ECOLOGICAL EXPERTISE, EVOLVED

Northney, Hayling Island

Wetland Bird Mitigation Habitat Management and Monitoring Plan – FINAL

Prepared on behalf of

Dandara Southern Ltd

Final Report

07 January 2025

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Northney, Hayling Island

Wetland Bird Mitigation Habitat Management and Monitoring Plan – FINAL

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Northney, Hayling Island

Wetland Bird Mitigation Habitat Management and Monitoring Plan – FINAL

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Northney, Hayling Island

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1. INTRODUCTION

Context

1.1 Ecological Planning & Research Ltd (EPR) has been commissioned by Dandara Southern Ltd to provide ecological advice and support in relation to proposals to develop land at Campdown in Havant for residential development.

1.2 The residential development proposals at Campdown (Havant Borough Council planning application number APP/23/00488 – the location of which is shown on **Map 1**) will cause the loss of land in fields that have records of past use as supporting habitat (functionally linked land) by Curlew and some very limited use by Brent Goose, both of which are individually qualifying features of the nearby Chichester and Langstone Harbours Special Protection Area (SPA) and form component parts of the overwintering waterbird bird assemblage qualifying feature. Both species also form part of the waterfowl assemblage qualifying feature of the Ramsar designation, with the population of Brent Goose also being an individually identified Ramsar qualifying feature.

1.3 Recent surveys suggest that bird use of these fields has significantly declined from past peaks of use, possibly due to changes in management (reduced grazing) or other factors such as increased recreational access from nearby dwellings following the Covid pandemic. Notwithstanding this, in the absence of development it is possible that any factors suppressing bird use of the site may be reversible, and therefore in the absence of mitigation measures the development causes a depletion of the total 'potential' supporting habitat resource available to qualifying SPA birds in the future.

1.4 In effect, this means that in the absence of measures to avoid or reduce harm, the proposals would have a likely significant effect on the conservation objectives of the Chichester Harbour and Langstone Harbour Special Protection Area (SPA) and Ramsar Site and be likely to lead to an adverse effect on site integrity. Therefore, in the absence of mitigation measures the development would fail an Appropriate Assessment under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended)

1.5 As a result of the above, the application for residential development was submitted in conjunction with an additional planning application for a proposed mitigation strategy located on land at Northney Farm (Havant Borough Council planning application number: APP/23/00507). This mitigation strategy was developed by Tetratech Ltd, and involved the creation of a new 1,200m flood defence bund and approximately 200m of repairs and refurbishments to the existing sea wall, designed to prevent the anticipated future loss of existing 'core' high tide roosting areas to predicted sea level rise, thereby compensating for the loss of high tide habitat at Campdown.

1.6 Both Natural England (NE) and the Chichester Harbour Conservancy (CHC) have objected to the Northney Farm planning application for compensatory bird habitat in documents dated 2 November 2023 and 8 November 2023 respectively, with detailed commentary on the acceptability of the Northney Farm proposals also appearing in Natural England's 24 August 2023 objection to the Campdown application.

1.7 In view of the above, EPR was commissioned by Dandara Southern Ltd to review the past mitigation proposals and develop a proposed response comprising either amendments to the submitted mitigation package or a new package of measures, that addresses the concerns that have been raised.

1.8 The strategy reported here has been worked up in consultation with NE and shared with Havant Borough Council's Ecologist.

Policy Background

Havant Local Plan

1.9 Relevant local planning policy includes:

The Local Plan (Core Strategy and Site Allocations) (adopted 2011 and 2014);

The Havant Borough Local Plan 2036 (withdrawn 2021) - See Pre-submission Local Plan from c2019 for Campdown policy and mitigation policy; and

The 'Building a Better Future Plan' (emerging).

1.10 Of particular relevance is the Habitats Regulations Assessment Screening for the (emerging) Local Plan (HBC, August 2022). This states that:

> *Mitigation Measures for Impacts to Supporting Habitat*
>
> *….In conjunction with an expert Steering Group comprising Natural England, the Hampshire & Isle of Wight Wildlife Trust (HIOWWT), the Royal Society for the Protection of Birds (RSPB), the Eastern Solent Coastal Partnership (ESCP) and Hampshire County Council (HCC), Havant Brough Council has been involved in the development of a framework of strategic mitigation measures for impacts to SPA/Ramsar supporting habitat. Given the landscape-scale of the issue of terrestrial supporting habitat, a strategic Solent-wide mitigation solution is the most desirable mechanism for ensuring that functionally linked land is addressed appropriately through the planning system.*
>
> *The SWBGS Guidance on Mitigation and Off-setting Requirements (SWBGS Steering Group, October 2018) provides a tiered framework of mitigation requirements, linked to the status of each SWBGS site. For each level of site, specific costed mitigation requirements are provided. It is the view of the Steering Committee that by applying these mitigation requirements, impacts to supporting habitat can be effectively mitigated such that the conservation objectives of the Solent SPAs are not compromised…*

Bird Refuges

A developing initiative of the SWBGS is the provision of permanent refuge sites for overwintering birds. These would primarily be inland sites for Brent Geese but would also provide suitable habitat for some wader species depending on their location.

The provision of permanent refuges throughout the Solent region is seen as a desirable and achievable outcome. As much of the existing supporting habitat lies within agricultural land the location and suitability of supporting habitat is dependent to a large degree on the vagaries of crop rotation practices. This could theoretically mean that in any given year there may be no or a minimal amount of supporting habitat available. The establishment of refuges could ensure that suitable habitat is available on a permanent basis every year, contributing towards the favourable conservation status of qualifying species.

Research is ongoing into the provision of permanent bird refuges. It is apparent from early analysis that sites likely to prove most suitable for refuges are large, close to coastal habitat, contain improved grassland or winter cereals, and are generally free from significant disturbance (this may be facilitated by secure fencing).

Havant Borough Council is committed to establishing permanent bird refuge areas at Broadmarsh and Warblington Farm. Refuges will be developed, where feasible, in accordance with the requirements of the SWBGS mitigation guidance.

SWBGS Guidance on Mitigation and Off-setting Requirements

1.11 When preparing the mitigation strategy reported upon in this management plan, reference has been made to the SWBGS Guidance on Mitigation and Off-setting Requirements (SWBGS Steering Group, October 2018).

1.12 The SWBGS mitigation guidance states that:

1. The Solent Waders and Brent Goose Strategy (SWBGS) aims to protect the network of non-designated terrestrial wader and brent goose sites that support the Solent Special Protection Areas (SPA) from land take and recreational pressure associated with new development. The preferred approach is for development to be located outside the network of sites. However, this document outlines the mitigation and off-setting requirements to inform assessments of plans and projects made under the Habitats Regulations and to protect the network should sites come forward for development.

2. The terrestrial wader and brent goose sites are located on land that falls outside of the Solent SPAs boundaries. However, as this land is frequently used by SPA species (including qualifying features and assemblage species), it supports the functionality and integrity of the designated sites for these features. This land will contribute to the achievement of the SPAs' conservation objectives and is therefore protected in this context. This land supports the ecological network by providing alternative roosting and foraging sites.

3. A framework for guidance on mitigation and off-setting requirements has been prepared by the SWBGS Steering Group to achieve the long-term protection of the wider brent goose and wader network of sites. The network extends across a number

of local planning authority boundaries in Hampshire, the Isle of Wight and Sussex. This network is under pressure from the growth planned in this area and formal guidance was considered necessary to define an approach for the non-designated sites.

4. The level of mitigation and off-setting required is dependent on the importance of the site within the ecological network and how these non-designated sites support the wider designated Solent SPA network.

5. This framework has been agreed by the SWBGS Steering Group. It will be reviewed every 5 years in line with the SWBGS Project Reports, or ad hoc, if required due to changes to evidence and legislation. Whilst it provides guidance, each development proposal will be examined by Natural England and the Local Planning Authorities (LPA) on a case by case basis including assessment under the Habitats Regulations, and it is recommended that early discussions are held with Natural England through their Discretionary Advice Service (DAS) and the relevant LPA to ensure appropriate mitigation and off-setting schemes are designed.

6. This guidance relates to non-designated sites in Hampshire, the Isle of Wight and Sussex. It is separate to the Solent Recreation Mitigation Partnership's Bird Aware Solent Definitive Strategy which refers to the designated SPA sites and sets out a strategic approach to mitigate for the recreational visits arising from planned housing.

1.13 The guidance details the criteria for each site classification (Core Area, Primary Support Areas, Secondary Support Areas, Low Use and Candidate Sites).

1.14 Mitigation and off-setting requirements for loss of each is detailed in the guidance. The development at Campdown includes the northern part of a Primary Support Area (H02A) (the southern part of which will be retained), and three Secondary Support Areas (H106, H113 and H125) (See **Map 3a**). The required approach set out in the SWBGS for each of these area types is set out below (emboldened and underlined text is our emphasis):

Primary Support Areas

17. The Primary Support Areas are land that, when in suitable management, make an important contribution to the function of the Solent waders and brent goose ecological network. However, it is generally considered that, where on-site avoidance or mitigation measures are unable to manage impacts, there may be opportunities for the loss or damage to these areas to be off-set by the provision of new sites to ensure a long term protection and enhancement of the wider wader and brent goose ecological network.

18. The options for off-setting impacts on Primary Support Areas will be considered on a case-by-case basis and will be subject to ensuring the continued ecological function of the wader and brent goose sites is maintained and enhanced i.e. ensuring that there are significant net benefits to the wader and brent goose ecological network through the creation and on-going management of replacement (off-setting) sites. ***This may be a site identified within the Strategy provided there is sufficient scope for enhancing and securing its function within the wader and brent goose ecological network, or a site that if brought into appropriate condition has the potential for future use.***

*19. **There will be a requirement for the off-setting area to fulfil the same special contribution and particular function of the areas lost or damaged for the same species of birds**. **The appropriateness of any off-setting areas in respect of fulfilling the required ecological function will be judged against the following criteria, ranked in order of importance:***

*A. **Habitat Type** – the proposed off setting site must support habitats, or be suitable for recreating habitats that provide the same, or enhanced, ecological function as those that are to be lost or damaged.*

*B. **Disturbance** – the ecological function of an off-setting site is likely to be seriously undermined if subject to regular disturbance from recreational use and unmanaged public access. The appropriateness of the location of the off-setting site and the proposed measures to prevent indirect effects will need to be fully assessed.*

*C. **Area of habitat** – where the replacement habitat would be of equal ecological quality the area required should be of a similar extent to the site being lost or damaged. There may be situations however, where a greater area is required when habitat created may be of poorer quality to that lost or damaged, or there is a high level of risk involved. Similarly, if significant ecological enhancements are possible that increase the carrying capacity of the replacement site above that of the Primary Support Area affected then a smaller area of replacement habitat might be acceptable. This might include the partial loss of a Primary Support Area providing the remainder can be made significantly improved in habitat quality with long term management so as to provide for a greater capacity for the target species than the original site. In all such cases the test will be to ensure the replacement habitats provide a clear and permanent net gain for the target species.*

*D. **Timing and availability of habitat –** operational at the time it is required. Essentially, 'in time' to offset the adverse effects which are being addressed, with evidence to show it is functioning and readily available to SPA birds prior to any loss or damage to the original site.*

*E. **Geographic location –** for ecological reasons of structure and function it is considered appropriate for the off-setting habitat to be provided as close to the original site as practicable.*

The solution should also be capable of being:

*F. **Validated** in respect of achieving its ecological function / purpose; and*

*G. **Monitored** for effectiveness; and*

*H. **Adapted** to adjust to unfolding circumstances in future management; and*

*I. **Resilient** in the face of predictable future pressures such as natural population fluctuations and climate change.*

20. The land will need to be restored to a suitable condition and managed specifically for the waders and / or geese, ideally as a nature reserve owned or leased by LPA or NGO partner (or similar stable management body such as Land Trust) in perpetuity.

21. The management of the land must be set out in an agreed costed management and monitoring plan and sufficient funds provided to the agreed manager of the site to cover full costs in perpetuity. The preferred approach to secure long term funding for all off-setting areas is to provide an endowment whereby the interest is used for on-going management. This approach secures long term funds in perpetuity.

22. Given the difficulty of 1) justifying the need for a scheme and 2) providing the appropriate level of mitigation up front (ie making the off-setting area available prior to the loss or damage to the original site), it is the preferred approach that acceptable schemes affecting Primary Support Areas should come forward through the local plan process. This will ensure an early assessment of viable off-setting areas and consider how the necessary management can be secured and delivered upfront. A local planning authority could adopt a habitat banking approach to release potential sites provided that the above criteria can be met.

23. Joint working between the local planning authority, Steering Group and applicant is advised in all cases. However, it is ultimately the applicant's responsibility to identify and secure viable replacement sites for the loss of any non-designated wader and brent goose sites.

Secondary Support Areas

24. The Secondary Support Areas offer a supporting function to the Core and Primary Support ecological network, but are generally used less frequently by significant numbers of SPA geese and waders. These sites become important when wader or brent goose populations are higher or when the habitat is in suitable management. In-combination, these sites are essential to secure a long term, permanent network as this ensures a geographical spread of sites across the wider ecological network, thereby meeting the needs of each discrete subpopulation. The Secondary Support Areas network also provide suitable and favoured sites in years when the population includes high numbers of juveniles, as well as ensuring future resilience.

25. Loss of or damage to Secondary Support Areas should be discouraged, and on-site avoidance and mitigation measures considered wherever possible. ***<u>However, where impacts cannot be avoided or adequately mitigated on-site, there may be scope for a more flexible approach to off-setting the impacts to these sites, provided the continued ecological function of the network is maintained and significant enhancements additionally delivered, for example by improved long term management</u>****.*

26. ***<u>There is a preference for some on-site provision to maintain a network of sites across the region. The loss of secondary sites could be off-set on a like-for-like basis within the locality, similar to the replacement of Primary Support Areas. As Secondary Support Areas are generally utilised less frequently than Core Areas or Primary Support Areas (usually due to less optimal management, crop rotation patterns or disturbance), it may also be acceptable for replacement habitats to be located at a greater distance from the current sites, provided that the location is appropriate for the discrete subpopulation.</u>***

27. In addition, if Secondary Support Areas are currently available on crop rotation, it may be acceptable to take account of the value of providing permanent optimal waders / brent goose conditions equivalent to the current resource, as determined on a case-by-case basis.

28. ***It is expected that in most cases the loss, or partial loss, of Secondary Support Areas will be off-set by the provision of suitable replacement habitats which are supported by an agreed costed habitat management plan and funding secured in perpetuity.*** *The provision and ongoing management of replacement habitat might be delivered by a suitable third party (such as HIWWT, RSPB, Local Planning Authority, Hampshire County Council, Land Trust etc) through a legally binding management agreement.*

29. If a management company is used to undertake the management and maintenance of an on-site bird refuge, the local planning authority will need to be satisfied that financial arrangements are in place that will guarantee the provision of sufficient funds to ensure the full delivery of the agreed management plans in perpetuity. The financial arrangements will need to be sufficiently robust to allow the local planning authority to agree to take over the legal responsibility of delivering the management plans should the management company fail. In addition, ***it is recommended that a NGO partner (such as the Hampshire and Isle of Wight Wildlife Trust or RSPB) or an accredited ecological consultancy is involved with at least the first ten years of the management of the site****. This expertise will help ensure the success of site and allow management to be modified in the early stages, if necessary.*

30. If replacement habitat is to be provided on a non like-for-like basis (i.e. a smaller site / functional area provided than currently available), then the scheme should also provide additional off-setting funding for the management and enhancement of the wider wader and brent goose ecological network. The value of funding required may be calculated using a Biodiversity Compensation Framework approach, or through similar mechanisms, such as the Environment Bank.

31. The Biodiversity Compensation Framework approach calculates the equivalent cost of managing an equivalent area of land elsewhere in a suitable condition for the target species under a suitable stewardship scheme in perpetuity. In addition the DEFRA offsetting multipliers are applied to take account of the additional risks associated with replacing established habitats with compensation funding.

32. Appendix 2 sets out a suggested methodology to calculate the costs of a replacement site and a summary of the compensation funding amounts are set out in Table 1. Worked examples are set out in Appendix 3. Alternative approaches to calculating the cost of replacement sites are possible and will be examined on a case-by-case basis.

	Compensation Costs per hectare
Secondary Support Area	*£85,464*
Low Use site	*£35,610*

Table 1 – Summary of Indicative Compensation Costs for Creating and Managing Replacement Habitat (per hectare) – Based on Countryside Stewardship Grants

201710. (Future changes to these costs will be revised in line with any changes to Countryside Stewardship Payments or equivalent, and subject to review)

33. Where the functional area of a Secondary Support Area is to be lost in its entirety with no direct replacement of habitats by the applicant then additional measures will be necessary to ensure the continued ecological function of the network. Appropriate measures include the use of companies such as the Environment Bank to ensure appropriate sites are provided elsewhere within the network, the funding of an identified strategic offsetting site or project that has been agreed by the SWBGS Steering Group, or in addition to Table 1, an additional agreed level of funding for land purchase. In such cases the final compensation package will be determined on a case-by-case basis.

34. The funding secured, via section 106 agreements, will be used to enhance, manage and monitor the wider Solent wader and brent goose ecological network. This funding will be managed by the respective local authority and will be used to support schemes across the network, this includes those in neighbouring authority boundaries.

Proposed Mitigation Approach

1.15 The original mitigation strategy provided by Tetratech Ltd was based on the principle of safeguarding an area of land in the northeast of Hayling Island and preventing its future predicted loss to sea level rise, thereby preserving its future use by Curlew, Brent Geese and other wading birds that form qualifying features of the SPA. The concerns about this approach raised by Natural England and Chichester Harbour Conservancy were centred on the observation that whilst this area would indeed fall below the high tide line in future and therefore not be available for birds to use during high tide, much of the land would nonetheless be converted into intertidal habitat, which is also a valuable habitat resource for SPA birds that is in short supply. The original mitigation proposals therefore benefitted the future resource of one important habitat type at the expense of another.

1.16 Due to the complexity of trying to resolve the above concerns in the original location, EPR first undertook a search of potentially available areas of land that might serve as alternative mitigation areas. The area of search broadly comprised land around Langstone Harbour (the presumed centre of population for the birds using the Campdown site – see below) as far inland as the Campdown Site itself. This search identified several sites that were ruled out of further contention for various reasons (for example due to supporting conflicting ecological interest such as calcareous grassland designated as Site of Importance for Nature Conservation, or inappropriate hydrological conditions for the required habitat creation).

1.17 The area of search eventually identified an area of land in north central Hayling Island, to the west of the originally proposed mitigation site, shown on **Map 4**, which appeared to provide all of the necessary prerequisites for the required mitigation. This area is part of Northney Farm.

1.18 EPR has therefore developed an alternative mitigation strategy that we believe fully addresses the concerns raised by NE and CHC. The remainder of this document is therefore structured as follows:

Section 2 – Details the current **ecological baseline** of both the Campdown Site and the Northney Farm Mitigation Area, so that the two can be compared and the lost potential for the lost features in the former to be recreated in the latter can be explored.

Section 3 – Provides, in light of the information presented in the previous section, a summary of the **aims and objectives of the new mitigation strategy**, focusing on the specific characteristics of the Campdown development site that are of value to SPA bird populations and therefore which must be replicated in any mitigation area. It then provides an overview of the approach taken.

Section 4 – Outlines **how the required habitats will be created.**

Section 5 – Explains **how the required habitats will be managed** *in perpetuity* to ensure that they remain of value to the relevant SPA birds.

Section 6 – Details the **physical infrastructure** needed to implement the required management (e.g. fencing for cattle etc)

Section 7 – Provides a schedule of the required **maintenance of physical infrastructure** that will need to be undertaken *in perpetuity*

Section 8 – Provides a programme of the **monitoring** that will be needed to ensure that the aims and objectives of the mitigation strategy continue to be met *in perpetuity* and to enable the ongoing management to adapt to unforeseen problems.

Section 9 – Outlines the **delivery arrangements** and mechanisms, including identifying the organisations responsible for ongoing management and monitoring, the costs that will need to be met and the legal mechanisms to secure and guarantee these arrangements.

Section 10 – Provides a quantification of the additional benefit that the mitigation proposals will secure in terms of securing a reduction in nutrient Nitrogen loss/pollution leaving the mitigation site and entering the Solent as a result of the proposed changes in site management.

Consultation

1.19 The draft proposals have been discussed with HBC's Ecologist via a MS Teams meeting held on 31 January 2024, and received a positive response. This was also confirmed via a separate meeting held with HBC planners on 1 February 2024.

1.20 A discussion was held via MS Teams between Natural England (NE), Ecological Planning & Research Ltd (EPR) and Dandara Southern Ltd on Monday 18 March 2024. Natural England provided further feedback and advice in the form of a letter dated 28 March 2024. Both the minutes of the meeting held with NE and their advice letter are included in **Appendix 1.**

1.21 A further discussion following submission to NE of the Final Draft of this Management Plan was held via MS Teams between NE, EPR and Dandara Southern Ltd on Tuesday 2 July 2024. NE provided their final written response on 7 August 2024, and this is also included in **Appendix 1**.

Biodiversity Net Gain (BNG)

1.22 Although not fully detailed in this document, it is the intention of the landowner in due course to quantify the uplift in biodiversity units that results from the mitigation measures set out in this

document using the statutory version of Defra's Biodiversity Metric, so that these biodiversity units can later be offered for sale to third party developers.

1.23 In relation to this, in February 2023, Defra responded to a consultation on the then forthcoming Biodiversity Net Gain Regulations and their implementation, confirming that measures designed to mitigate impacts on protected sites and species could be counted towards the BNG requirement of a development, with the following caveat:

> *"…at least 10% of the total (110+%) post-development biodiversity score* [of the development to which the biodiversity units were being attributed] *should be from measures which are not undertaken to address impacts on protected species or protected sites (e.g. nutrient mitigation)…."*
>
> [Available online here: https://www.gov.uk/government/consultations/consultation-on-biodiversity-net-gain-regulations-and-implementation/outcome/government-response-and-summary-of-responses]

1.24 The above has since been formalised into the Government's online guidance, which states that where biodiversity units for BNG have been generated by measures that also address impacts on protected sites, "…at least 10% of the developer's biodiversity units must come from additional activities other than mitigation and compensation..". See link below:

https://www.gov.uk/guidance/what-you-can-count-towards-a-developments-biodiversity-net-gain-bng

1.25 In summary therefore, third party developers could purchase biodiversity units from the mitigation proposals at Northney Farm, provided that at least 10% (of the total required 110% post development biodiversity score for the development in question) were secured elsewhere and not linked to such measures (e.g. from on-site green infrastructure etc).

