

Jones, L. & Vossler, C., 2014. Experimental tests of water quality trading markets. *Journal of Environmental Economics and Management,* 68(3), pp. 449-462.

Ministry of Housing, Communities & Local Government, 2019. *Guidance on the use of Habitats Regulations Assessment.* [Online]
Available at: https://www.gov.uk/guidance/appropriate-assessment
[Accessed 5 May 2021].

Ministry of Housing, Communities & Local Government, 2020. *Guidance on plan-making.* [Online]
Available at: https://www.gov.uk/guidance/plan-making
[Accessed 5 May 2021].

Ricardo, 2021a. *Herefordshire Council Interim Phosphate Delivery Plan: Stage 1 - Guidance for calculating phosphate budgets for new developments draining to the River Wye SAC,* s.l.: s.n.

Ricardo, 2021b. *Interim Phosphate Delivery Plan Stage 2 - Mitigation options for phosphate removal in the Wye Catchment,* s.l.: s.n.

Shortle, J., 2013. Economics and Environmental Markets: Lessons from Water-Quality Trading. *Agricultural and Resource Economics Review,* 42(1), pp. 57-74.

Smith, J. a. J., 2020. *The joys of automatically referencing documents that you're allowed to reference.* [Online]
Available at: www.referencelocation.com

Susdrain, 2015. *Sustainable Drainage Systems (SuDS) maintenance and adoption options (England) ,* s.l.: s.n.

Test Valley Borough Council, 2021. *Nutrient Neutrality- Off Site Mitigation Fiancial Contribitions Framework ,* s.l.: s.n.

US Environmental Protection Agency, n.d.. *Water Quality Trading Toolkit for Permit Writers: Appendix A Water Quality Trading Program Fact Sheets.* [Online]
Available at: https://www3.epa.gov/npdes/pubs/wqtradingtoolkit_appendices.pdf

T: +44 (0) 1235 753000

E: enquiry@ricardo.com

W: ee.ricardo.com