2. ECOLOGICAL BASELINE AND ENVIRONMENTAL INFORMATION

Introduction

2.1 This section includes ecological baseline and environmental information for Campdown and Northney Farm, and the surrounding Solent context in which both sites sit. It enables the impact of the loss of habitats at Campdown upon SPA birds to be characterised and understood, so that this can then be compared with the scale and nature of potential habitat enhancements for SPA birds that is achievable at Northney Farm. This section is arranged to present information in the following order:

> Contextual ecological and environmental information about this part of the Solent, insofar as it relates to the affected SPA birds;
>
> The current (pre-development) ecological and environmental baseline at Campdown; and
>
> The current (pre-mitigation) ecological and environmental baseline at the identified Northney Farm mitigation site.

Contextual Ecological and Environmental Information Pertaining to Affected SPA Qualifying Bird Species in the Solent

2.2 This section includes background information on the status and distribution of Curlew in this part of the Solent derived from a review of the most current available literature and other accessible sources of data including the Wetland Bird Survey (WeBS) data.

Curlew

2.3 Information taken from Potts *et a*l (2019) *Movements of GPS-tracked Curlews within the New Forest and The Solent* provides the following summary background information of relevance in relation to Curlew:

> *"…The Greater Solent (comprising Pagham Harbour, West Sussex, The Solent and its harbours and the north shore of the Isle of Wight) together with Poole Harbour, Dorset, supports >1% of the European wintering Curlew population and 8.5% of the UK wintering population within the Greater Solent or 10% including sites west to Poole Harbour. The Hampshire Solent's wintering population has fallen dramatically from c.4,000 individuals in the 1980's to just 2,300 in the period of the Hampshire Bird Atlas 2007-2012 (Eyre, 2015).* (Potts et al, 2019).

2.4 Eyre (2015) provides further information extracted from the Hampshire Bird Atlas 2007-2012 on Curlew movement:

> *"…By mid-summer, flocks begin to build up on the coast as passage migrants and incoming winter visitors arrive, mainly from Fennoscandia. Numbers peak in late summer and then decline as winter progresses. The largest flocks are recorded in the eastern harbours where numbers in both Chichester and Langstone Harbours are of national importance. They also occur in good numbers on the mudflats around*

Southampton Water and between Beaulieu Estuary and Hurst, but are less frequent on the shingle and rocky coastlines of Hayling and Portsea Islands, between Gilkicker Point and Titchfield, and to the west of Hurst. During the Hampshire Bird Atlas winter period, the monthly maximum WeBS count at the main high tide roosts was 2,752 in November 2010.

Comparison of WeBS counts indicates that the Hampshire winter population has fallen from an average of around 4,000 in the 1980's to around 2,300 during the five Hampshire Bird Atlas winters. Over the same period, the UK population peaked in 1994/95 and then went into steady decline falling by almost a third by 2009/10. In common with other north-European waders, the fall is likely to be associated with a shift in wintering distribution from the UK to the near Continent.

In Hampshire, the overwintering birds feed on mudflats and nearby grasslands, moving from area to area depending on the state of the tide and sometimes flying farther inland to established feeding areas. The HBA winter map reflects these movements and shows there were also isolated records from farther inland. These were generally of single birds or small parties and often associated with hard-weather movements."

2.5 Balmer *et al* (2015) / Bird Atlas 2007-2011 expands upon the above in relation to the winter population of Curlew:

"…In winter the breeding population moves to the coast and adjacent farmland, where it is joined by large numbers of migrants from Fennoscandia. The highest densities are on the major estuaries, in the Northern Isles and western Ireland."

2.6 *The Migration Atlas* (Werham *et al,* 2002) provides additional narrative linking Curlew movement to the exploitation of habitat resources such as foraging and nesting areas:

"…Curlews breed across a wide band of northern Eurasia from Ireland, France and Norway east to central Siberia. The nominate race arquata breeds across Europe…Most birds from west of the Urals undertake a southerly or southwesterly autumn migration to Atlantic or Mediterranean coasts or coastal fringes (BWP).

Breeding Curlews are still widespread across Britain and Ireland. Despite recent declines, particularly in the lowlands, where they are now thinly and patchily distributed (per 1988-91 Bird Atlas). They nest on heather moorland, and on moorland edge pastures and in-bye farmland across northern Britain. Southeast of a line from the Humber to the Severn their distribution is limited to unimproved areas of wet pasture and lowland heath.

In winter, Curlews have a largely coastal distribution, with concentrations on large estuaries like the Wash, Morecambe Bay and the Solway, where they feed on intertidal invertebrates on the mudflats (Winter Atlas). However, they are also widely found on rocky coasts, and many birds, especially males, commute inland onto grass fields, seeking earthworms (Townshend, 1981). In a few areas of Britain, there are flocks wintering entirely inland. In Ireland, inland wintering is common throughout the western half of the country, with particular concentrations in the Shannon Valley. Birds here feed mostly in grass fields, taking advantage of the lack of frozen ground this far west (Winter Atlas).

…Curlews are site-faithful both to their breeding grounds and in winter; this has implications for their conservation, as birds seldom move between estuaries."

WeBS Data

2.7 Changes in the abundance and distribution of Curlew within the UK are monitored by WeBS (BTO). The latest low tide WeBS data (from 2017/18) for Curlew at Langstone Harbour and Chichester Harbour is shown below (see **Figures 2.1** and **2.2**). Monthly peak/average counts of Curlew were 199/133 at Langstone Harbour and 959/612 at Chichester Harbour.

2.8 At Langstone Harbour the birds are recorded from mudflats south of South Moor and south of Farlington Marshes. Campdown is to the north-west and north respectively. See **Figures 2.3** and **2.4**.

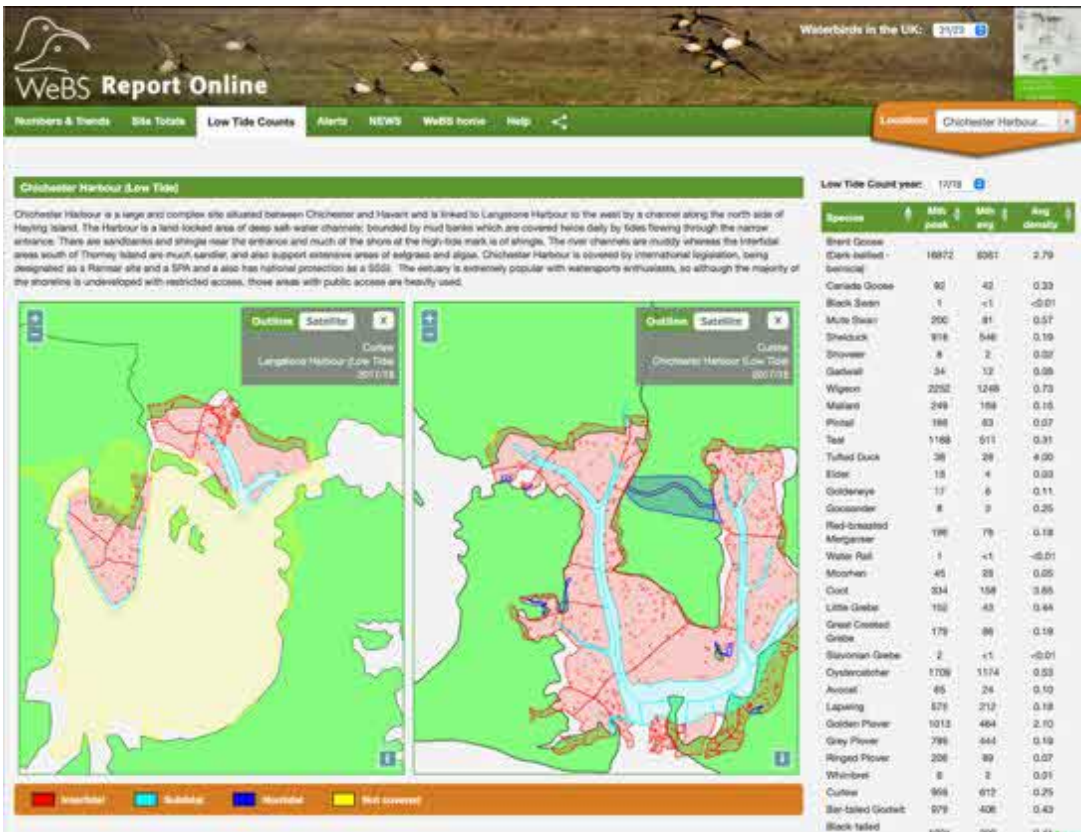


Figure 2.1: Curlew at Low Tide in Chichester Harbour 2017/18

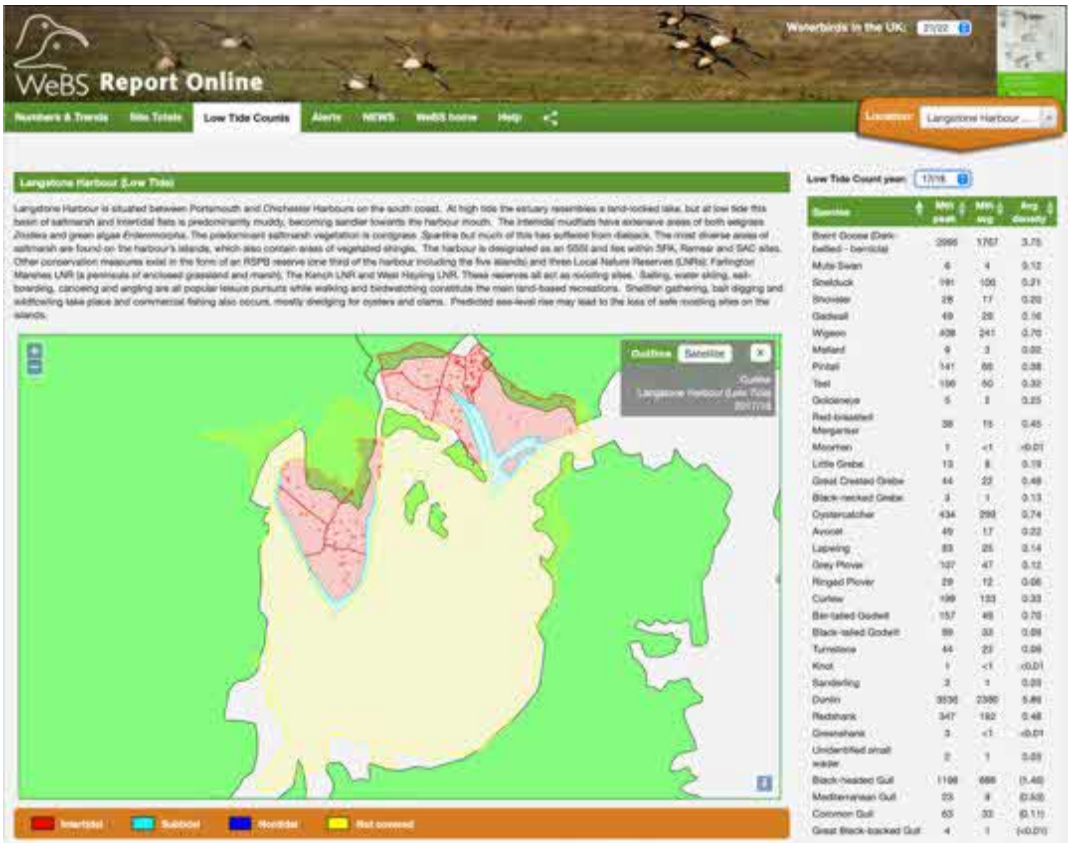


Figure 2.2: Curlew at Low Tide in Langstone Harbour 2017/18

Figure 2.3: SWBGS Areas (Campdown in NW and Northney in SE of frame)

Figure 2.4: Equivalent Map to Fig 2.3 with Place Names for Reference

Summary of Bird Records at SWBGS Sites: Campdown and Northney

2.9 Hampshire Biological Information Centre (HBIC) was commissioned to provide all bird data behind the SWBGS for the areas in and around both Campdown and Northney (see **Figures 2.5** and **2.6**).

2.10 These data provided by HBIC were examined to identify records of Curlew, Brent Geese and other waders from the SWBGS sites. A spreadsheet is included at **Appendix 2**.

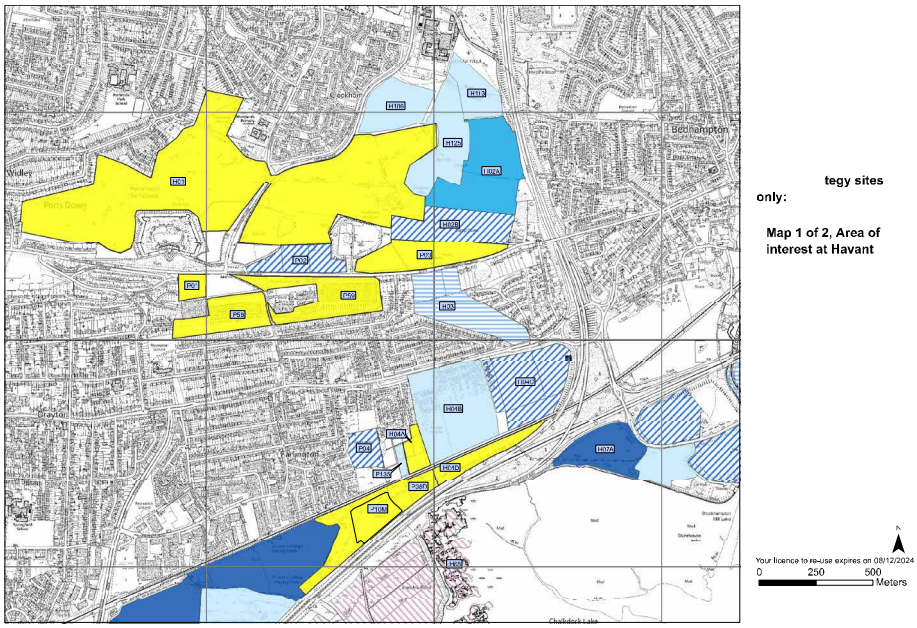


Figure 2.5: *SWBGS sites in and around Campdown*

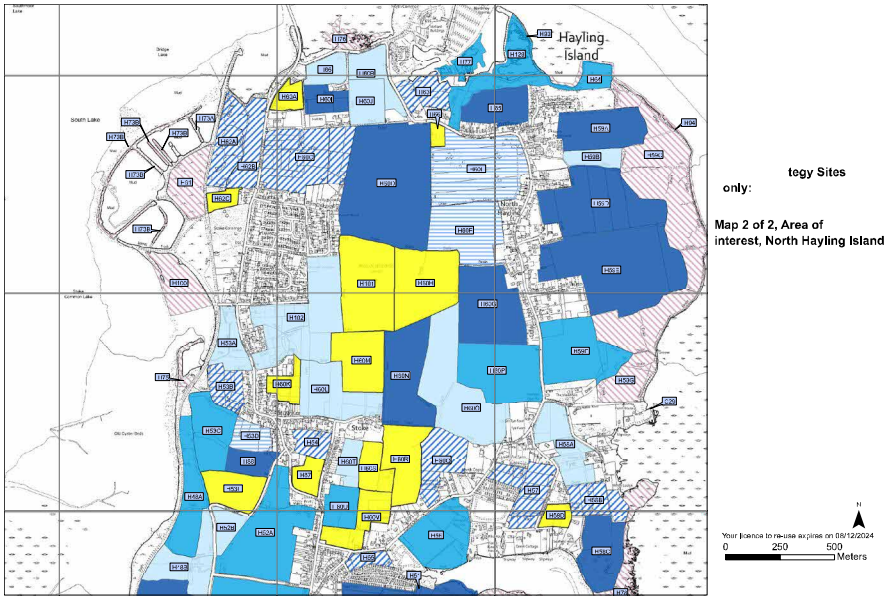


Figure 2.6: *SWBGS sites in and around Northney*

Curlew

Campdown

2.11 SWBGS Areas for Campdown shown on **Figure 2.5** above are reproduced for easier viewing on **Map 3a.** The Curlew data for the SWBGS Areas at Campdown are summarised below in **Table 2.1** and peak Curlew counts for each area are shown graphically on **Map 3b.**

Table 2.1: Curlew records at Campdown (from HBIC data for SWBGS and WNF 2020-23)

Site	2002	11/12	12/13	13/14	14/15	15/16	16/17	17/18	20/21	21/22	22/23
H02A	91		1	50	50	55	133	54	5		2
*H02A/B										56	42
H106							80	45			
H113							45	4			
H125		50			50			57			

*H02A/B – this is off-site, southern half of H02A and then H02B adjacent to south

2.12 The data presented above in **Table 2.1** and shown graphically on **Map 3b** shows that Curlew use of the Campdown site has moved around over time, likely as conditions have changed according to site management (grazing, cutting) and other factors such as recreational pressure due to access from nearby homes. There has however been a decline in Curlew numbers from peak levels in 2016/17, and a gradual south-easterly shift in the areas of the site used by birds, with the most recent areas of high usage being focused on areas H02A (south) and H02B – both located outside of the proposed development area at Campdown, to the southeast. Peak counts in these areas have been limited to around 50 birds, compared with peaks in 2016/17 in excess of 200 birds.

Northney Farm

2.13 Curlew data has been examined for two parts of Northney Farm; central and east. The central area (**Table 2.2 and** shown on **Map** 4 for ease of viewing) is the newly proposed mitigation site. The east area (**Table 2.3**) relates to the main field of the area originally proposed for mitigation by Tetratech Ltd, to the east of the current proposed mitigation area. These data pertaining to the previous mitigation area have been presented to inform comparisons, as they provide an indication of the potential for areas in this part of Hayling Island to support higher numbers of Curlew if conditions are right, as the original mitigation strategy was focused on preserving an existing Curlew site and preventing its loss to sea level rise, as opposed to the current strategy of enhancing an area to create a new high-value site for Curlew to use. The two areas, central and east Northney, can therefore provide a useful indication of mitigation potential when the former is compared to the latter. The current mitigation strategy therefore focuses on identifying the factors that are limiting the usefulness of the central area to Curlew (and Brent Geese), so that these can be addressed.

Table 2.2: Curlew records at Northney (central) (from HBIC data for SWBGS)

Site	2002	07/08	15/16
H60D	42	17	31
H60E	50		
H60F			

Table 2.3: Curlew records at Northney (east coast) (from HBIC data for SWBGS and WNF 2020-23)

Site	12/13	13/14	14/15	15/16	16/17	17/18	19/20	20/21	21/22	22/23
H59C	75	201	120	100	127	125	43	200	207	153

2.14 The data presented above in **Tables 2.2 and 2.3** show that the Northney central area is currently only of limited value to Curlew compared with the significantly higher numbers making use of the eastern area. Although there is no recent survey count for Northney Central, EPR has visited Northney central on three occasions over the 2023-2024 winter season (7 Dec 2023, 4 Jan 2024 and 31 Jan 2024), and on each occasion no Curlew have been noted in this area. Factors that may be suppressing Curlew numbers and proposed remedies for these are discussed below in **Section 3.**

Brent Geese

Campdown

2.15 The Brent Goose data for the SWBGS Areas at Campdown is summarised in **Table 2.4**.

Table 2.4: Brent Goose records at Campdown (from HBIC data for SWBGS and WNF 2020-23)

Site	2002	11/12	12/13	13/14	14/15	15/16	16/17	22/23
H02A	120		180	43	40	200	100	
*H02A/B		20						14
H106							60	
H113							22	
H125		56			300			

*H02A/B – this is off-site, southern half of H02A and then H02B adjacent to south

2.16 As can be seen from the data above, Brent Goose use of Campdown follows a similar pattern to that of Curlew insofar as use in more recent years numbers of birds have declined significantly from the peaks at and before 2016/17, albeit that there are fewer years when data was collected after this peak and prior to recent WNF survey counts to enable the variations in the trend to be quantified. The area currently most used by Brent Geese (H02A south and H02B) are located off-site to the south of the development area.

Northney Farm

2.17 The Brent Goose data for the SWBGS Areas at Northney (central and east) is summarised in **Tables 2.5 and 2.6**.

Table 2.5: Brent Goose records at Northney (central) (from HBIC data for SWBGS)

Site	2002	06/07	15/16
H60D	529	320	2000
H60E	100		300
H60F	1000		1500

Table 2.6: Brent Goose records at Northney (east coast) (from HBIC data for SWBGS and WNF 2020-23)

Site	20/21	21/22	22/23
H59A	1245	905	1650

2.18 The data for Northney Farm show that both areas (central and east) are important for Brent Goose. Although there is no recent survey count for Northney Central, EPR has visited Northney central on three occasions over the 2023-2024 winter season (7 Dec 2023, 4 Jan 2024 and 31 Jan 2024), and on each occasion field H60D (Gauntletts – see **Map 4**) has supported fewer

than 10 Brent Geese located in the far western part of H60D (furthest from the public footpaths), with no birds noted in the other fields of the central area. It is believed that this is likely to be explained by the fact that the weather during the 2023/24 winter season was particularly wet, and the arable crop in this field failed as a result, meaning that there was very little forage available for Brent Geese (confirmed by the landowners (Pike T, *pers comm*, January 2024). It is likely therefore that the Northney Farm Central area is in most years a highly important site for Brent Goose (which should not be compromised by any future proposals), but that sporadically / in occasional years, this value is compromised by adverse stochastic events such as sustained periods of inclement weather. The proposed mitigation strategy should therefore seek to avoid undermining the existing importance of these fields (particularly H60D) for Brent Geese, whilst seizing any opportunities for increasing the resilience of these areas and addressing their existing susceptibility to negative events.

Other Waders

2.19 The data of other waders for Campdown and Northney (central) is summarised in **Tables 2.7** and **2.8** below.

Table 2.7: Other Wader records at Campdown (from HBIC data for SWBGS and WNF 2020-23)

Site	2002	12/13	13/14	14/15	15/16	16/17	17/18	20/21	21/22	22/23
H02A	20 L					8 L	6 L			
*H02A/B										9 L
H106										
H113						1 SN	12 L			
H125				50 L						1 SN

*H02A/B – this is off-site, southern half of H02A and then H02B adjacent to south

L – Lapwing, GP – Golden Plover, SN – Snipe

Table 2.8: Other Wader records at Northney (central) (from HBIC data for SWBGS)

Site	2002	08/09	16/17	17/18
H60D	300 L / 200 GP	2 L / 18 GP	75 L	
H60E				
H60F				

L – Lapwing, GP – Golden Plover, SN – Snipe

2.20 The data above shows that there is some modest use of the Campdown area by Lapwing, and the occasional record of individual Snipe. Whilst not the primary objective of the mitigation strategy therefore, the proposals should look to benefit these species where possible. The Northney Farm central area (specifically field H60D) also has past use by moderate numbers of Lapwing, and past high numbers of Golden Plover (albeit that such numbers have not been recorded for over two decades). The proposals should therefore aim to enhance rather than prevent use by these species.

Campdown-Specific Ecological and Environmental Baseline Information

2.21 This section includes relevant background information on Campdown. See **Maps 1, 2, 3a** and **3b**.

Main Habitat of Relevance to Waders and Brent Geese: Grassland

2.22 TetraTech (2023) reported the habitats at Campdown as including Semi-improved neutral grassland, of Negligible importance in terms of its inherent value for nature conservation, notwithstanding the fact that in this context it is providing supporting habitat for Curlew and Brent Geese. The habitat was described as follows:

> *"Much of the site was dominated by ungrazed semi-improved grassland, including an abundance of Cock's-foot, Yorkshire Fog, Red Fescue, Creeping Buttercup, Common Fleabane and Creeping Thistle. The sward was long in all areas and parts of the south of the site was wetter with flushes present and marshy grassland species including soft Rush and Lesser Spearwort scattered within."*

2.23 Although the Tetratech survey recorded that the sward was long in all areas, the site has a history of grazing and cultivation and at times in some past years will have provided a shorter sward that would have been more useful to both Curlew and Brent Goose. The variations in grassland management from year to year are likely to be at least one of the main factors explaining the variations in bird use of the site year-on-year (another being increases in recreational access, particularly since the Covid-19 pandemic, discussed further below).

Winter Bird Surveys at Campdown

2.24 A series of winter bird surveys were conducted at Campdown in connection with the proposed development. These were undertaken by Wild New Forest (WNF) in winter 2020/21 and 2021/22 on behalf of Hampshire Homes Group, and in 2022/23 on behalf of Dandara Southern Ltd.

2.25 Three annual reports were reviewed and a summary of relevant sections follows.

WNF (2021) Independent report on surveys in winter 2020/21 for Eurasian Curlew, Brent Goose and other wetland bird species at Campdown, Hampshire. Wynn and Ward (WNF) 31 March 2021.

2.26 The executive summary states:

> *"Monthly bird surveys were conducted at Campdown throughout winter 2020/21, totalling c.35 hours of survey effort; these were aiming to assess whether the site is currently utilised by Curlew and Brent Geese and whether further information could be obtained about ecological function (current agricultural use does not favour the target species, but the historically favoured area of the site was mown prior to surveys commencing in order to mimic a grazed sward). The only records of the target species at Campdown were of 1-5 Curlews sporadically feeding on the mown area in the Dec-Feb period; these were subject to frequent recreational disturbance, particularly from dog-walkers straying off public footpaths.*

2.27 Survey site is described as follows:

> *"The proposed development site at Campdown comprises open grassland on undulating terrain, with one flatter area that is consistently wetter in winter and therefore*

sporadically suitable for wintering waterbirds – the wetter area corresponds to the central sector of H125 and the northern sector of H02A…"

2.28 The site areas referred to by WNF are shown on **Map 3a** and indicated in **Figure 2.7** below.

Fig. 2.7: *Map taken from the Solent Wader and Brent Goose Strategy (SWBGS) showing the Campdown site and the mapping units applied; note that H02B and the southern sector of H02A are not part of the proposed development site.*

2.29 The WNF Report goes on to state:

> *"At the request of the client, we extracted all historical bird records for Campdown from the Hampshire Ornithological Society (HOS) database. Brent Goose and Curlew appear to have been regularly surveyed in 2017 (possibly as part of SWBGS surveys?), with several records for both species during the winter months. Prior to 2017, there are few records of either species. The data held by HOS are summarised briefly below:*
>
> > *Curlew peaked at 123 on 07/02/17 and there were six other counts in the 25-95 range during the year. WYG surveys for Persimmon Homes from Oct 2016 to Feb 2017 consistently recorded 10-55 Curlews. There were just four older records of up to 110 Curlews in the period from 1998-2011.*
> >
> > *Brent Geese peaked at 52 on 08/02/17, and there were five other double-figure counts. There were just six older records of up to 150 Brent Geese in the period from 1998-2012.*
> >
> > *There are no records of any other waders or wildfowl, although it's worth noting that the site has very few records of any bird species, presumably due to the lack of public access.*
>
> *Since 2018, a lack of grazing across the site has led to a transition to rank grassland, and consequently the habitat is generally no longer suitable for the target species. In order to*

test whether birds would return to the site when it was brought back into condition, and to improve understanding of their usage of the site (e.g. as a high-tide refuge or consistent feeding area), the client arranged for the area of the site that had historically supported Curlew and Brent Geese to be mown in late autumn 2020; this corresponded to the central sector of H125 and the northern sector of H02A, which were mown to a sward length c.5 cm…."

2.30 Relevant extracts of the report detailing the outcome of the above-described exercise and survey results are as follows:

"….Survey methodology - Survey work at Campdown was conducted monthly from October 2020 to March 2021…., amounting to 36.5 hours of effort over six survey days.

Survey results - The only wetland bird species recorded at Campdown was Curlew, as tabulated and illustrated below (Table 4.1):

Date	***Number***	***HT time***	***Height***	***Phase***	***Notes***
17/10/20	*0*	*1231*	*5.33*	*Spring*	
16/11/20	*0*	*1106*	*5.31*	*Spring*	
06/12/20	*5*	*1528*	*4.10*	*Neap*	*Feeding on mown area*
15/01/21	*2*	*1345*	*4.61*	*Spring*	*Feeding on mown area*
28/02/20	*1*	*1219*	*4.89*	*Spring*	*Attempted to land but flushed*
14/03/20	*0*	*1226*	*4.67*	*Spring*	
19/03/20	*0*	*1515*	*4.05*	*Neap*	

Table 4.1: Peak counts for Curlew at Campdown on each survey date

Discussion - Monthly surveys at Campdown produced Curlews on three dates, with a maximum of just five birds. Although Curlews on all three dates were seen feeding on or attempting to land on the newly mown area, they were subject to frequent recreational disturbance, despite most of the site being away from public footpaths.

No other waders or wildfowl were recorded feeding at Campdown, and there was no evidence from faecal pellets or third-party observations of site usage outside of the survey dates. The transition to rank grassland that occurred at the site from 2018-20 will have made conditions unsuitable for the target species, and it is therefore likely that they will have dispersed elsewhere across the SPA in this period.

On the survey forms there is detail of bird records but also recreational activities.

The text from survey record form for the 6/12/20 survey when Curlew were recorded is included in full below for context.

Narrative: *A breezy and cold day. Regular circuits were made of the site, combined with periods of observation from Campdown (which provides a good view of the entire site to the north and views to the south over Langstone Harbour giving the opportunity to pick up any movements of wetlands birds across the whole area).*

Four Curlew arrived from the south at 0830, circling the area before finally alighting in the mown area (H02A). The flock was joined by a fifth Curlew at 0835, feeding in the

centre of the mown area. At 0842 a dog ran close to the group which caused them to flush and head high south. Later in the day, two Curlew arrived from the south at 1235 again alighting and feeding in the centre of the mown area (H02A), roughly the same location as the group of 5 in the morning. They continued feeding in the field through to 1315 when they left of their own accord and were observed flying down to Farlington Marshes HIWWT nature reserve, where they landed in the point field. An additional two Curlew that overflew the site at 1235 were seen to head low to the west and did not return to the site.

No other wetland birds were observed, other than those associated with Farlington Marshes and Langstone Harbour distantly to the south. As the tide rose, numbers of both Brent Goose and Curlew were again noted moving west from Hayling Island across to Farlington Marshes. A rough count at high tide produced about 1100 Brent Goose on Farlington Marshes with a further 200 resting on the water offshore (noting also that views south from Campdown are partially obscured so any count data are likely to be incomplete)…

Recreational activities: *Dog-walkers were recorded in the mown areas (H125 & H02A) throughout the day, peaking in the period between 1000 and 1200 with eight visits totalling ten walkers with thirteen dogs. Walkers were observed accessing the site both from the footbridge over the A3M from Scratchface Lane and from College Road to the west. The overall total for the day was 22 visits by dog-walkers, comprising 29 people and 32 dogs."*

WNF (2022) Independent report on surveys in winter 2021/22 for Eurasian Curlew, Brent Goose and other wetland bird species at Campdown, Hampshire. Wynn and Ward (WNF) 19 April 2022.

2.31 The executive summary states:

"Bi-monthly bird surveys were conducted at Campdown throughout winter 2021/22, totalling nearly 45 hours of survey effort; these surveys built upon work conducted in winter 2020/21 and were aiming to assess whether the site is currently utilised by Curlew and Brent Geese. There were no records of the target species on the proposed development site, but Curlew were regularly recorded feeding on grazed grassland immediately to the south, peaking at 56 on 02 Feb 2022 and with four further counts of 19-33 birds. Curlews were seen arriving from and departing to the south, indicating interchange with the Langstone Harbour component of the Special Protection Area.

Survey results - The only wetland bird species recorded at Campdown was Curlew, although all records corresponded to land south of the proposed development site, as tabulated and illustrated below (Table 4.1).

Discussion - Curlew were recorded on all but one survey date, with a peak count of 56 on 02 Feb 2022 and four further counts of 19-33 birds. All observations corresponded to land south of the proposed development site, comprising the southern half of H02A and H02B. These areas have been grazed by livestock and the short sward and poached ground has provided suitable feeding conditions for Curlews, which were mostly seen to take earthworms. The grazed areas were also attractive to Black-headed Gulls, with up to 100 noted foraging on multiple dates, together with small numbers of

Herring Gulls that were frequently seen pirating food from the Curlews. Detailed observations suggested that most feeding Curlews were shorter-billed adult males, and a distinctive bird with a damaged leg was seen on several dates. For a period in mid-winter, feeding Curlews were often concentrated around an area of heavily poached ground where livestock were gathering at a supplementary feeding station.

Curlews always arrived and departed from the south, and on occasion could be observed coming down in Langstone Harbour within the SPA. The general pattern saw birds arrive in the early morning, feed for a few hours, and then depart south – there was no obvious link to tidal state. Curlews were regularly flushed when feeding, mostly due to unseen threats, but observations of confirmed triggers included a Buzzard, nearby Woodpigeons flushing, a passing dog-walker blowing a whistle, and tree surgery operations on the adjacent golf course.

Apart from single Snipe and Woodcock on one date only, no waders or wildfowl were recorded on the proposed development site at Campdown, and there was no evidence from faecal pellets or third-party observations of site usage outside of the survey dates. The transition to rank grassland that occurred at the site from 2018 onwards will have made conditions unsuitable for the target species.

Figure XX: Image showing Curlews feeding on grazed ridge-and-furrow grassland on the summit of Campdown on 02 Feb 2022" [Note. This photo illustrates recent evidence that Curlew have switched to using off-site land in H02B.]

2.32 Text from the survey form for the peak count of Curlew on 2/2/22 is provided below for context:

"Narrative: *48 Curlew were gathered in a tight group on the north slope of Camp Down upon arrival on site at 0825. Over the next 15 mins the group dispersed and spread across the west end of the northern slope, observed feeding on earthworms. Between 0905 and 0951 a further eight Curlew joined the feeding group, making a total of 56 birds.*

The group remained feeding on Camp Down, with a small number roosting, until flushed by a low-flying Buzzard at 1230 and did not return. Tree surgery was taking place on the nearby golf course, which frequently disturbed the Curlew, causing them to take to the air on a number of occasions. A domestic cat was also observed stalking Curlew but failed to make a successful attack.

Other wetland bird species recorded included a Snipe flushed from the stream that bisects area H02A and a Little Egret that spent 10 minutes feeding with the Curlew around an area where supplementary food has been placed for the horses…

Recreational activities: *Nine visits by dog walkers were recorded comprising 11 people and nine dogs. In addition, pupils from a nearby college gathered at the north side of area H02A for their lunch break and to have a smoke!*

Also of note, the fence along the northern edge of the grazing in area H02A has been breached allowing the horses to graze across the entire site."

WNF (2023) Independent report on surveys in winter 2022/23 for Eurasian Curlew, Brent Goose and other wetland bird species at Campdown, Hampshire. Wynn and Ward (WNF) 31 March 2023.

2.33 The executive summary of this report states:

"Bird surveys were conducted at Campdown throughout winter 2022/23, totalling 51 hours of survey effort; these surveys built upon work conducted in the previous two winters and were primarily aiming to assess whether the site is currently utilised by Curlew and Brent Geese.

There was only a single record of either species within the proposed development site, relating to two feeding Curlews. A single Snipe was the only other wetland bird species recorded utilising habitat on site.

Curlew were sporadically recorded feeding on grazed grassland immediately to the south of the proposed development site, peaking at 42 on 09 Dec 2022, but with only one other double-figure count. Three flocks of Brent Geese were observed prospecting the southern part of the site on 09 Dec 2022, with four birds landing south of the proposed development site for just a few seconds. Small numbers of Lapwing (<10) were also seen using land to the south of the site.

These observations are broadly consistent with those obtained during the previous two winters. Most records of the species listed above involved birds seen arriving from and/or departing to the south, providing further evidence for interchange with the Langstone Harbour component of the Special Protection Area.

Survey results - There was only one record of Curlews feeding on the proposed development site, with two birds observed on the northern sector of H02A for at least three hours on 23 Jan 2023 until they were flushed by a dog-walker and departed south to Langstone Harbour. Curlews were also recorded on the two December surveys feeding on land south of the proposed development site, primarily in area H02B (Fig. 2.1), peaking at 42 on 09 Dec 2022. Curlew records are summarised below in Table 4.1.

On 09 Dec 2021, two flocks of 11 and 14 Brent Geese circled the site for several minutes and made several aborted attempts to land in areas H02A and H02B, and about an hour later four Brent Geese very briefly landed in area H02A before departing back south towards Langstone Harbour; these are the first records of Brent Geese at this site in the three winters of dedicated survey.

The only other wetland birds recorded using the site were a Common Snipe flushed from a ditch spanning area H125 on 09 Dec 2021, and small groups of up to nine Lapwings on three dates feeding in H02A and H02B outside of the proposed development site (with 53 also recorded circling over the site on 23 Jan 2023)."

2.34 Further details of these and other bird species recorded at Campdown are provided in the Survey Forms in the Appendix:

"Recreational activities on site were also recorded during the surveys and mostly comprised dog-walkers and college students, typically at daily average rates of <1-2 per hour. In most cases they were seen accessing the northern sectors of the survey site away from areas where target species may have been present. However, there were occasional observations of people accessing H02A, including a dog-walker on 23 Jan 2023 who flushed two feeding Curlews.

Discussion - Curlew have been recorded at Campdown in the last three winters, although the only records on the proposed development site were of up to five birds on three dates in winter 2020/21 and the two birds reported here on 23 Jan 2023.

Most Curlew records refer to birds feeding on grazed grassland that is immediately south of the proposed development site, comprising the southern half of H02A and H02B; this area is subject to regular livestock grazing and is therefore suitable for foraging Curlews. However, there is marked variability in numbers of Curlew using this area between individual survey dates and between winters, for example the cumulative total of Curlew records in winter 21/22 was just eight (based on monthly surveys between October and March), whereas in winter 21/22 it was 168 and in winter 22/23 it was 46 (the latter two totals based on bi-monthly counts between November and February with consistent effort over the two winters). However, the peak counts of Curlew using land south of the proposed development site in the last two winters have been comparable, with 56 in winter 21/22 and 42 in winter 22/23.

Two or three separate flocks of Brent Geese were observed on 09 Dec 2022 circling overhead with one flock briefly landing south of the proposed development site; this is the first record of this species at Campdown in the last three winters of survey work. They have previously been recorded at the site, but their recent occurrence appears to be very sporadic.

As noted in previous winters, the origin of most wetland birds observed at Campdown appears to be the Langstone Harbour sector of the nearby SPA. It is therefore notable that the peak count of Curlew, and locally unusual observations of Brent Goose, Lapwing, and Snipe, all occurred on 09 Dec 2022. It was not an exceptionally high tide (4.6m) and the sightings were not restricted to the high-tide period; we therefore speculate that the cold conditions at the time may have encouraged birds to disperse inland from the SPA (and immediate surrounds) in search of unfrozen grassland feeding sites."

2.35 The text from the survey form from 9/12/22 when the peak count of Curlew was seen is provided below for additional context:

"Narrative: *Upon arrival at 0800, two Curlew were actively feeding in area H02B before relocating to the north slope of the ridge. Over the course of the morning, a further 40 Curlew arrived in groups of up to eight individuals. The flock was occasionally flushed by sparring Buzzards, and at one point a male Sparrowhawk caused them to head south towards the harbour, but they returned within ten minutes. From midday, small groups moved south towards the harbour, leaving just two remaining, which were still feeding on the north side of the ridge, just inside area H02B when I departed the site at 1430.*

At 0836, a flock of 11 Brent Geese circled the site for around five minutes, making repeated attempts to settle in areas H02A and H02B, but always aborting at the last minute. At 0847 a flock of 14 Brent Geese again toured the area for a few minutes. At 0932 four Brent Geese attempted to land in area H02A, alighting on the ground for a few seconds, before heading back south towards the harbour. These are my first records of Brent Geese at this site, which has been surveyed for the last three winters.

Other waders on site included a Common Snipe flushed from the vegetated ditch spanning area H125, and eight Lapwing for most of the morning feeding in areas H02A and H02B.

Raptors included three Buzzards, male and female Sparrowhawk, and a Kestrel hunting across the area for most of the day. Other notable bird species included Firecrest, Green Woodpecker, and a small northwards passage of Linnet…

Recreational activities: *Due to the presence of the Curlew I was unable to count all recreational activity in the area, but a minimum of six walkers with seven dogs were observed. Numbers appeared lower than recent visits, probably due to the cold weather. "*

EPR Conclusions of Campdown Bird Use

2.36 Taken collectively, the above information indicates that a mixture of management (lack of grazing) and increased recreational pressure appears to be suppressing the use of the Campdown area for both Curlew and Brent Goose. WNF have experimented with reversing the former constraint by deliberately mowing the grass sward to determine whether this might enable birds to re-establish patterns of use across the site, but this appear to be prevented (with the partial exception of the southern fields outside of the development site – H02A south and H02B) with bird surveyor observations indicating that recreational access may be a factor.

2.37 Recent use of the Campdown site by Curlew and Brent Geese is apparently limited to occasional use of neighbouring fields.

2.38 The change in use is illustrated in **Map 3b**. This represents an indicative overview of how Curlew have been using various fields at Campdown over the last 20-25 years.

2.39 Recent decline in use may be because of the increase in recreational use, especially for dog walking and exercise.

2.40 The observations on 'Recreational activities' in the reports above illustrate this.

Northney Farm Central-Specific Ecological and Environmental Baseline Information

2.41 This section includes a series of background information on Northney Farm, North Hayling. The nature of the information provided for Northney Farm is more extensive and broader is scope than that presented above for Campdown, as it is necessary to understand in more detail what biophysical factors might present opportunities and constraints to any mitigation strategy that might be implemented here.

Designated Sites

2.42 The centre of the Site is within 1km of a number of statutory designations surrounding the north, west and east of Hayling Island, and the boundary is approximately 350m at the closest point in the north. See **Map 1**.

Statutory Designations – International Sites

Chichester and Langstone Harbours SPA;

Chichester and Langstone Harbours Ramsar.

National Sites

Chichester Harbour SSSI;

Langstone Harbour SSSI;

West Hayling LNR to west;

Hayling Billy LNR to west;

Gutner Point LNR to southeast.

Non-Statutory Designations

2.43 There a few SINCs in the North Hayling area. See **Map 2**. The most relevant of these is:

North Common & Saltmarsh SINC and North Common East SINC to the northeast.

Landscape Character and Designations

South Coast Plain National Character Area (NCA)

2.44 This NCA is a flat, coastal landscape with an intricately indented shoreline lying between the dip slope of the South Downs and South Hampshire Lowlands and the waters of the English Channel, Solent and part of Southampton Water. The coastline includes several major inlets which have particularly distinctive local landscapes and intertidal habitats of international environmental importance for wildfowl and waders.

2.45 Chichester Harbour National Landscape almost adjacent to the northern boundary.

Historic Environment

2.46 With reference to historic maps viewed online, including the OS six-inch to the mile map series from 1888-1913, the field pattern layout appears largely unchanged. See **Figure 2.8** below. The

three small circular woodlands that are present in the 'Plantation' Field (H60E) do not appear on this map, nor on the later 25" map, but do appear on a map from 1932, are therefore fairly recent additions to the landscape.

2.47 The OS 'Provisional' edition (1:25,000) 1937-1961, shows the site of a roman building in the field to the south of H60D.

Figure 2.8: *OS six-inch to the mile map series from 1888-1913*

Geology and Soils

Geology

2.48 With reference to the BGS online geology viewer, the bedrock geology across North Hayling is Chalk. The Superficial geology is River Terrace Deposits of sand, silt and clay.

Soils

2.49 With reference to data on the LandIS Soilscapes viewer, the soils across North Hayling are attributed to Soilscape 6, freely draining slightly acid loamy soils. Notwithstanding this, the landowner's experience of field H60D (Pike, T *Pers comm*, January 2024) is that it is often wet/waterlogged, and it is possible therefore either that the clay influence from the River Terrace Deposits or that the area of London Clay geology located just to the south of the Northney Farm Central area (manifesting as Soilscape 22) extends further north than is mapped. It is the case therefore that the drainage characteristics of these field may not be fully predictable and this should be taken into account when mitigation proposals are prescribed.

2.50 The note under general cropping for Soilscapes 6 indicates that these soils are suitable for a range of spring and autumn sown crops, and under grass the soils have a long grazing season. Free drainage reduces the risk of soil damage from grazing.

Agricultural Land Status

2.51 The landowner has provided information on past (20 years), current and proposed future (in the absence of the proposals) land use for each field. This is summarised in **Table 2.9**.

Table 2.9: Land Use at Northney Farm

Field Name	Area (ha)	Current (previous 20 years +)	Future (in absence of proposals)	SWBGS area	Category
Plantation	11.32	Dairy	Dairy	H60E	Candidate
Gauntletts	28.58	Wheat bi-annually in rotation with either Maize, Potatoes or Peas	Wheat bi-annually in rotation with either Maize, Potatoes or Peas	H60D/H60F	Core/Candidate
(Main)	*c.21*			*H60D*	*Core*
(Part)	*c.8*			*H60F*	*Candidate*

Topography, Hydrology and Drainage

2.52 The site is low lying, up to 5m AOD in the central and southern parts.

2.53 There are some boundary ditches draining the site. See **Figure 2.9** below.

Figure 2.9: *Local drainage shown on modern OS 1:25000 map*

2.54 The land drains off-site beyond the southwest corner to the west, into Langstone Harbour. Drainage on the eastern side is potentially via a watercourse that passes through Eastney Park Farm Nature Reserve. See **Figure 2.10** below.

Figure 2.10: *Main Rivers from EA website*

Flood Risk Zones

2.55 With reference to the EA Flood Map, the central northern area is in Flood Zones 2 and 3, as is a very small part of the southwest corner. See **Figure 2.11**.

Figure 2.11: *Flood Map from EA website*

Habitats

Land Use

2.56 The Living England Habitat Map on MAGIC website shows land use in North Hayling central as being under arable and horticultural use, with improved grassland for grazing pasture around the coastal boundaries. See **Figure 2.12**.

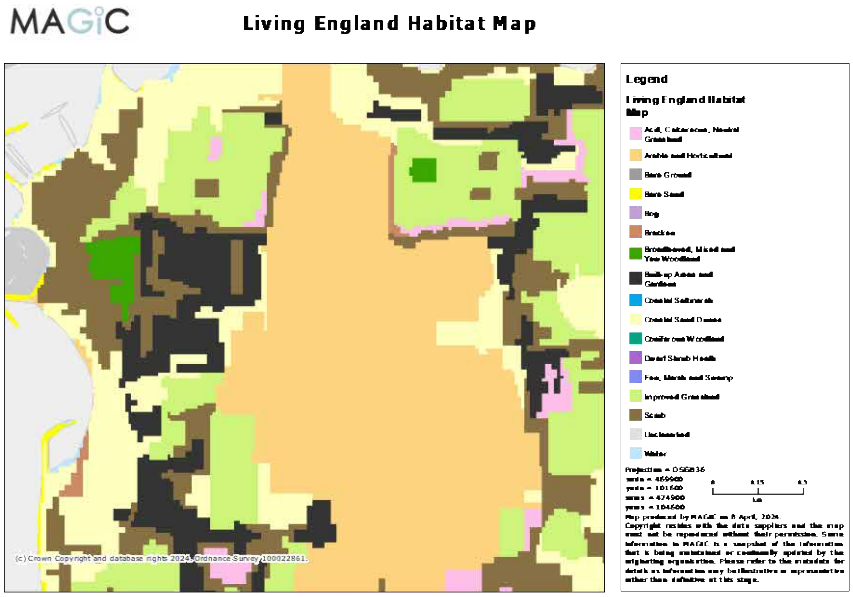


Figure 2.12: *Living England Habitat Map from MAGIC*

2.57 With reference to **Map 4**, EPR's visits undertaken in January 2024 (dates given above) have confirmed that both parts of the field known as 'Gauntletts' (H60D and H60F) are under arable cultivation, and the field known as 'Plantation' (H60E) is dairy pasture with an improved (modified) grass sward, with plantation woodland in three small circular copses within the field and along the western and southern boundaries of the field.

2.58 EPR's visits to the site in January established that the woodland areas within and surrounding the Plantation field (H60E) are underlain by a fairly dense scrub layer/understorey, comprised mainly of bramble. This is likely to be obscuring views and providing concealment refuges for predators such as Fox *Vulpes vulpes* (which were observed in January in the eastern area of Northney Farm), which may in part explain why there has been no recorded use of this field by Curlew since 2002, and only limited use by Brent Goose. Addressing this factor could therefore improve the value of this field to these species.

Priority Habitats

2.59 The MAGIC website presents mapping of Priority Habitats, showing how the important ones are associated with the intertidal areas around the coast (coastal saltmarsh and mudflats), with some limited areas of coastal and floodplain grazing marsh, and some non-priority semi-improved grassland. No Priority habitats are mapped within the Northey Farm central proposed mitigation area. See **Figure 2.13**.

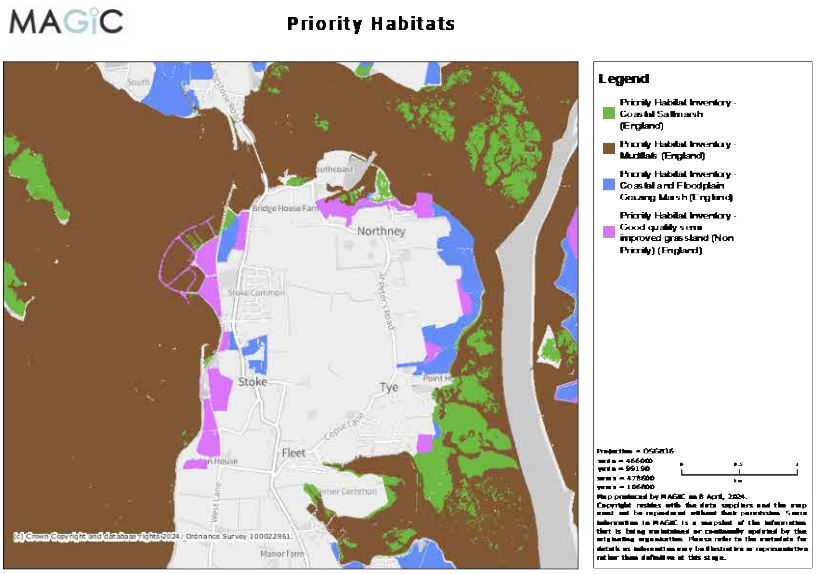


Figure 2.13: *Priority Habitat Map from MAGIC*

Access and Public Rights of Way

2.60 With reference to Hampshire County Council (HCC) website on Hampshire Rights of Way, it is apparent that there is a Footpath that passes along the northern and eastern part of the site, partly within it. See **Figures 2.14 and 2.15**. This is:

108/106/3 – along the road at the northern end of the site.

108/116/2 – along the boundary between H60D and H60F, and then on the eastern boundary of H60E.

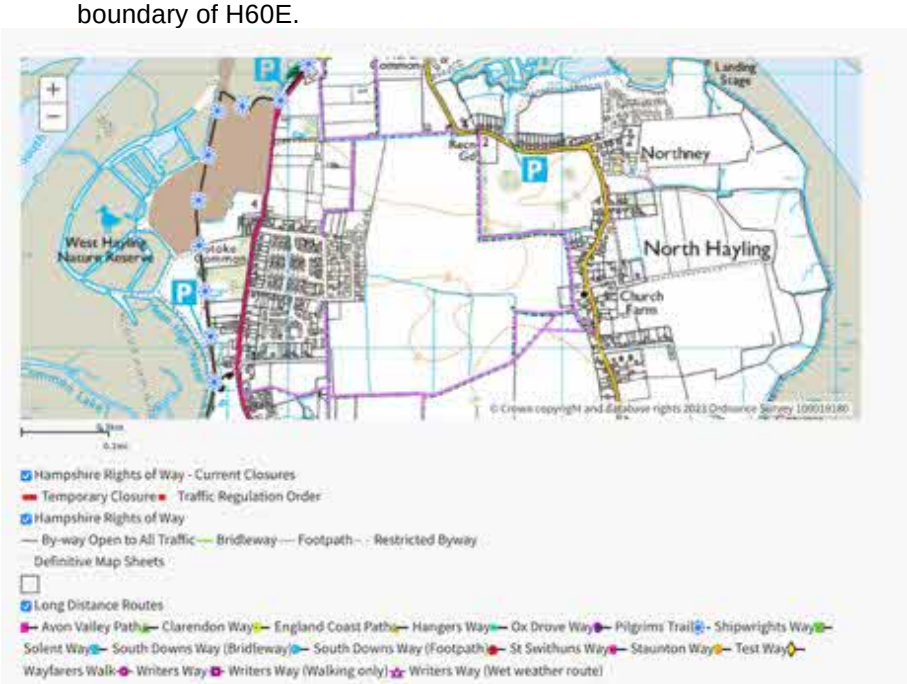


Figure 2.14: *Rights of Way*

Figure 2.15: *Hampshire Rights of Way from HCC website*

2.61 Public access along these routes are likely to be having a negative effect on the potential of fields H60D and H60E in particular to support wading birds and to a lesser extent Brent Geese. Opportunities to mitigate this effect will be taken forward.

Other Potential Constraints

2.62 With reference to the Havant Borough Council Local Plan online viewer, the following are potential constraints. See **Figures 2.16 and 2.17**.

TPO tree groups in H60E.

Important Archaeology Area to south of H60D (site of a Roman building (see below)).

Garden associated with a Listed Building in southeast corner of H60F.

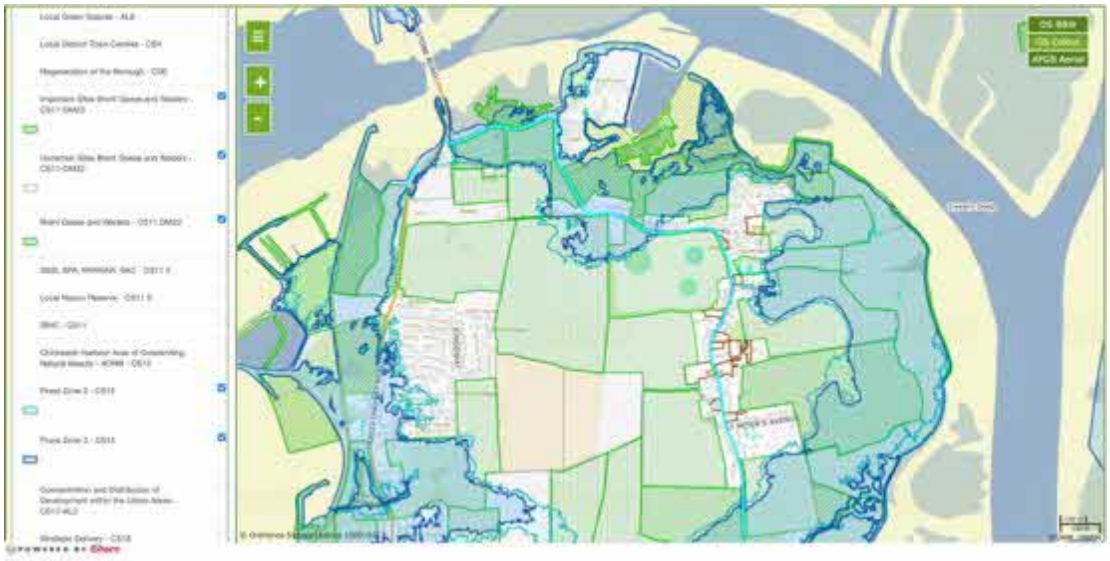


Figure 2.16: *Havant Borough Council Local Plan Information online – Local Plan*

Figure 2.17: *Havant Borough Council Local Plan Information online – Environment*

Discussion of Key Observations for Northey Farm Central Proposed Mitigation Area

Curlew

2.63 The data and information presented above shows that the Northney Farm Central proposed mitigation area (comprised of fields H60D, H60E and H60F – see **Map 4**) supports only very limited use by Curlew (confined mainly to past use). However, the following factors are likely to be suppressing/limiting the ability of Curlew to make use of the site:

Sub-optimal habitat (i.e. mainly arable rather than grassland in relation to H60D and H60F, with Curlew ideally needing earthworm-rich and ideally damp grasslands for foraging)

Disturbance from public access associated with the existing public rights of way (affecting H60D and H60F in particular)

The presence of obstructions to open views for the birds and predator refuges/concealment (affecting H60E in particular).

2.64 Notwithstanding the above, the immutable biophysical attributes of the Northney Farm Central area including geology, soils, drainage and location (being proximate to core intertidal habitat in both Chichester and Langstone Harbours) indicate that there is the scope for the above limiting factors to be addressed so that the site could be substantially enhanced in terms of its ability to support larger numbers of Curlew in future.

Brent Geese

2.65 The data and information presented above shows that field H60D (Gauntlett's Main) is in most years a particularly important site for Brent Goose that justifies its classification as a 'core' area

in the SWBGS. Notwithstanding this, in some years this value is not realised as a result of unpredictable and uncontrollable stochastic events – specifically, heavy rainfall causing the failure of the arable crop, meaning that Brent Geese then are not able to forage on the new shoots of the emerging crop, and the value of the field to this species is negated. Conversion of this field from arable into short-grazed grassland, along with its eastern extension (H60F) that is classified as a 'candidate' area in the SWBGS could potentially remove this problem, as Brent Geese will also graze grassland areas.

2.66 In addition to the above, the other factors limiting the use of these fields to Brent Geese are likely to be similar to those affecting Curlew listed above (i.e. disturbance and open views/predators), albeit that Brent Geese are generally less sensitive to disturbance than Curlew.

3. PROPOSED MITIGATION STRATEGY

Essential Aims and Objectives

3.1 This Bird Mitigation Habitat Management and Monitoring Plan will set out the essential parameters for providing alternative foraging and roosting habitat (a 'Bird Refuge') for Curlew and Brent Geese at Northney Farm, to mitigate the loss of existing habitat at Campdown.

3.2 The objectives are to replicate the ecological function being lost at the new site, demonstrated by meeting the criteria set out in the SWBGS mitigation guidance for the loss of a Primary Area, as set out in **Section 1**.

Habitat Type – To provide an equivalent type of habitat to that being lost that provides the same or enhanced ecological function.

Disturbance – Low levels of public access and recreational use to minimise disturbance of birds.

Area of Habitat – To provide an equivalent functional area of habitat to that being lost.

Timing and Availability of Habitat – To make the new habitat available for use by the birds for which it is being provided before loss of the existing land, demonstrated to be readily available and functioning.

Geographic Location – To demonstrate the off-setting habitat is as close to the original site as practicable.

3.3 And capable of being:

F. **Validated** in respect of achieving its ecological function / purpose; and

G. **Monitored** for effectiveness; and

H. **Adapted** to adjust to unfolding circumstances in future management; and

I. **Resilient** in the face of predictable future pressures such as natural population fluctuations and climate change.

3.4 Natural England summarised the above required parameters as:

Ecological Function

Size

Disturbance

Management and Monitoring

Timing

3.5 The remainder of this section of the Mitigation Strategy summarises the approach to addressing each of the parameters identified above in paragraph 3.2 above. The detailed measures needed to achieve these parameters are then set out in **Sections 4 to 8.**

3.6 Insofar as **timing and availability of habitat** is concerned, it is simply the case that the new habitat must be fully available for use by the target bird species in the first winter after the original habitat is lost to development, albeit that the delivery of replacement habitat can potentially be phased to coincide with rates of loss of the original habitat. Appropriate 'lead in' timescales to achieve this requirement are covered in **Section 4.**

3.7 In terms of the appropriateness of the **geographic location** of the Northney Farm mitigation area, this has already been addressed above in **Section 2**. In summary however the proposed location of the new Bird Refuge is considered highly appropriate due to it being located very close to and roughly equidistant between the SPA habitats for these bird species located in Chichester and Langstone Harbours (see **Map 1**), with significant existing areas of habitat above the high-tide line available to birds around Hayling Island expected to be lost in future due to sea level rise (including large parts of the original Northney Farm East proposed mitigation area). This makes the proposed location of the new Bird Refuge uniquely placed to support the changing needs of the two target bird species in the future. Existing survey observations from the Campdown Site (see **Section 2** above) also indicate that the birds using Campdown originate from Langstone Harbour.

Habitat Type

3.8 In order to provide an equivalent type of habitat to that being lost at Campdown that provides the same or enhanced ecological function, reference was made to the relevant ecological studies for that planning application.

Campdown Grassland

3.9 As reported in **Section 2**, the grasslands at Campdown are unremarkable in themselves, but when managed appropriately provide earthworm foraging for Curlew and grazing for Brent Geese.

3.10 The use of grassland by birds is described by WNF in their Campdown winter bird survey reports (see **Section 2**). Statements include the following selected statements of relevance:

> *"The proposed development site at Campdown comprises open grassland on undulating terrain, with one flatter area that is consistently wetter in winter and therefore sporadically suitable for wintering waterbirds….."*
>
> *"Since 2018, a lack of grazing across the site has led to a transition to rank grassland, and consequently the habitat is generally no longer suitable for the target species. …"*
>
> *"…All observations* [of Curlew] *corresponded to land south of the proposed development site….. These areas have been grazed by livestock and the short sward and poached ground has provided suitable feeding conditions for Curlews, which were mostly seen to take earthworms…*

"…Most Curlew records refer to birds feeding on grazed grassland that is immediately south of the proposed development site….. this area is subject to regular livestock grazing and is therefore suitable for foraging Curlews…"

3.11 These statements make reference to Curlew foraging in wetter, grazed areas in fields south of the application site boundary and targeting earthworms.

Providing Foraging Conditions for Curlew

3.12 A literature search was carried out to obtain evidence on Curlew foraging requirements and habitat preferences on land beyond intertidal habitats (mudflats and saltmarsh), such as coastal and inland grasslands and farmland.

3.13 Navedo *et al* (2013) investigated the importance of coastal pastures and factors influencing their use by wintering shorebirds and found that Curlew foraging actively on coastal pastures was affected by weather conditions, tidal stage (low/high tide) and number of harvesters at intertidal areas throughout winter. Curlew frequently used coastal pastures and most individuals foraged actively there.

3.14 Mander et al (2022) studied individual, sexual and temporal variation in the winter home range sizes of GPS-tagged Curlew in the Humber. They found that Curlews were faithful to foraging and roosting areas on their coastal wintering grounds, including a habitat creation site. Home range sizes were greater at night than during the day, and showed high inter-individual variability which was not related to sex.

3.15 Townshend (1981) looked into the importance of field feeding to the survival of wintering male and female Curlews on the Tees Estuary. Curlews wintering on the Tees estuary use two feeding habitats, the mudflats and the adjacent fields. In mid-winter, numbers feeding on intertidal areas fall, but numbers counted on and around the estuary at high water are unchanged. This paper describes the seasonal changes in the use of the two habitats shown by individual Curlews. The role of weather in determining the changes is considered. Differences in behaviour between male (short-billed) and female (long-billed) Curlews are discussed in relation to the depth distribution of their prey. These behavioural strategies are related to the different energy requirements of the sexes.

3.16 Vickery et al (2001) investigated the management of lowland neutral grasslands in Britain for effects of agricultural practices on birds and their food resources. Two conclusions are of relevance:

"The indirect effects of intensification of management on birds relate largely to changes in the abundance and availability of invertebrate prey. The effects of management vary with its type, timing and intensity, and with invertebrate ecology and phenology, but, in general, the abundance and diversity of invertebrates declines with reductions in sward diversity and structural complexity.

Low input livestock systems are likely to be central to any future management strategies designed to maintain and restore the ecological diversity of semi-natural lowland grasslands. Low additions of organic fertilizer benefit some invertebrate prey species, and moderate levels of grazing encourage sward heterogeneity."

Earthworms

3.17 In a study looking at food supply, prey selection and estimated consumption of wintering Curlews feeding on earthworms at coastal pastures, Navedo (2020) reported Curlew taking epigeic earthworms at coastal grassland.

3.18 Agriculture and Horticulture Development Board (AHDB, 2024) guidance explains that earthworms engineer the soil and contribute to plant productivity but are also an important food source for birds. Also, as earthworms are impacted by pH, waterlogging, compaction, tillage, rotation and organic matter management, they are a good indicator of soil health.

3.19 There are up to 10 common earthworm species in agricultural soils, which can be grouped into three ecological types: epigeic, endogeic and anecic.

3.20 Epigeic (litter-dwelling earthworms) are small (<8cm), and fast moving. They are sensitive to tillage (detrimental), and organic matter management such as manure applications (beneficial).

3.21 Creating conditions for these earthworms by not cultivating/tilling, and managing appropriate levels of manure application for grassland will benefit this foraging resource for Curlew at Northney Farm.

3.22 The increase in earthworm density and abundance that can be achieved when cultivation/tillage of arable land is stopped and the land in question is established as grassland is further evidenced by studies that have been undertaken to help inform guidance on the provision of foraging habitat for Badgers, which also preferentially target earthworms. Scottish Natural Heritage (SNH) has published guidance that draws upon the following studies:

> Cuendet, G. (1984). *A comparative study of the earthworm population of four different woodland types in Wytham Woods, Oxford*. Pedobiologia, 26, 421-439.
>
> Hofer, H. (1988). *Variation in resource presence, utilisation and reproductive success within a population of European Badgers Meles meles*. Mammal Review 18, No.1, 25-36.
>
> Kruuk, H. (1978). *Foraging and social organisation of the European badger Meles meles. Journal of Zoology*, 184, 1-19.

3.23 Figures drawn from the above studies indicate that cereal fields studied were associated with a worm biomass of 482 kg/ha, whereas this increased to 971 kg/ha for improved grass pasture. This however decreases to 230 kg/ha for <u>ungrazed</u> rough grassland, demonstrating the importance of grazing due to both the increase in worm biomass that results from the modest enrichment that results from livestock dung, and also the improved access that a short grazed sward provides to animals attempting to predate the earthworms. The effect of removing grazing is likely to be a key factor that has reduced the suitability of the Campdown site for Curlew, and is considered to be an important factor that will be needed for the new Bird Refuge at Northney Farm Central.

3.24 The extract from Kruuk *et al* (1978) shown below at **Figure 3.1** demonstrates the significant increase in the density of the earthworm *Lumbricus terrestris* in grasslands (subject to correct management) at all of the various locations studied, compared with arable land and woodland.

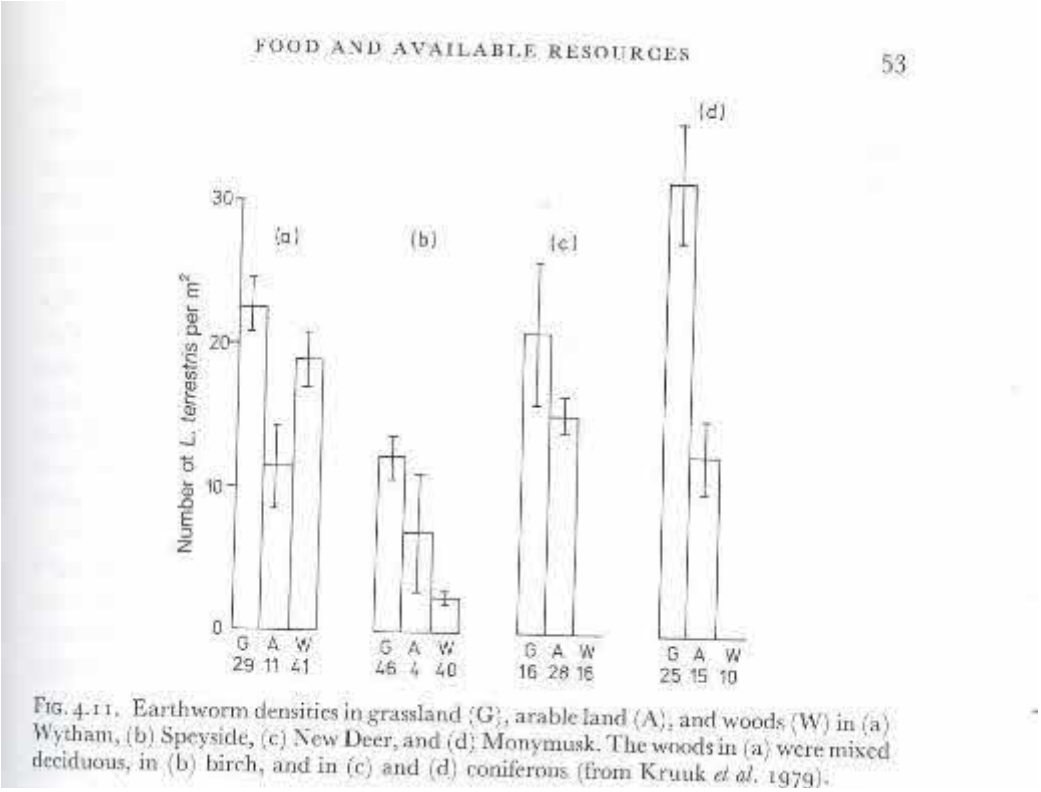


Figure 3.1 *Extract from Kruuk et al (1978)*

Providing Foraging Conditions for Brent Geese

3.25 Vickery et al (1994) studied the management of grass pastures for Brent Geese. The following headline conclusions are of relevance:

> *1. An increasing number of brent geese now feed inland where they cause economic loss on arable crops. There is, however, little conflict with agriculture when brent geese graze on grass pasture, and encouraging geese onto pasture is a way of reducing conflict between farmers and conservationists.*
>
> *2. The grazing intensity of wintering brent geese was monitored on areas of grass pasture that had been managed experimentally under different cutting, grazing and fertilizer regimes.*
>
> *3. There were no significant differences in the grazing intensity of brent geese between treatments in the following experimental comparisons: (a) cutting for silage or sheep grazing or cutting and aftermath grazing with sheep; (b) grazing with cattle or grazing with sheep; or (c) cutting two, three, four or five times.*
>
> *4. The physical structure and composition of swards resulting from management under the different regimes were very similar. The height of all the swards in October was <5-6cm and the biomass of live grass, the live:dead ratio of grass, the tiller density and individual tiller weight varied little between the different regimes.*

5. The species composition of a sward managed for 2 years by sheep grazing, cutting for silage or cutting and aftermath sheep grazing also varied litte between treatments.

6. The application of fertilizer at a rate of 50kg N ha" significantly increased the use of the sward by brent geese compared with areas left unfertilized. The application of fertilizer at a lower rate (18kg Nha*') had no significant effect.*

There was no difference between the use of areas treated with organic compared with inorganic fertilizer.

7. The protein content of the sward was significantly higher in fertilized compared with unfertilized control areas and in sheep grazed swards compared with swards managed by cutting for silage.

8. These consequences of these results in terms of the management of Alternative Feeding Areas (AFAs) for brent geese and their cost effectiveness are discussed.

3.26 With this in mind this Mitigation Strategy has developed a proposed approach to creating suitable conditions at Northney Farm Central which mirror those being sought in the grassland at Campdown for both Curlew and Brent Geese.

Disturbance

3.27 The WNF studies in recent winters have recorded details of recreation use at Campdown, and indicate that the levels of disturbance are likely to have increased here, meaning that even in the absence of development it seems unlikely that the previously recorded peak counts of Curlew and Brent Goose could be restored.

3.28 Notwithstanding this, the area of the proposed new Bird Refuge is itself affected by Public Rights of Way (PRoW) as described above in **Section 2**, which appear to be limiting bird use to a small degree in field H60D (Gauntlett's Main – a 'core area' in the SWBGS) and potentially to a significant degree in field H60F (Gauntlett's part – a 'candidate' area in the SWBGS). The negative influence of this PRoW must be addressed, not only to remove the existing constraint to bird use of these areas but also to allow the potential future enhancement to be realised. The proposed means for achieving this are detailed in **Sections 4-8** and in summary involve installing a dog-proof fence to prevent dogs off their leads from entering the Bird Refuge, and also the creation of a new native hedgerow, to screen views of dogs and walkers from birds making use of these fields, to avoid triggering of a flight response.

3.29 The new hedgerow will mean that the margins of these fields closest to the hedgerow are unlikely to be used by the target species (as the birds will prefer longer views to see predators approaching), but should significantly improve the suitability of the majority of the field areas away from these immediate margins.

Area of Habitat

3.30 The Campdown application site totals about 26.75ha. This encompasses 3 Secondary Support Areas and half of a Primary Support Area totalling 22.35ha. The actual area used by birds is harder to quantify in area terms as it has always been associated with particular favoured parts of each of these fields and has shifted around the site over the years (as described in **Section**

2 above), with the most recent surveys showing that bird use is now focused on off-site areas that will not be lost to development.

3.31 Some areas in the application site are hedgerows, trees and scrub that is excluded from the SWBGS Areas.

3.32 At least an equivalent area to the total area being lost is to be provided, despite the variation in relative value for birds. The total area of the proposed new Bird Refuge in fields H60D, H60F and H60E (see **Map** 4) amounts to around 39.9ha in size. Some discounting for buffer areas around proposed fields is to be allowed for, for the reasons outlined above relating to the propensity of the birds to avoid using habitat close to field edges.

3.33 On the above basis, the ratio of habitat loss to habitat gain on pure areas alone is approximately 1:1.5. However, this figure is an oversimplification of reality, as in practice the target bird species use only discrete parts of the areas being lost at Campdown (and in recent years have not used them at all), and similarly the new Bird Refuge is already used by both species to some degree (as outlined above in **Section 2**).

3.34 In qualitative terms however, the area of the new Bird Refuge provision is considered to be acceptable due to the favourable location and significant potential for enhancement.

Timing and Availability of Habitat

3.35 The overriding principle on timing of the mitigation strategy will be the need to ensure that replacement SPA bird habitat at the new Bird Refuge is in place and able to function prior to it being needed by any birds displaced by the loss of the original habitat.

3.36 The target SPA species (Curlew and Brent Goose) only require the habitat in question during the winter months (September to March). It follows therefore that the provision of replacement habitat must be implemented sufficiently far in advance of the first winter in which it is needed by the birds (i.e. after the original habitat at Camdown has been removed), for the replacement habitat to have developed sufficiently to provide fully functional replacement roosting and foraging habitat. This means that a grassland sward has developed and the soil fauna (particularly earthworm density) has sufficient time to increase and provide a foraging resource for Curlew in particular.

3.37 The following timings are therefore proposed:

> Capital works to create the proposed habitat at the Bird Refuge at Northney Farm (including planting and seeding) will take place in spring 2025.
>
> Over the winter, (September 2024 to March 2025) the only works that will occur on site at Campdown will be limited to clearance of hedgerows and trees around the perimeter (so that this is done when hedgerow nesting birds are absent) and essential exploratory work such as archaeological trial trenching, which will be carried out under ecological supervision.
>
> The grassland on site at Campdown will be left *in situ* over the winter and clearance for development will take place from April 2025 onwards, after it is no longer being used by overwintering birds.

This means that the habitat of the new Bird Refuge at Northney Farm will only be needed by birds displaced from Campdown for the first time from September 2025, meaning that the replacement habitat at Northney Farm will have had an entire growing season for a sward to develop and earthworm densities to increase, before it is needed by displaced birds from Campdown.

Overview of the Mitigation Strategy

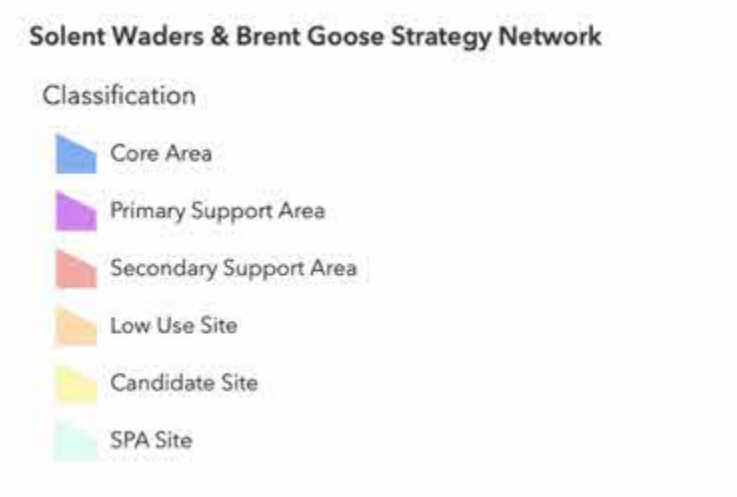
3.38 With reference to **Figure 3.2** below, the review of potential alternative sites for mitigation identified a complex of three fields ('Northney Farm Central') within the control of the same landowner as the original Northney Farm east proposals, that now form the focus of the revised mitigation proposals. These are identified by the following field references in **Figure 3.2** below and shown on **Map 4**:

Field H60D

Field H60E

Field H60F

Figure 3.2: *Extract from the Solent Wader and Brent Goose Strategy (SWBGS) Map*



3.39 Broadly, this complex of fields has the benefit of being located in north-central Hayling Island, approximately equidistant between Langstone Harbour to the west and Chichester Harbour to the east, with important areas of intertidal habitat designated as SPA/Ramsar on both sides of the island (See **Map 1**). These fields are therefore well located to provide roosting and foraging habitat above the mean high water mark to populations of birds using both harbour areas, particularly given that much of the existing high tide habitat around Hayling Islane is at risk from future sea level rise.

3.40 The potential of each of the three fields to provide mitigation is discussed below.

Gauntlett's Field (main) H60D

3.41 Field H60D (see **Map 4** and Photos in **Appendix 2**) is already identified as a 'Core Area' in the SWBGS, and surveys undertaken in 2002, 2010, 2020 and 2022/23 show that it is well used by Brent Geese (counts of between 320 and 2,000 birds) and has some use by Curlew (17-42 birds). For further details see the summary of baseline data for Curlew, Brent Geese and Other Waders in **Section 2**.

3.42 Field H60D is approximately 21ha, in arable use growing cereals for at least 20 years, and is probably valuable to Brent Geese because they will eat the shoots of any autumn-sown cereal crops over winter, although it may currently be of more limited value to other SPA/Ramsar bird species. The field is also large, meaning that birds have clear views to see predators approaching. However, this winter (2023/24) the arable crop has failed, most likely due to the excessive rainfall (this has been confirmed by the farmer), and as a consequence there is little for Brent Geese to graze on.

3.43 EPR has visited the field on three occasions over the 2023-2024 winter season (7 Dec 2023, 4 Jan 2024 and 31 Jan 2024), and on each occasion this field has supported fewer than 10 Brent Geese (all located toward the western side of the field), with no Curlew noted. Future cropping regimes/rotations are also not guaranteed to favour SPA bird species.

3.44 The northern and eastern edges of H60D (the boundary with H60E) are public rights of way that appear to be well used by dogwalkers, and it is likely that this reduces the use of this field by more sensitive SPA bird species such as Curlew (even the Brent Geese were located near the western edge of the field during all visits by EPR).

3.45 It is therefore the case that this field is already very valuable to SPA bird species overall across multiple years, but enhancements could consider addressing the potential for occasional years to render it unfavourable, as well as mitigate the recreational pressure related disturbance.

3.46 This could be achieved by converting the arable into a lightly grazed damp grassland area (as this would provide favoured foraging habitat for both Brent Geese and Curlew and would remove the vulnerability of the habitat to wet weather), whilst also separating off the public rights of way with dog-proof fencing and appropriate screening such as a hedgerow. Other enhancement could include wet grassland scrapes for Curlew, and the inclusion of a modest number of native forbs and grasses in the sward would also further encourage the invertebrate prey of Curlew.

Gauntlett's Field (part) H60F

3.47 Field H60F (see **Map 4** and Photos in **Appendix 2**) is an extension of H60D of approximately 8ha that is also in arable use, but it is listed in the SWBGS as a 'candidate' site rather than a 'core' site. Surveys undertaken between 2002 and 2022/23 show that in some years it is used by a high number of Brent Geese (529-1,500 birds), but in other years is not recorded as being used by this species (e.g. 2010), and it has no recorded use by Curlew (see **Section 2** for a summary of bird data).

3.48 EPR has visited this field (4 Jan 2024) to assess its potential, and our view is that the likely key factor supressing the suitability of this field for SPA birds and in particular sensitive species such as Curlew is that there are well-used public rights of way along the northern, eastern and southern edges of the field, and that because this field is smaller than H60D, the disturbance from visitors on these paths has a far greater effect in terms of penetration into the field and total area affected.

3.49 As it is in arable use, field H60F will also suffer from the same vulnerabilities and periodic risks as H60D in terms of crop failure and crop rotation.

3.50 Given the above, the most beneficial enhancement option for H60F is likely to be the screening off of the public rights of way with hedgerows and dog-proof fencing, and its conversion into a lightly grazed wet grassland for the benefit of both grazing Brent Geese and Curlew. Shallow and grassy wetland scrapes would also benefit Curlew.

Plantation Field H60E

3.51 Field H60E (see **Map 4** and Photos in **Appendix 2**) is just over 11ha in size and is currently modified grassland pasture grazed by the dairy herd based at Northney Farm. It is listed in the SWBGS as being a 'candidate' site rather than a 'core' site, and surveys carried out between 2002 and 2022/23 show that the field is in some years used by moderate numbers of Brent Geese (100-300) although in some years no birds were recorded. 50 Curlew were recorded here in 2002 but none have been recorded since.

3.52 There is a thick woodland belt along the western and southern edges and three small copses within the field that have a fairly thick bramble scrub understorey/field layer. Northney Road bounds the field to the north and east.

3.53 EPR visited this field on 4 Jan 2024, and whilst it is fairly large, the three small copses do create some sense of enclosure, and the relatively dense scrub/bramble layer beneath the trees exacerbates this and provides shelter for predators. A Fox was seen in a nearby field to the east

during EPR's visit, and our view is that the main factor suppressing the value of this field for SPA birds is likely to be the presence of shelter and concealment for predators and the related sense of enclosure and limited views for the birds to feel safe.

3.54 The above issue could be addressed by clearing out the bramble scrub underneath the trees, as they are otherwise spaced far enough apart that it would be possible to see straight through the copses. This would also remove potential opportunities for predator concealment. This should make the larger open spaces in this field suitable for more frequent use by SPA birds. The addition of wet scrapes/hollows would also be of benefit.

Gauntlett's Field and Plantation - Key Habitat Enhancement Works

3.55 The proposal for an alternative mitigation package (a new Bird Refuge) is summarised on **Map 5** and described below.

3.56 The two target species for compensation in relation to Campdown are Curlew (which are the focus) and to a lesser extent Brent Geese. It is also important however that the existing value of H60D (as a 'core area') for Brent Geese and other SPA species is not compromised by whatever is done, and where possible it is uplifted.

3.57 Both Curlew and Brent Goose will make use of grazed grasslands as foraging habitat, although they will utilise this in different ways, with Brent Geese grazing the grass itself and Curlew foraging for earthworms in the grass and soil.

Proposed Habitat Creation and Management

3.58 Arable field H60D will be converted into a lightly grazed grassland to simultaneously enhance its value for Curlew and Brent Geese.

3.59 H60F should similarly be sown as a grazed grassland, and this would realise its potential as a 'candidate site' in the Solent Waders and Brent Goose Strategy for overwintering SPA/Ramsar birds.

3.60 The grassland sown should be referable to the UK Habitat Classification category 'other neutral grassland' (which broadly speaking is a grassland comprised of primarily native species of grass and wildflower, with moderate/medium diversity). This is because a grassland of this composition will be grazed by Brent Geese but will also harbour high densities of earthworms for Curlew to forage.

3.61 In summary, the grassland in H60D and H60F would need to be managed according to the following broad parameters:

> Lightly grazed so that the grassland is mostly short (average sward length around 5-6cm with some areas up to 15cm maximum in height) in the winter when needed as foraging habitat, but with some small longer tussocky areas in places (sward height at other times of the year is not important). A later summer hay cut would be permitted to help achieve a short sward in winter. The stocking density and rotation of livestock would need to be calibrated to achieve this outcome and a starting position is outlined in **Section 5,** but this will need to be monitored and potentially adjusted in the early years before settling on the optimal stocking density to achieve the required average winter sward lengths.

Beef cattle would be the most appropriate livestock to use, as these can be grazed at a lower density, have grazing characteristics which promote the right type of habitat structure, enhance invertebrate diversity (e.g. through dung) and do not require very high nutrient inputs to the grassland as would a dairy herd. Through discussions with the farmer it has been established that fields H60D and H60F could be converted to beef grazing immediately if required. H60E will be needed for the dairy herd for up to 2 years (see below), but this would not stop the proposed works to remove predator cover or the creation of wet scrapes/hollows, which are the most important elements of the mitigation package for this field, and after 2 years the dairy herd could be replaced by beef cattle.

Agrochemicals such as fertiliser (and other imported nutrients such as slurry) should not be used on fields H60D and H60F, with dung from the grazing livestock used as the principal mechanism of providing nutrients. Herbicides, pesticides and vermicides (chemicals that kill earthworms) should not be used.

3.62 The plantation field 'H60E' is more difficult to make suitable for overwintering birds than H60D and H60F, as it is more enclosed by woodland stands and tall tree-lines, which also have an understorey of bramble and scrub that the SPA/Ramsar birds will be wary of, due to its potential to conceal ambush predators such as Fox. However, the past records of Curlew in this field indicate that it can in fact be made suitable, and consequently the bramble and scrub from underneath the wooded areas in this field will be cleared, to create clear lines of sight at ground level.

3.63 Field H60E will also be managed through grazing. However, the landowner requires the continued use of this area for grazing the Northney Dairy Herd for a period of up to 2 years. This should not materially affect the suitability of this area for use by the target bird species as other fields in Northney Farm east are well used by Curlew despite being under this regime, and the type of improved (modified) grasslands that will be required by a dairy herd are also associated with high earthworm diversity. Notwithstanding this, any additional nutrients applied to this field should not exceed 50kg/N per ha. This field will only be available for nutrient neutrality offsetting therefore from the point at which the dairy use ceases and beef cattle grazing replaces it (see **Section 10**).

3.64 In addition to the above, a series of shallow scrapes will be made in the larger open fields (away from the boundaries), to provide temporary standing water and damper areas of grassland, as this will favour Curlew by promoting invertebrate prey. If necessary, a small amount of puddled clay could be introduced to help impede drainage in these areas if they fail to hold at least some water, but given the heavy clay soil that is reported as being present by the farmer this may not be necessary.

3.65 During the site visit held on 4 January 2024, it was also noted that both parts of Gauntlett's Field (H60D and H60F) are affected by public rights of way, likely supressing the use of these fields by birds (especially Curlew which are very sensitive to human disturbance).

3.66 It is unlikely to be possible to close these rights of way and re-routing them around the edges of the fields would serve no purpose as there are already public roads around the eastern perimeter. Instead, these PRoWs will be screened from the fields by planting a thick native

species-rich hedgerow along their inside edges, combined with the provision of a stock-proof fence with sheep netting or similar to prevent dogs from accessing the fields. This will greatly increase the prospects of these fields for being used by the birds.

3.67 Instant hedging will be used along the PRoW that passes along the eastern edge of Gauntlett's Fields to achieve instant screening. Whips will be planted for those other hedgerows not required to provide instant screening.

3.68 If necessary, small gaps (<5m) could be left in the hedgerows in the northern boundary to avoid obstructing views from the adjacent properties, or the hedgerows in those locations could be maintained at a lower height (approx. 2m) to at least enable views from the first floor.

Summary in Respect of Criteria for Replacement Primary Area

3.69 **Table 3.1** presents a summary of how the objectives of this strategy, to replicate the ecological function being lost at Campdown at the new Bird Refuge at Northney Farm Central, will be met. This focuses on demonstrating that the criteria set out in the SWBGS mitigation guidance for the loss of a Primary Area at Campdown will be met at Northney.

Table 3.1: Summary of criteria for providing replacement Primary Area

Criteria	Campdown	Northney
Habitat Type	Semi-natural grassland Sheep grazed/Mown	Other neutral grassland equivalent Grazed with beef cattle
Disturbance	Evidence of increased bird disturbance with rise in dog walking	PRoW on tree-lined eastern field boundary will be fenced and screened.
Area of Habitat Loss/Gain	**H02A North – 5.54ha *H106 – 5.49ha *H113 – 3.74ha *H125 – 7.58ha Total loss – 22.35ha Total application site area – 26.75ha **H02A South – 5.54ha - Retained	***H60D / 'H60F - Gauntletts – c21 / c8ha = 28.58ha H60E - Plantation – 11.32ha Total gain (newly enhanced area) – 39.9ha
Loss/Gain Ratio	Loss – 26.75ha	Gain – 39.9ha Ratio – approx. 1:1.5 in area
Timing and Availability of Habitat	H02A North – Lost after April 2025 H106 – Lost after April 2025 H113 – Lost after April 2025 H125 – Lost after April 2025	H60D/F - Created in spring 2025 Available from winter 2025/26 H60E – Available as replacement SPA bird habitat from winter 2025/26 and for Nitrogen neutrality from 2026/27
Geographic Location	Beyond SPA, just over 1km North of Langstone Harbour	Beyond SPA, within 1km Between Chichester and Langstone Harbours 4km from Campdown

SPA – Chichester and Langstone Harbours SPA

***Core Area

**Primary Support Area

*Secondary Support Area

'Candidate Site

4. PROPOSED HABITAT CREATION

Introduction

4.1 This section includes details of the design and creation of habitats and features at the Northney Bird Refuge required to provide Curlew and Brent Geese with the required foraging habitat.

Grassland Creation: Gauntlett's Field (H60D and H60F)

4.2 As described above, the two arable fields, H60D and H60F, will be converted into a grassland area referable to UK Habitat Classification System ('UK Hab') category g3c, known as 'other neutral grassland' (ONG).

4.3 Additionally, it is the wetter grassland at Campdown that has historically been more used by Curlew, and so this would be the target grassland type to achieve across at least some areas of the new Bird Refuge.

4.4 ONG is defined by UKHab as follows:

> *"A neutral grassland that does not meet the definition of g3a or g3b AND that meets at least three of these four criteria:*
>
> 1. *>20% cover of broadleaved herbs and sedges;*
> 2. *>8 species per m2 (including forbs, grasses, sedges and rushes, and excluding bryophytes);*
> 3. *> or = 1 grass species that is not generally sown for intensive agricultural production (i.e. Rye-grasses Lolium spp., Timothy Phleum pratense, Cock's-foot Dactylis glomerata, Meadow Fescue Festuca pratensis) is at least abundant;*
> 4. *Cover of Rye-grasses Lolium spp. And White Clover Trifolium repens, where present, is <30%.*
>
> *This is a widespread and commonly encountered grassland of the lowlands that occurs on farmland and in built-up areas. Low input pastures, many verges of roads, paths, tracks, rivers and railways, and the edges of fields are likely to be this grassland. And that is not farmed but is cut or mown annually often becomes this habitat."*

4.5 Component species given are as set out below in **Table 4.1**

Table 4.1: *Typical Species Associated with ONG*

Grasses and Rushes	Herbs
Common Bent	Yarrow
False Oat-grass	Ribwort Plantain
Yorkshire-fog	Creeping Thistle
Perennial Rye-grass	White Clover
Crested Dog's-tail	Red Clover
Rough Meadow-grass	Meadow Buttercup
Cock's-foot	Creeping Buttercup

	Common Nettle
On wetter sites:	Hogweed
Velvet Bent	Daisy
Creeping Bent	
Marsh Foxtail	*On wetter sites:*
Soft Rush	Silverweed
Hard Rush	Wild Angelica
	Fleabane

Seed Sources

4.6 With reference to online seed merchants, **Table 4.2** below provides a range of different seed mixes that would potentially be suitable for the creation of ONG, but other equivalent seed mixes from reputable suppliers would also be suitable. Other seed mixes to those listed below could be used, provided that these are sufficiently comparable with the target composition detailed in **Table 4.1** and secured from a reputable seed supplier with robust biosecurity and procurement policies.

Table 4.2 *Suitable Commercially Available Seed Mixes*

Seed Mix	Supplier	Notes	Supplier Recommended Sowing Rate*	Purchase Cost at Time of Writing (Where available)*
Traditional Graze and Hay	Grass Seed Store (GSS)	*An older, traditional style of grass production for quality grazing or hay making with reduced reliance on ryegrass and fertiliser.* *Performs better in drier seasons but will recover more quickly from extremes of UK weather.* *Species have varied rooting patterns which exploit different soil depths and lift moisture and important trace minerals from beyond root range of ryegrass seed mixtures.*	c35kg/ha	£254/ha
SAM3 / GS4 Herbal Ley (CSS2)	Boston Seeds (EnviroSeeds range)	*To establish a mixed sward of grasses, legumes and herbs and wildflowers.* *Suitable for productive cattle.* *Provides habitat for invertebrates and pollinators.*	20kg/ha	£115/ha

		Improves soil structure and water infiltration. *Contains: 40% Perennial Ryegrass, 20% Red Fescue, 10% Vetch, 8% Meadow Fescue, 7% Timothy, 5% Meadow Grass, 7% Clovers, plus Lucerne, Sheep's Burnet, Sheep's Parsley, Plantain, Yarrow, Black Medick, Birdsfoot Trefoil.*		

*Sowing rate converted into kg/ha from information available on the vendor's website. Cost similarly converted into a per ha cost.

Grassland Creation Method

4.10 The following broad methodology will be used to establish the new ONG in H60D and H60F:

Any arable crop in these fields will be harvested in late summer/early autumn 2024.

In spring 2025, the fields will be ploughed/cultivated and if necessary subsoiled to remove compaction.

After around 1 month, any significant weed burden will be removed by disc-harrowing the ground, and if necessary targeted application of herbicide via weed-wipe, to prevent weeds competing with establishing grassland species.

The ground will be harrowed to create a 'fine tilth' suitable for seed germination and establishment.

Within 24 hours of harrowing, the seed mix will be broadcast onto the surface of the soil and then rolled in to promote intimate contact between seed and soil.

Preparation of Grassland in Plantation Field (H60E)

4.11 The grassland in Field H60E will not be sown with any new grasses or forbs as it will remain as an improved (modified) grass pasture grazed by a dairy herd for **up to 2 years**.

4.12 The more intensive grazing of this field associated with dairy cattle is likely to mean that the sward height and structure in the field will already be suitable for the target bird species once predator refuges around the grassland are removed. However, the grassland will be assessed in August 2025 and if the average sward height exceeds 15cm, a hay cut will be taken.

Scrape Creation

4.13 Scrapes are wet features found in low points in fields. Water can stay in these areas throughout winter and up until July. Scrapes can support large numbers of midge larvae.

4.14 A total of 6 scrapes will be created in suitable locations in the fields (indicative locations are shown on **Map 5**) with the following specification:

20m by 20m or larger;

Scalloped edge, to increase the length of wet muddy areas;

Gentle slopes with an uneven finish, to allow gradual exposure of feeding surfaces;

Water depth in early spring should be:

- Up to 25cm over half of the area;
- 25-50cm over the rest;

Create between July and November; and

Spoil can be spread across the remaining field.

4.15 Scrapes will be mechanically excavated and then observed until after the first heavy rainfall event. If they fail to hold water then they will be lined using puddled clay if required.

Hedgerow Planting

4.16 Approximately 1,384m of new native hedgerow will be planted along the dog-proof fencing for the Public Right of Way in the location shown on **Map 6** to aid with screening users and provide habitat and connectivity.

4.17 Instant hedging will be used for the section of PRoW that passes along the eastern edge of Gauntlett's Field (H60D) and northern edge of Gauntlett's Field (H60F).

4.18 The remaining new hedgerow will be comprised of two staggered lines of whips to create a thick bushy structure that aids visual screening and expedites establishment. Planting will take place from before spring 2025, to enable newly planted whips to develop roots prior to the arrival of droughty conditions the following summer.

4.19 The proposed dog-proof fence (see **Section 6** and **Map 6**) will be located on the field side of the newly planted hedgerows, as this will also prevent the new hedgerow whips from being damaged by cattle browsing prior to establishment.

4.20 The new instant hedging and native species-rich hedgerow will include a range of native species of local provenance. The species chosen will include some trees that retain brown leaves through winter (e.g. Beech) and others that are evergreen (e.g. Holly, Box) or semi evergreen (e.g. Wild Privet), to improve screening during winter months, as well as native climbers to create arboreal lattice for the same purpose (Wild Honeysuckle).

4.21 Component species will include those shown below in **Table 4.3**:

Table 4.3 *Hedgerow Species*

Common Name	Scientific Name
Hawthorn	*Crataegus monogyna*
Blackthorn	*Prunus spinosa*
Hazel	*Corylus avellana*
Field Maple	*Acer campestris*
Beech	*Fagus sylvatica*
Holly	*Ilex aquifolium*

Wild Privet	*Ligustrum vulgare*
Box (if location well drained)	*Buxus sempervirens*
Wild Honeysuckle	*Lonicera periclymenum*

Woodland Understorey/Scrub Removal

4.22 The woodland areas within and around the Plantation Field (H60E) will have the bramble scrub beneath the trees cleared, to create open views through the small woodland copses at ground level and remove places of potential predator concealment.

4.23 This work will be done outside of the main bird nesting season, before spring 2025, which is also prior to the 2025/26 winter season when this field will be needed by the target SPA bird species.

5. PROPOSED HABITAT MANAGEMENT

Introduction

5.1 This section presents details of the habitat management proposed at Northney Bird Refuge that will be carried out in perpetuity to ensure the habitats remain in good condition to be of value to Curlew and Brent Geese.

Grassland Management

Grazing

5.2 Grazing is the most effective and 'natural' way of managing the vegetation structure and increasing species diversity, having a fundamental role in providing micro-habitats for many plant and animal species, as well as a supply of organic matter in dung, to help feed soil fauna and other invertebrates.

5.3 A traditional breed of beef cattle will be grazed in Gauntlett's Field (both parts – H60D and H60F), whereas Plantation Field (H60E) will be grazed for up to 2 years with a dairy herd, before being brought into the same management regime as Gauntlett's.

5.4 Grazing with traditional breeds of beef cattle is ideal as they create a mix of longer and shorter vegetation and bare ground. Their dung helps maintain invertebrate populations which are taken by waders including Curlew.

5.5 Sward height in winter (September-March) should be short (average sward height around 5-6cm with some longer areas up to 15cm in height maximum) to benefit grazing geese, while favouring foraging habitat for Curlew too. Sward height at other times of the year does not matter for the purposes of achieving the objectives of the management plan.

5.6 Tussocks of rush and grass provide shelter for invertebrates and some cover for other waders such as Snipe.

5.7 The fields will be divided into Grazing Units to enable control of grazing pressure in the right places at the right times, but this should be achieved through methods that do not impede the open views required by SPA birds (for example mobile electric fencing or barbed wire).

5.8 Stocking densities for grazing animals will not be fixed as the essential requirement will be to achieve the required outcome in terms of the required sward height and structure described above during the winter months, so stocking density will need to be adjusted on a reactive basis to achieve this, depending on growing conditions. The main principle is to achieve the outcome quickly using a number of animals and then move cattle on.

5.9 Notwithstanding this, it is anticipated that stocking density will need to be an average of around 1 livestock unit (LU) per hectare for Gauntlett's (both parts), and higher than this for Plantation Field for the first 2 years when it remains under a dairy regime (after which the stocking density will match that of Gauntlett's Field). This stocking density however will only represent a 'starting point' and should be adjusted as necessary following monitoring (see **Section 8** below) to achieve the required habitat outcome.

5.10 It is likely that stocking density will need to vary over the course of the year, for example with around 1 cow per ha in spring and up to around 2.5 in late summer, if required in order to reduce the sward height before winter. Cattle can stay out over winter if the ground is not too wet, otherwise they can be moved indoors or to drier ground.

Mechanical Cutting / Topping and Herbicides

5.11 Some areas will require mechanical cutting or topping to remove weeds such as thistles and docks, especially in the first year or two when there is typically a surge of weedy species in response to the initial ground disturbance associated with new grassland establishment, or when there are too many rushes. Such cuts typically work best prior to the weed species in question flowering, in order to prevent further weed expansion in future years, but great care is required where this occurs within the potential ground nesting bird season (typically March to August) to avoid damaging the nests of species such as Skylark and Lapwing. A pre-cut check of the area to be cut/topped should be undertaken and any visible signs of nesting such as adult birds alarm-calling will mean that the cut will have to be postponed.

5.12 Mechanical cutting should be used in preference to herbicide application, but in extreme circumstances limited targeted application using a weed-wipe would be acceptable.

5.13 If grass sward length is too long in the run-up to winter, then a hay cut between August and October can be undertaken. Arisings should be left on the ground for 2-4 days to enable seed to fall, before being raked up and removed from site and either used as hay to feed livestock or composted. Hay or silage cuts can also take place if needed between July and October due to excessive grass growth, but will not be carried out from April to June in order to avoid artificially depleting the grass sward of native wildflowers that will be needed to achieve ONG categorisation for BNG purposes.

5.14 Management will ensure that cover of soft and hard rush is no more than 20%.

5.15 If species that present a potential danger to livestock such as Ragwort become too prevalent, then targeted removal either by pulling or through the targeted application of proprietary mixes of concentrated citronella oil (available under the trade name ‘Barrier X’) via knapsack spray can be used. Notwithstanding this, Ragwort (of which there are several species) is a bonafide native plant with many benefits for important invertebrate species such as the Cinnabar Moth, which is a Priority species under Section 41 of the Natural Environment and Rural Communities Act 2006 (as amended). The objective should not therefore be to eradicate Ragwort entirely, but to control it to levels that present no threat to livestock.

Scrape Management

5.16 The key to the success of the scrapes is for them to retain water, at least during the winter period (late September – March). This will be in part determined by factors such as groundwater level, the degree to which drainage is impeded by the soil (which is uncertain at this stage), weather and use by cattle. The experience of the farmer and the observations of EPR suggest that there is a significant clay influence in the soil and waterlogging in winter at Gauntlett’s Field, although reconnaissance-scale soil and geology maps suggest that the field will be free draining.

5.17 Monitoring (see **Section 8** below) will therefore determine whether the newly created scrapes are successfully retaining water after significant rainfall, and remedial action will be undertaken

if this is not the case, which will involve the import of puddled clay and spreading into the base of each scrape. Cutting excessive growth of rushes and any colonisation by Bulrush are likely annual requirements.

Hedgerow Management

5.18 The new hedgerow being planted along the dog-proof fencing for the PRoW will need to be subject to aftercare management in years 1-5. This will include straightening of stakes and guards, replacement of failed plants with new stock (following an annual survivorship assessment carried out each Spring) and an annual herbicide application or strimming/mulch application to reduce competition from weeds and grasses.

5.19 After the initial 5-year aftercare period, ongoing long-term management can be achieved by an annual cut in late winter to improve integrity and its effective screening function which is the primary objective. If possible, cutting/flailing should not be applied to the whole hedgerow each year (unless the PRoW is being impeded), but instead to alternate 15m sections of hedgerow on each side, so that there is always some new growth to provide flowering and mast fruit for wildlife.

Control of Bramble / Removal of Lying Wood

5.20 The strategy requires the continued removal of bramble scrub and lying wood from beneath the stands of Oaks in the Plantation field H60E and in the woodland surrounding its western and southern boundaries. This is to reduce cover for predators such as Fox and increase sightlines beneath the trees that are sought by the target SPA bird species, as already occurs in one stand of trees (see Photos in **Appendix 3**).

5.21 The bramble will be mechanically cut insofar as is necessary in September to October (after the bird nesting season but prior to the arrival of overwintering flocks of SPA birds), and log piles dismantled with machinery and by hand as required.

Record Keeping

5.22 The manager of the new Bird Refuge will need to keep records of what management interventions are applied, and when. In particular, it will be necessary to keep records of when animals are put out to graze in different areas, how many cattle were used and for how long. This will enable the ongoing monitoring effort (see **Section 8** below) to relate the visible changes in habitat and bird abundance/distribution to the changes in management that have taken place each year in each area and provide feedback to the Bird Refuge Manager to enable management to be iteratively refined and improved over time to maximise positive outcomes.

6. PROPOSED INFRASTRUCTURE

Introduction

6.1 This section of the mitigation strategy outlines the physical infrastructure that will be needed to enable the required objectives of the strategy and habitat management to be achieved.

Grazing Infrastructure

6.2 At present the Gauntlett's fields (H60D/F) are under arable cultivation and following conversion to grassland will be grazed with beef cattle.

6.3 Stock fencing with field gates, and a water supply to drinking troughs are required. The external perimeter of these fields will need to be fenced by stock-proof fencing with three to four strands of tensioned wire or stock net and a single strand of barbed-wire along the top.

6.4 The field itself will need to be divided up into grazing compartments, but this should not impede sight lines for SPA birds, and therefore may be best achieved with mobile electric fencing.

6.5 A cattle corral may also be required to enable the administration of medications or pregnancy testing of cattle.

Public Right of Way Screening

6.6 To contain and screen off users along the public right of way on the field edge requires a dog-proof fence and hedgerow planting (the latter is described above in **Section 4**).

6.7 The dog-proof fencing will be as detailed above for the perimeter stock fencing, but with an added strip of sheep netting at the base to prevent dogs from pushing under the wire and entering the Bird Refuge. Approximately 1,406m of dog-proof fencing will be required and the alignment of this is shown on **Map 6.**

6.8 As the proposed new hedgerow will take time to establish, instant hedging will be used to screen the boundaries where views of people using the PRoW is most prominent to any birds that are using the two Gauntlett's Fields (H60D and H60F). This will be targeted along the PRoW where is passes along the western and southern sides of Plantation Field (H60E), a length of approximately 690m.

6.9 Way markers and an information panel will be provided at the location marked on **Map 6** at the northern end of the PRoW to direct users, inform them of the sensitivity of the new Bird Refuge and the need for the measures being implemented. This will also explain the requirement for them to keep dogs under control, to stick to the marked and screened PRoW, and not to enter the main fields.

6.10 A gate will be included at the northern end of the PRoW, and the design will be such that access on foot or via wheelchair or mobility scooter etc is possible, but larger motorised vehicles (such as scramble or quad bikes) cannot gain entry. There are various suitable designs of gate, such as a kissing gate with over-sized chamber sufficiently large to permit a wheelchair to enter.

7. ONGOING MAINTENANCE OF INFRASTRUCTURE

Introduction

7.1 The infrastructure will need to be maintained *in perpetuity*, and this will mean it will need to be checked regularly for damage and defects and repaired or replaced as necessary.

Grazing Infrastructure

7.2 Fences and gates will need to be checked at least weekly, and this will be a routine part of the farmer or Bird Refuge Manager's role.

7.3 The drinking water supply for cattle will need to be checked daily.

Public Right of Way

7.4 The dog-proof fence will need to be checked once every two months for most of the year, but weekly during the period when overwintering SPA birds will be using the fields (September-March), so that any damage permitting dogs to enter the field is identified and corrected quickly.

7.5 Signage and waymarkers should be checked quarterly.

8. MONITORING AND REVIEW

Monitoring Strategy

8.1 The mitigation strategy will ensure long-term monitoring of the Bird Refuge is secured. Monitoring will inform ongoing management and trigger any iterative adjustment or remedial actions that are required to ensure that the objectives of the mitigation strategy are met.

8.2 Monitoring will cover the following key elements:

Recording management activity and outcomes (to be undertaken by the farmer / the **'Bird Refuge Manager'**);

Biological monitoring – Habitat condition surveys, bird surveys (undertaken by an independent third party with appropriate ecological expertise – **'the ecologist'**); and

Access and disturbance.

8.3 The responsibility for monitoring and the required costs and legal security are set out in more detail in **Section 9.** This section sets out the methodologies and key data collection and reporting mechanisms that must be implemented.

Monitoring Methods and Intervals

Management Activity and Outcomes

The Bird Refuge Manager's Role

8.4 Records of grazing and cutting for the recording period of September-August (i.e. one whole calendar year starting from the onset of each overwintering bird season) will be kept by the Bird Refuge Manager and passed annually to the Ecologist within 1 month of the recording period ending.

8.5 This will enable the Ecologist to monitor the effects of grazing pressure on the development of the grassland and soils, and also relate effects both on the habitats themselves and resultant use by SPA birds to the management that has taken place – thus enabling more accurate diagnosis of causal effects and by extension improved feedback on how management can be refined and improved, or reaction to unforeseen events.

The Ecologist's Role

8.6 As an independent third-party monitor, the Ecologist will have a role in ensuring that the management regime is being applied as prescribed in this mitigation strategy *in perpetuity* and that future generations do not lose sight of these requirements.

8.7 To achieve this, the Ecologist should visit the Bird Refuge at least twice annually specifically for the purpose of making observations sufficient to enable them to establish that the management activity that has taken place is consistent with this mitigation strategy.

8.8 This will enable confidence to be had both that the essential aims and objectives of this strategy in respect of SPA birds are being achieved (as set out in **Section 3**), but also to provide confidence that the management of Gauntlett's Field (both H60D and H60F) are consistent with

the ‘lowland grazing’ category of Natural England’s Nutrient Neutrality guidance (see **Section 10**) and therefore the nutrient reduction benefit delivered by these fields remains in place.

8.9 **Table 8.1** below outlines what the Ecologist should expect to see (or not see) during a visit carried out at different times of the year, in order to satisfy themselves that the management being implemented is consistent with **Sections 5 and 7** above.

Table 8.1: *Observations on Management to be Made by the Ecologist*

Month	What Should be Seen	What Should not be Seen
Jan	Most grass sward 5-6cm in height or shorter. Some areas up to 15cm in height but not taller. Cattle either not present or consistent with agreed stock types and density. Infrastructure in good repair.	Ploughed arable land or emerging cereal crop in drilled lines if winter cereals were sown Incorrect stock rates or stock type
Feb	Most grass sward 5-6cm in height or shorter. Some areas up to 15cm in height but not taller. Cattle either not present or consistent with agreed stock types and density. Infrastructure in good repair.	Ploughed arable land or emerging cereal crop in drilled lines if winter cereals were sown Incorrect stock rates or type
Mar	Most grass sward 5-6cm in height or shorter. Some areas up to 15cm in height but not taller. Cattle either not present or consistent with agreed stock types and density. Infrastructure in good repair.	Ploughed arable land or emerging cereal crop in drilled lines if winter cereals were sown Incorrect stock rates or type
Apr	Grass of any height. Cattle either not present or consistent with agreed stock types and density.	Ploughed arable land, maturing cereal crop if winter cereals were sown or emerging cereal crop if Spring cereals were sown (drilled lines). Incorrect stock rates or type Recently cut (uniform height) grassland or silage bales
May	Grass of any height. Cattle either not present or consistent with agreed stock types and density.	Ploughed arable land, maturing cereal crop or emerging/maturing cereal crop if Spring cereals were sown. Spring barley may be sown as late as May. Recently cut (uniform height) grassland or silage bales
Jun	Grass of any height. Cattle either not present or consistent with agreed stock types and density.	Ploughed arable land or maturing cereal crop Incorrect stock rates or type

Month	What Should be Seen	What Should not be Seen
		Recently cut (uniform height) grassland or silage bales
Jul	Grass of any height. Cattle either not present or consistent with agreed stock types and density.	Mature cereal crop or recently cut stubble/straw Incorrect stock rates or type
Aug	Grass of any height. Cattle either not present or consistent with agreed stock types and density.	Mature cereal crop or recently cut stubble/straw Incorrect stock rates or type
Sep	Most grass sward 5-6cm in height or shorter. Some areas up to 15cm in height but not taller. Cattle either not present or consistent with agreed stock types and density. Infrastructure in good repair.	Ploughed arable land, potentially with newly sown winter cereal crop. Mature cereal crop or recently cut stubble/straw if Spring sown cereals were grown Incorrect stock rates or type
Oct	Most grass sward 5-6cm in height or shorter. Some areas up to 15cm in height but not taller. Cattle either not present or consistent with agreed stock types and density. Infrastructure in good repair.	Ploughed arable land or stubble. Incorrect stock rates or type Emerging cereal crop drilled in straight lines (potentially up to 25% cover if winter cereals were sown by mid/late Sep (Defra Best Practice Information Note accessed May 2020).
Nov	Most grass sward 5-6cm in height or shorter. Some areas up to 15cm in height but not taller. Cattle either not present or consistent with agreed stock types and density. Infrastructure in good repair.	Ploughed arable land, stubble or emerging winter cereal crop in drilled lines Incorrect stock rates or type
Dec	Most grass sward 5-6cm in height or shorter. Some areas up to 15cm in height but not taller. Cattle either not present or consistent with agreed stock types and density. Infrastructure in good repair.	Ploughed arable land, stubble or emerging winter-sown cereal crop in drilled lines Incorrect stock rates or type

The Role of the Public

8.10 Local people who are present daily can provide a valuable element of independent monitoring and feedback. Local residents will for example often be aware of problems such as unwell livestock, damaged infrastructure or antisocial/illegal activity before a site manager.

8.11 To harness this resource, the information board should include details for the public on why the Bird Refuge has been set up, and what management and conditions are required for it to fulfil its function. This creates a local awareness of what should be 'normal', and by extension therefore what is not normal and should be reported as a potential source of concern. The information board should also contain contact details for the Bird Refuge Manager and the Ecologist, so that issues can be reported.

Habitat Condition Surveys (Carried out by the Ecologist)

8.12 Details of habitat condition will be obtained including sward height, areas of bare ground, weed recruitment, component grasses and forbs. Earthworm counts would be beneficial for both soil condition monitoring and recording type and number of those works favoured by Curlew.

8.13 This work should be carried out annually in June, as this is when the relevant ecological attributes are easiest to measure.

Winter Bird Monitoring (Carried out by the Ecologist)

8.14 Winter bird monitoring will cover the implementation phase at Campdown and the ongoing use of the Bird Reserve.

8.15 Surveys will be undertaken in accordance with the methodology approved by the SWBGS Steering Group.

8.16 Years 1-10 post-implementation – annual surveys comprising six to twelve surveys between October and March; and

8.17 Years 10-80 post-implementation – 5-yearly surveys comprising six to twelve surveys between October and March.

Access and Disturbance Surveys

8.18 Surveys of site access and use by people and their dogs are required in order to monitor any disturbance of birds and inform the need for and scope of any remedial action. These would best be carried out in the form of incidental observations recorded as part of the winter bird survey visits, as they must ultimately be related to effects on birds.

Monitoring Report and Review of the Mitigation Strategy

8.19 For the first 5 years after initial implementation, a concise **annual** monitoring report will be produced by the Ecologist, following discussion of the monitoring results with the Bird Refuge Manager.

8.20 In addition to the monitoring information required to be collected as outlined above, the report will also detail:

a) Any proposed refinements to the management plan / mitigation strategy that have been agreed between the Ecologist and the Bird Refuge Manager as being required, in light of monitoring results, to improve achievement of the essential aims and objectives set out above in **Section 3.**

b) Any areas where the Ecologist believes that changes to management are needed to enable the essential aims and objectives set out in **Section 3** to be achieved, but which either cannot be implemented due to circumstances beyond control (with an appropriate explanation) or which the Bird Refuge Manager is unwilling to implement (with a statement from the Bird Refuge Manager explaining this position).

8.21 A copy of each monitoring report will be provided to Havant Borough Council, Natural England and The SWBGS Steering Group.

8.22 At the end of Year 5, if both the Ecologist and Bird Refuge Manager agree that management is progressing well and achieving the aims and objective of **Section 3**, then further monitoring reports will only be required in **every 5th year thereafter**. Otherwise, annual reporting of monitoring will continue until the 10th year.

8.23 If substantive changes are made to the management plan / mitigation strategy in pursuance of recommendations laid out in a monitoring report, the revised management plan / monitoring strategy will also be provided to Havant Borough Council, Natural England and the SWBGS Steering Group.

9. DELIVERY

Timescales for Actions

9.1 The mitigation scheme has been agreed with Natural England through their 'Discretionary Advice Service (DAS) and other consultees and will be implemented through a Management Plan secured '*in perpetuity'* through the Section 106 Agreement associated with the Campdown development, essentially binding the Bird Refuge Manager/owner and other parties to implement the provisions of this document.

9.2 In terms of the lead-in time for habitat creation, the compensation solution would need to be delivered and available for bird use before the first winter after the loss of the high tide roosting and foraging habitat at Campdown, in order to be available for use by the displaced birds. This however would only mean sowing the grassland seed mixture in the spring before the first winter after clearance of the habitat at Campdown, so that an adequate sward has developed by the time it is needed by the birds. The plan is therefore to sow in spring 2025, enabling a summer of grassland growth before it is first needed by birds from winter 2025/26.

9.3 The hedgerow planting needed for screening the public rights of way that pass along Gauntlett's Field will rely on instant hedging to provide adequate screening from the outset.

Funding

9.4 Dandara Southern Ltd will cover all the initial implementation costs directly, including planning and legal costs, and capital works. These will be delivered 'at cost' according to contract with suppliers and as agreed between Dandara Southern Ltd and the Bird Refuge Manager (the owner of Northney Farm).

9.5 The costs of ongoing management and monitoring in perpetuity (taken to be 80 years) will be funded through a mechanism that will be secured through the Section 106 Agreement associated with the development at Campdown. At this stage, this is envisaged to either be a service charge collected periodically from the residents of new dwellings, through an invested ring-fenced sum(s), from an equivalent income stream (e.g. a rent charge levied on new properties), or from a mix of one or more of these options. This sum will be calculated to be sufficient to fund management for the required time period of 80 years, based on the indicative cost forecasts outlined below in **Appendix 4.** In the event that an invested ring-fenced sum is used, this will be calculated to be sufficient to fund the forecast costs over 80 years and will be drawn down as needed to fund the Bird Refuge Manager and Ecologist respectively to perform their obligations under this mitigation strategy / management plan. An example of this is the 'Net Present Value' (NPV) approach, which assumes an annual return on an invested sum, as illustrated in **Appendix 4.**

9.6 In the event that there is any perceived default in management or failure by either the Bird Refuge Manager or Ecologist to discharge their responsibilities, then the 'Step in Rights' procedure outlined below will be followed.

9.7 In summary, following the initial capital works, the management and monitoring outlined in this Management Plan is expected to cost:

In the region of £15,340 + VAT for short term works during the establishment phase (years 1-4) for aftercare of planting, replacement of failed stock due to drought etc;

An average **annual** cost of around £22,685 + VAT **per annum** (index-linked) for ongoing management and monitoring; and

An additional amount over the course of the 80-year management plan for the replacement of failed capital items (e.g. rotten fences, broken gates, signage etc). The size of this amount will vary depending on which funding mechanism is ultimately chosen (for example a service charge or invested capital sum), but the figures necessary to calculate this amount are provided in **Appendix 4.**

9.8 As alluded to above, the costs above can be met in a variety of ways, including service or rent charge, or the investment of a capital sum sufficient to generate annual returns so that the decrease in the ring-fenced sum held to zero is calculated to take over at least 80 years with contingencies factored in (known as the 'Net Present Value' or NPV approach).

9.9 The cost of the monitoring element of the above will need to be confirmed with the organisation tasked with taking this element of the work on.

Roles and Responsibilities

The Ecologist (Monitoring)

9.10 It is proposed that the Ecologist providing monitoring services outlined in **Section 8** will be an independent third party with recognised expertise in ecology and nature conservation (particularly ornithology and coastal wetland and wading birds). The organisation providing this role will be agreed with Natural England and Havant Borough Council, but could be one of the following, subject to their willingness to fulfil the require remit and agreement on the costs that should be paid for providing this service:

Havant Borough Council's Ecologist;

The RSPB;

The Hampshire and Isle of Wight Wildlife Trust;

The Ecologist of the Chichester Harbour Conservancy; or

Another reputable ecological consultant with membership of the Chartered Institute of Ecology and Environmental Management (CIEEM) that binds them to the Institute's Code of Conduct, enforceable through the Institute's disciplinary procedures.

9.11 The Ecologist will be granted rights of access to the new Bird Refuge area by the Bird Refuge Manager, for the specific purpose of being able to discharge their monitoring duties. A reasonable notice period (for health and safety purposes) will be agreed for this purpose.

The Bird Refuge Manager

9.12 The freehold ownership of the land that will become the new Bird Refuge (for avoidance of doubt comprising both parts of Gauntlett's Field and Plantation Field – Field Numbers H60D, H60F and H60E on **Maps 5 and 6**) will continue to be held by the existing landowner of Northney Farm who will also undertake the role of 'Bird Refuge Manager' as it is outlined in this document. The Bird Refuge Manager will be responsible for providing the cattle needed to graze the land as per the prescriptions of this document.

LPA or Responsible Body for Providing Oversight

9.13 Havant Borough Council will have oversight of the implementation and ongoing delivery of the management plan. Havant Borough Council will be provided with copies of the monitoring reports and any revised management plans to enable them to fulfil this function, and will be empowered by the provisions of the Section 106 Agreement for the Campdown development to take enforcement action should there be any default on management responsibilities.

Legal Agreement and Security / 'Step In' Procedures

9.14 As mentioned above, the delivery of this habitat management and monitoring plan will be secured via the Section 106 Agreement for the Campdown development.

9.15 The Section 106 Agreement will specify how the sum for ongoing management will be held and distributed, and provide 'step in rights' for Havant Borough Council, in the event that management is not being implemented in accordance with the requirements of this document.

9.16 Broadly, the 'step in rights' will enable Havant Borough Council to appeal to a pre-identified and appropriately qualified independent third-party arbitrator if they believe that the required management of the new Bird Refuge is not being implemented as required, and where any such defects or shortfalls have not been rectified or made good by the Bird Refuge Manager within such reasonable notice period as the Section 106 Agreement may prescribe. Should the independent arbitrator agree with the Council that the management responsibilities have indeed not been discharged, then the provisions of the Section 106 Agreement will permit the Council to take control of the funding mechanism for the Bird Reserve, and enter onto the land to make good the management plan requirements (or commission agents to do so on their behalf).

9.17 Variations on the above arrangements may be agreed between the signatories to the Section 106 Agreement and Havant Borough Council as appropriate, provided that the Council is content that adequate security has been provided.

10. NUTRIENT NEUTRALITY

Introduction

10.1 Nutrient Nitrogen from foul water discharges and land use changes has the potential, if not mitigated or offset, to lead to an adverse effect on the internationally designated sites of the Hampshire Solent, in particular; the Solent Maritime SAC, the Solent and Southampton Water SPA and Ramsar Site, the Portsmouth Harbour SPA and Ramsar, the Chichester and Langstone Harbour SPA and Ramsar sites, the Solent and Dorset Coast SPA and the Solent and Isle of Wight Lagoons SAC.

10.2 Natural England has therefore advised that any projects for new residential development within one of the fluvial catchments discharging into the Solent demonstrate that it is 'nutrient neutral' by calculating the nutrient budget using their nutrient budget calculator, and then quantifying any nutrient offsetting proposed through the same methodology, to demonstrate that there will be no net increase in nutrient Nitrogen pollution reaching the Solent.

10.3 Natural England's guidance and most recent nutrient budget calculator (Version dated 28 February 2024) has been used to calculate the maximum nutrient budget associated with the proposals for residential development at Campdown, which has been calculated to be up to **755.71 kg TN/yr** without taking into account the benefits of any on-site SuDS. This calculation and completed budget calculator spreadsheet can be found at **Appendix 5.**

10.4 Natural England's nutrient budget calculator recognises that the conversion of arable land or dairy farming land (both associated with high nutrient Nitrogen loss) to 'lowland grazing' (which has a lower nutrient Nitrogen loss) with beef cattle, as is proposed in this document, results in a net decrease in nutrient Nitrogen pollution.

10.5 The conversion of fields H60D and H60F from cereal to lowland grazing is expected to result in the removal of **420.45 kg TN/year**, which addresses part but not all of the nutrient budget for the development at Campdown.

10.6 Natural England's nutrient budget calculator indicates that this is sufficient to offset the nutrient Nitrogen pollution resulting from the entire land use change element of the Campdown proposals, and the foul water from up to 218 new homes.

10.7 The above means that **up to 218 new homes** can be occupied (the point at which wastewater discharges begin) following the implementation of the mitigation proposals in fields H60D and H60F.

10.8 Following the above, the conversion of field H60E from dairy farming into lowland grazing will follow no later than winter 2025/26 as stated above. Once this occurs, an additional **375.40 Kg TN/year** of nutrient Nitrogen offsetting will be available, which is sufficient to offset the maximum predicted nutrient Nitrogen budget of the Campdown proposals (even without any benefit from SuDS being factored in), with some surplus.

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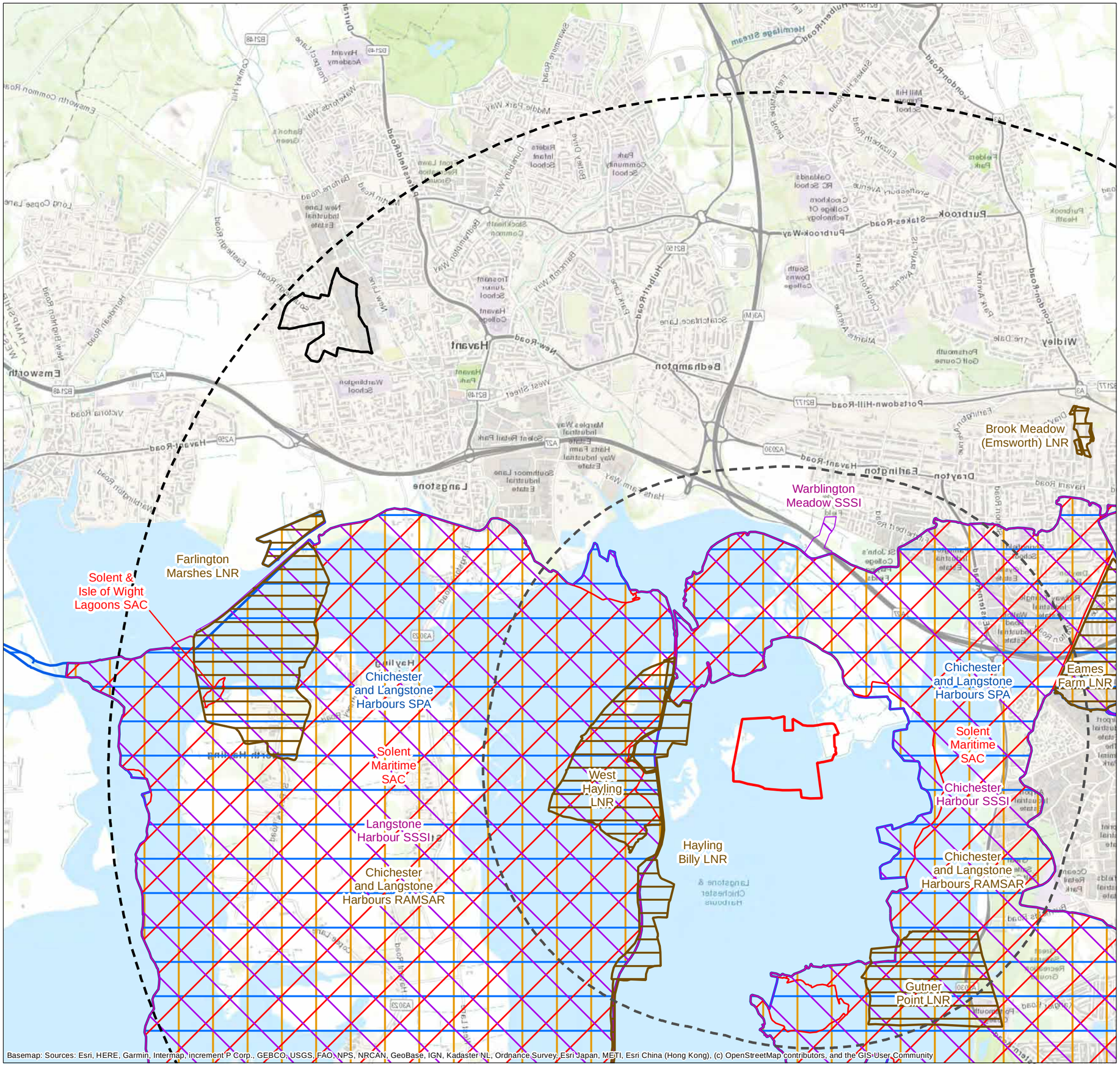

Basemap: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

MAP 1 Site Location and Statutory Designated Sites

KEY

- Northney
- Campdown site
- 2km linear distance from Northney
- 5km linear distance from Northney
- Special Protection Areas (SPA)
- Special Areas of Conservation (SAC)
- Sites of Special Scientific Interest (SSSI)
- Ramsar
- Local Nature Reserves (LNR)

SCALE: 1:30,000 at A3

0 500 1,000 1,500 2,000 Metres

CLIENT: Dandara Southern Ltd

PROJECT: Roman Fields and Northney

DATE: 12 June 2024

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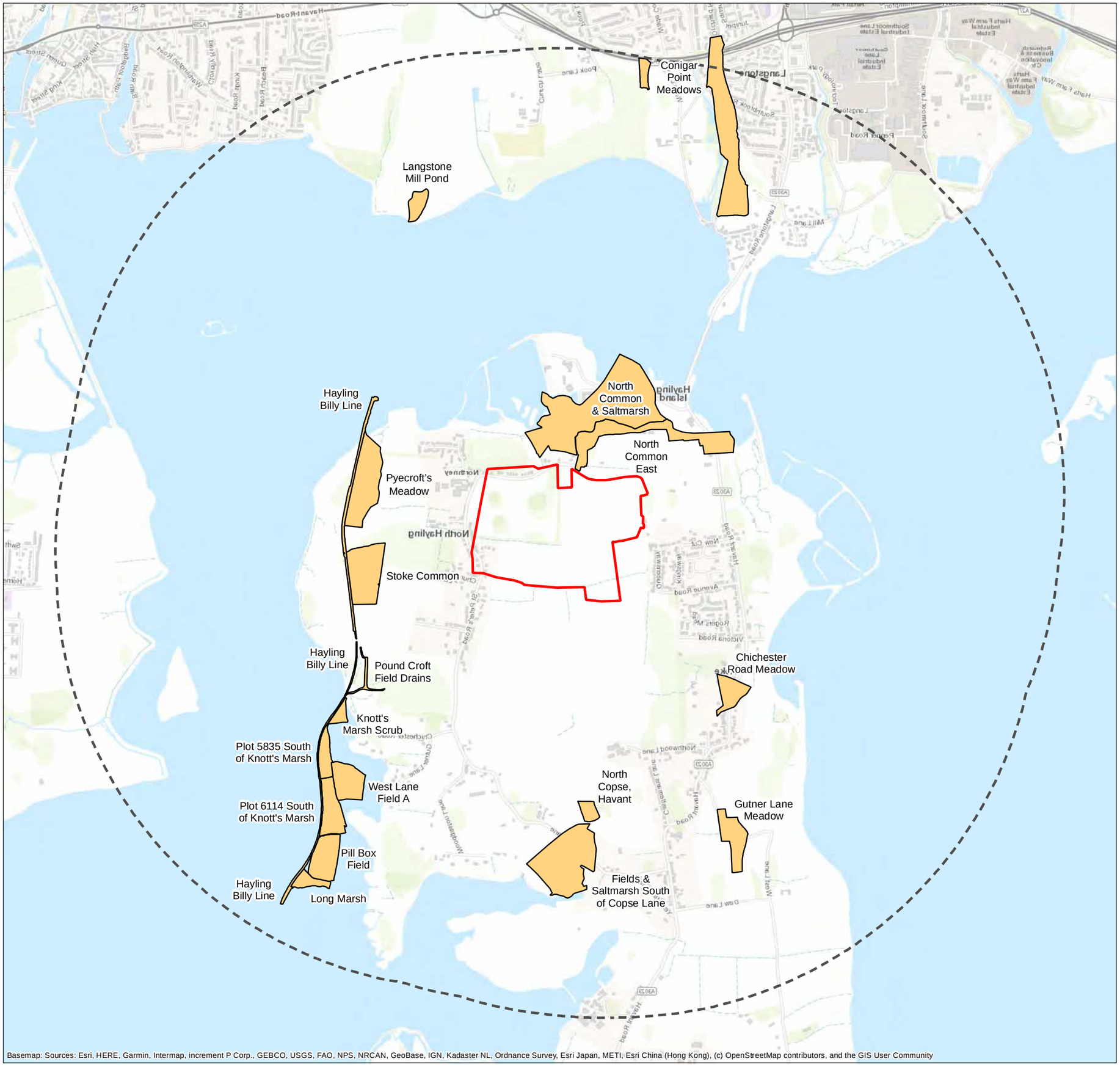

MAP 2 Non-Statutory Designated Sites

KEY

- Northney
- 2km linear distance from Northney
- Sites of Importance for Nature Conservation (SINCs)

SCALE: 1:18,000 at A3

0 250 500 750 1,000 Metres

CLIENT: Dandara Southern Ltd

PROJECT: Roman Fields and Northney

DATE: 12 June 2024

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SINCs: Hampshire Biodiversity Information Centre (HBIC)

MAP 3a Solent Waders and Brent Goose Strategy Areas at Campdown

KEY

Campdown site

Labels indicate field name & SWBGS land categorisation

SCALE: 1:3,750 at A3

0 50 100 150 200 Metres

CLIENT: Dandara Southern Ltd

PROJECT: Roman Fields and Northney

DATE: 26 April 2024

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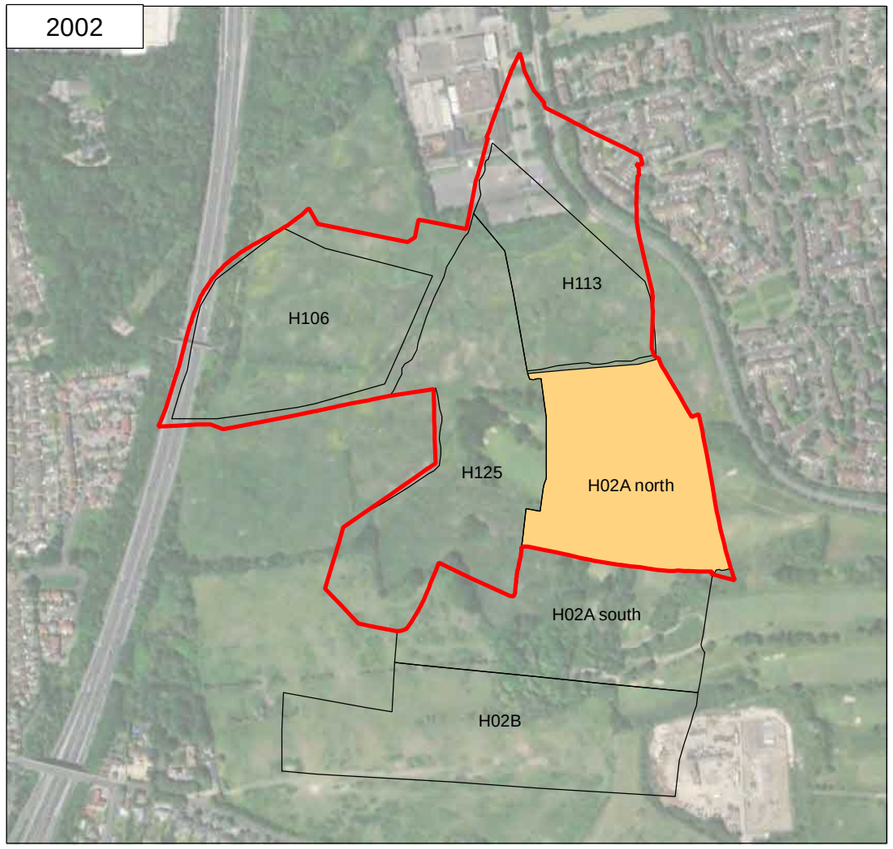
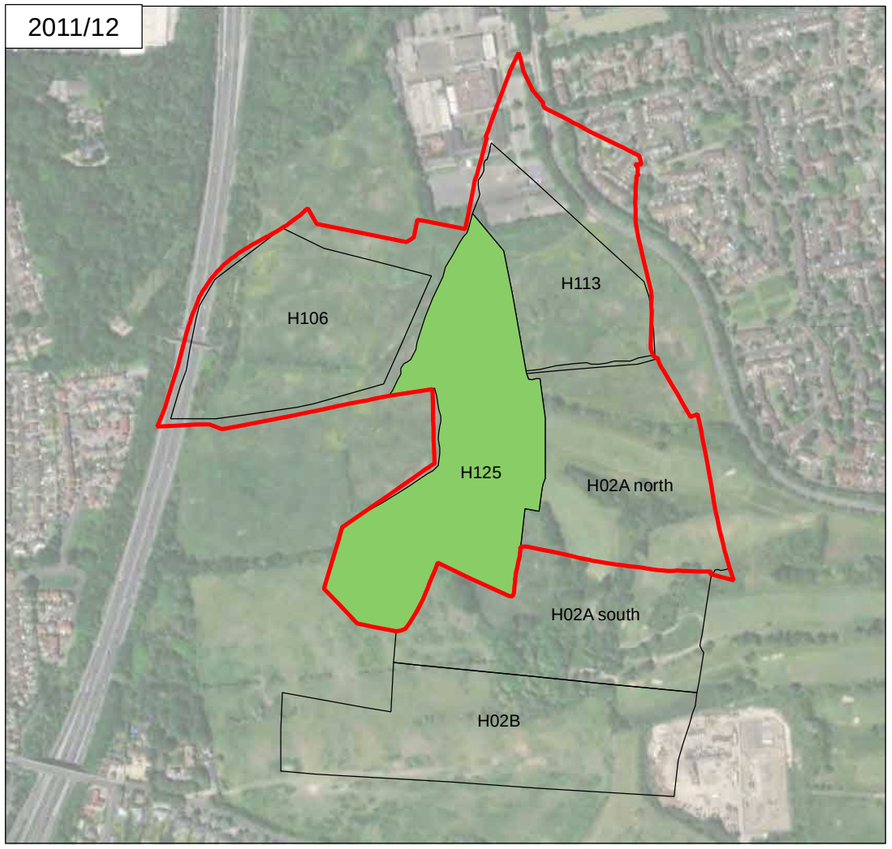
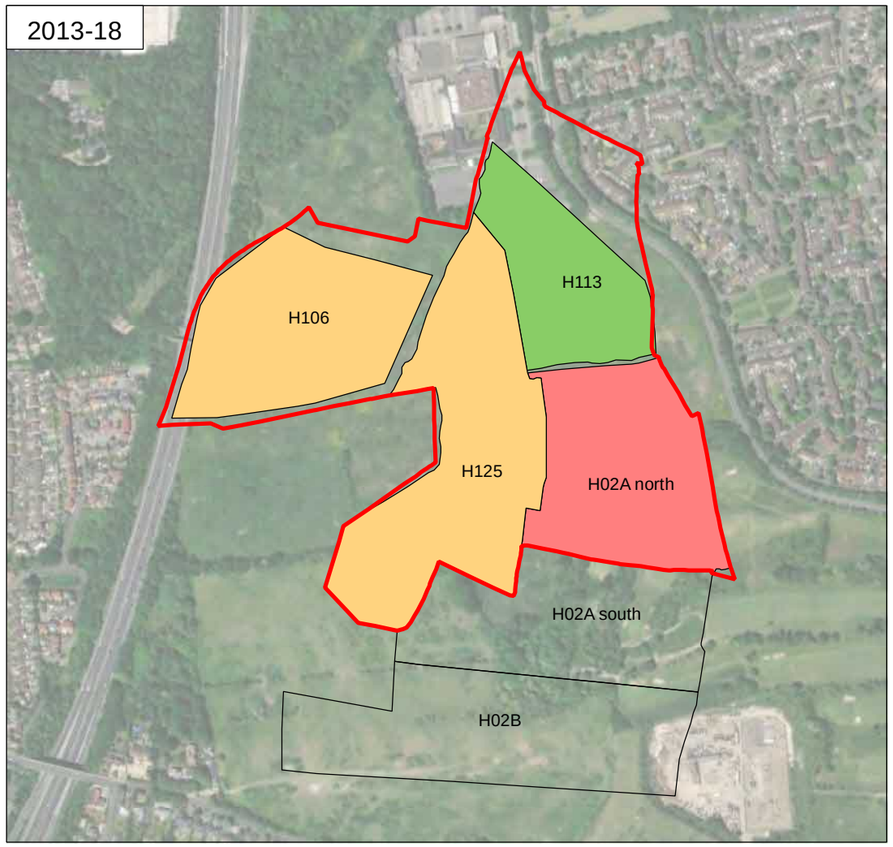
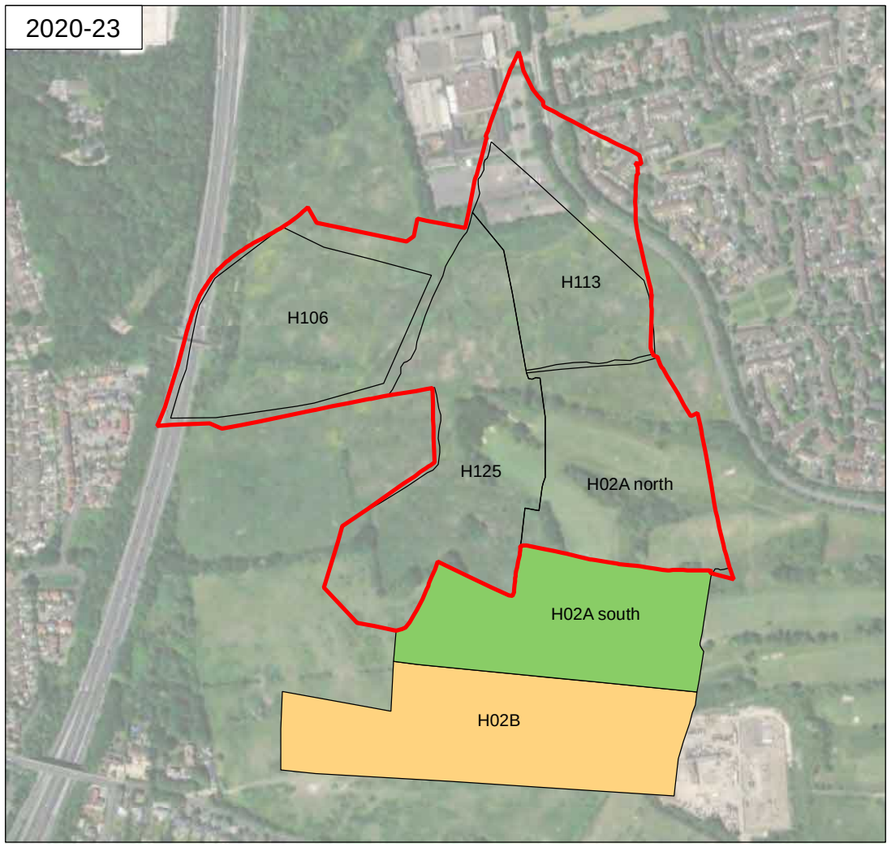
P23/76

Basemap: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community









MAP 3b Peak counts of Curlew in SWBGS Areas at Campdown

KEY

Campdown site

Peak counts

0-50

51-100

101-150

2002, 2011/2012 & 2013-18:
Data from SWBGS supplied by HBIC

2020-23:
Data from winter bird survey by Wild New Forest

SCALE: 1:8,000 at A3

0 100 200 300 400 500 Metres

CLIENT: Dandara Southern Ltd

PROJECT: Roman Fields and Northney

DATE: 12 June 2024

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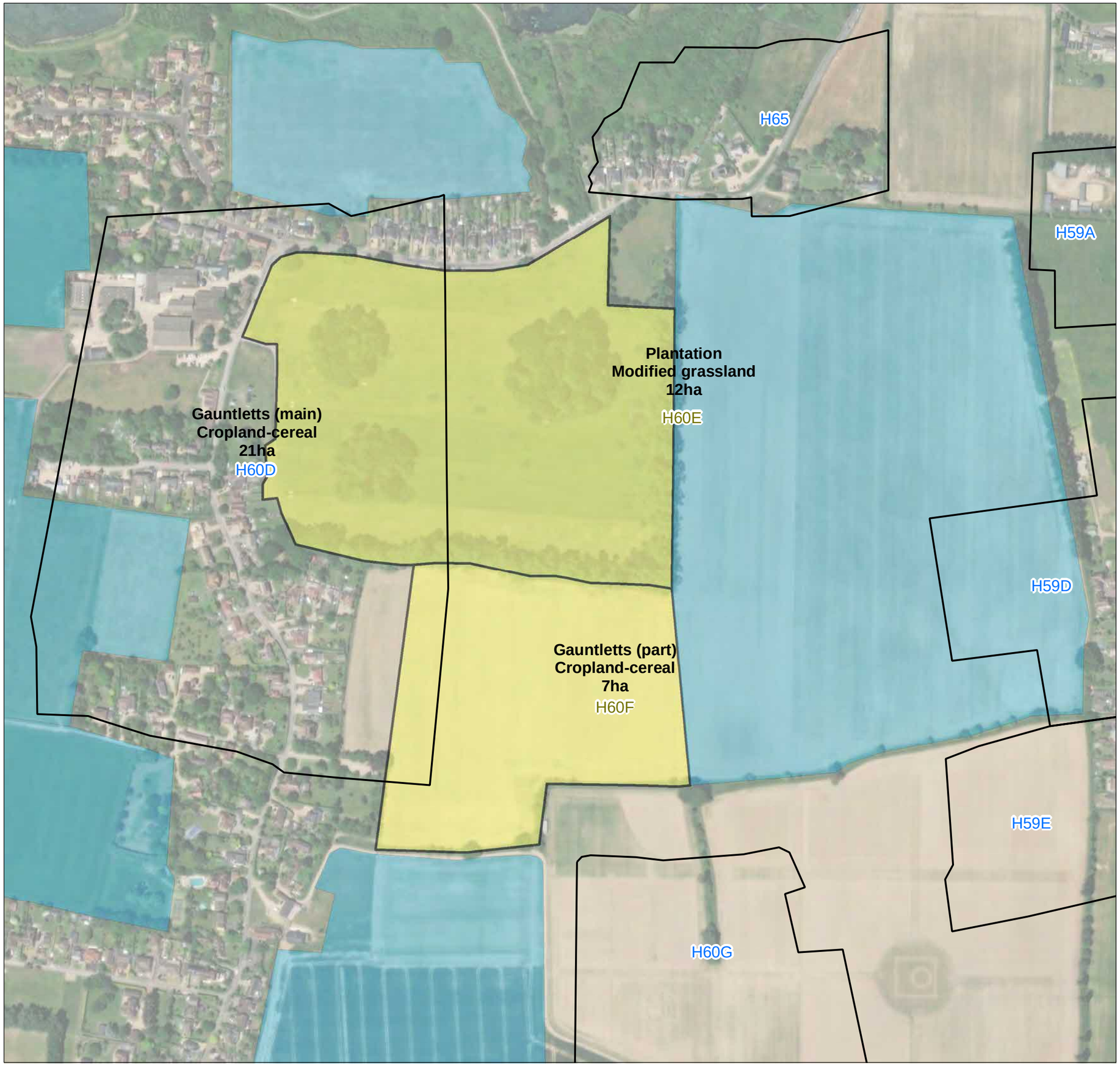
P23/76

Basemap: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



MAP 4 Existing Habitats and Features

KEY

Solent Wader and Brent Goose Strategy areas

Core Areas

Candidate Areas

SCALE: 1:3,750 at A3

0 50 100 150 200 Metres

CLIENT: Dandara Southern Ltd

PROJECT: Roman Fields and Northney

DATE: 12 June 2024

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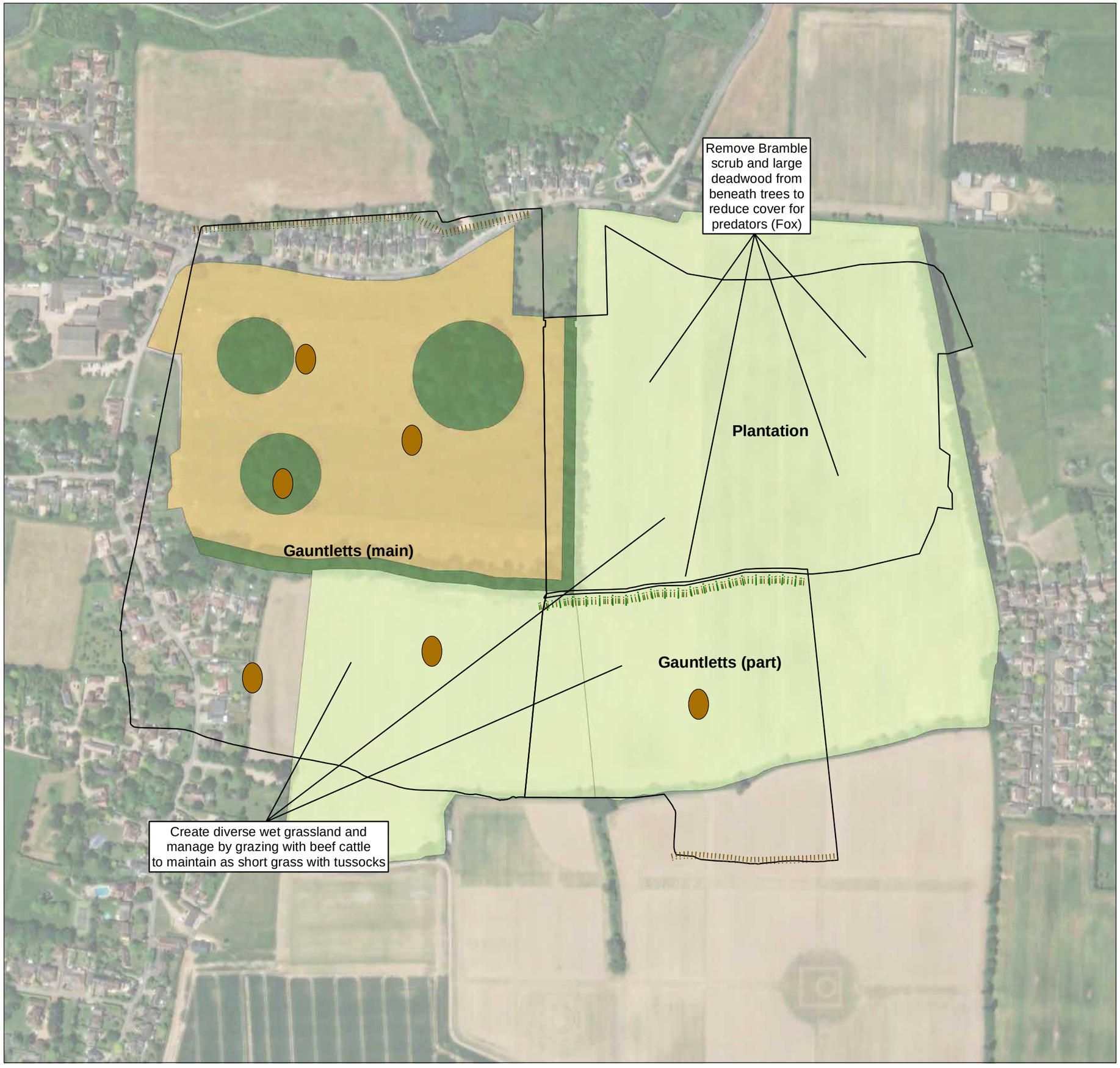
P23/76

Basemap: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



MAP 5 Proposed Habitats and Features

KEY

- New instant hedgerow to screen PRoW
- New hedgerows
- Modified grassland
- Other neutral grassland
- Other woodland: broadleaved
- Scrapes

SCALE: 1:3,750 at A3

0 50 100 150 200 Metres

CLIENT: Dandara Southern Ltd

PROJECT: Roman Fields and Northney

DATE: 07 January 2025

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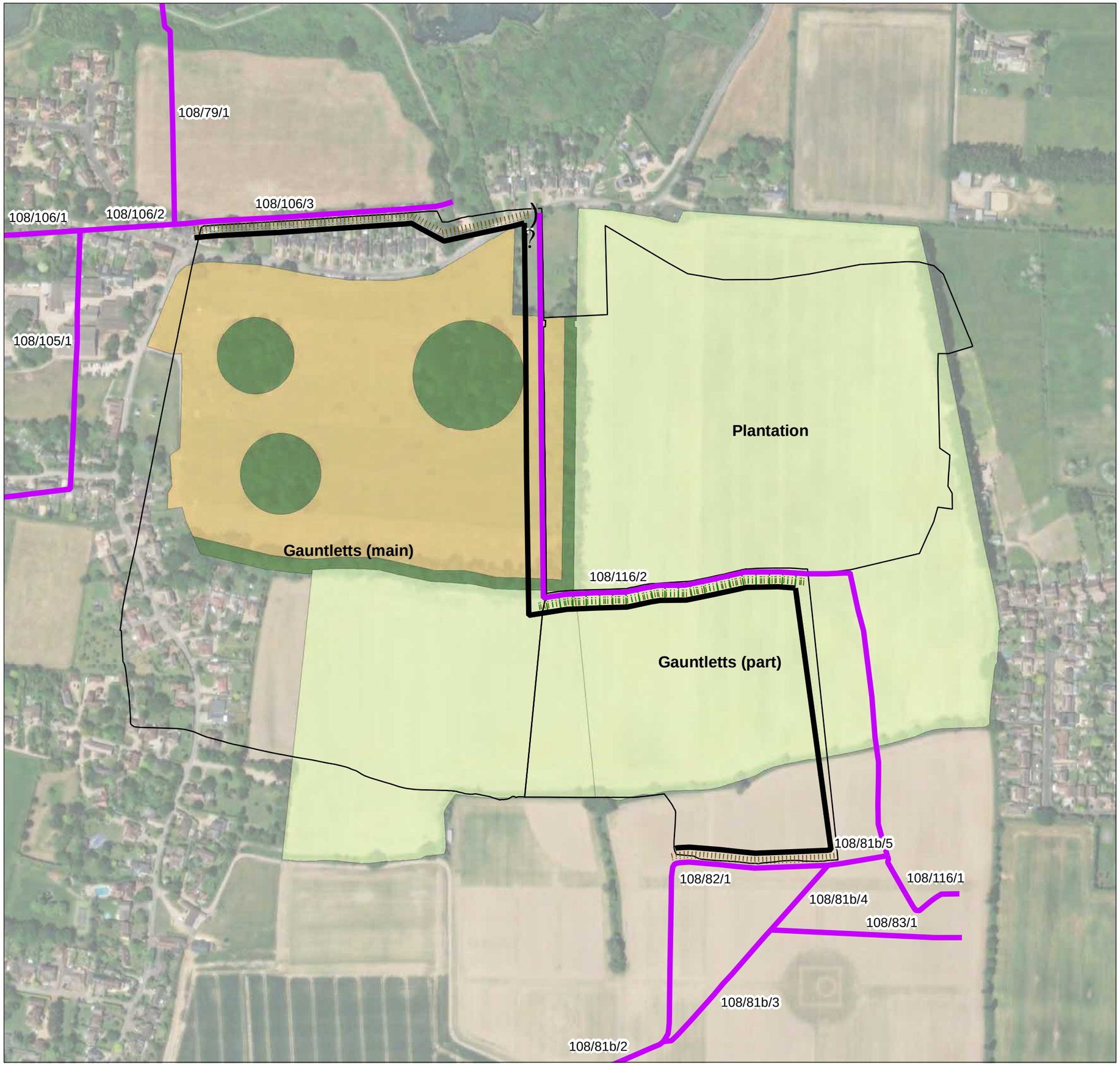
P23/76

Basemap: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



MAP 6 Access Treatment

KEY

- Access gate
- Interpretation board
- Dog proof fence
- Public rights of way (PRoW)
- New instant hedgerow to screen PRoW
- New hedgerows
- Modified grassland
- Other neutral grassland
- Other woodland: broadleaved

SCALE: 1:3,750 at A3

0 50 100 150 200 Metres

CLIENT: Dandara Southern Ltd

PROJECT: Roman Fields and Northney

DATE: 07 January 2025

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P23/76

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Appendix 1

Natural England DAS Letters and Meeting Minutes

Date: 07 August 2024
Our ref: 476688
Your ref: Campdown SWBGS Northney Mitigation Strategy

Ben Kite
Ecological Planning & Research Ltd

BY EMAIL ONLY

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

0300 060 3900

Dear Ben,

Discretionary Advice Service (Charged Advice) DAS A013354
Development proposal and location: Land east of College Road (Campdown), Purbrook, Waterlooville.

Thank you for your consultation on the above dated 21 May 2024, which was received on the same date.

This advice is being provided as part of Natural England's Discretionary Advice Service. Ecology Planning & Research Ltd has asked Natural England to provide advice upon:

The Habitat Management and Monitoring Plan for Northney Wetland Bird Reserve
The nutrient neutrality assessment for the Northney Wetland Bird Reserve

This advice is provided in accordance with the Quotation and Agreement dated 14th June 2024.

The following advice is based upon the information within:

1. Northney Wetland Bird Mitigation Habitat Management and Monitoring Plan June 2024
2. Appendix 2 SWBGS Network Positive Raw Data edited
3. Appendix 4 Northney Funding Requirements 140624
4. Map 1 Statutory Designations
5. Map2 Non-Statutory Designated Sites
6. Map 3a Campdown SWBGS sites
7. Map 3B Campdown Curlew Counts
8. Map 4 Northney Farm Existing Habitat Features
9. Map 5 Northney Farm Proposed Habitat Features
10. Map 6 Northney Farm Proposed Access Treatment
11. Northney Gauntletts nutrients Current and Proposed land use calculator 140624
12. Northney Plantation nutrients Current and Proposed land use calculator 140624

Natural England's Advice:

Wetland Bird Mitigation Habitat Management and Monitoring Plan

In accordance with The Conservation of Habitats and Species Regulations 2017 (as amended), when the Competent Authority decides whether or not future plans/projects can be mitigated by this potential scheme, they will have to have ecological, legal and financial certainty that the mitigation will succeed in perpetuity. Natural England are primarily responsible for advising on ecological certainty, but we also seek to make Competent Authorities and applicants aware of the importance

of financial and legal certainty, as relevant to The Habitats Regulations.

Ecologically, Natural England agree that the habitat management and monitoring plan (HMMP) is a high quality detailed management plan, which if implemented and secured correctly, should provide a replacement for the functional loss of Primary Support Area H02A and Secondary Support Areas H106, H113 and H125. The management plan contains comprehensive details of habitat management, habitat enhancement, site monitoring and access management.

With regard to the site's ability to support Curlew, it contains good evidence to demonstrate the site's suitability to provide functional linkage for the Solent Wader and Brent Goose Network. The past records of curlew; the location above sea level and next to a known area supporting high numbers of Curlew at Northney Farm; together with evidence papers on increasing earthworm density all provide positive support that with the proposed habitat and access management that site (comprising H60D, H60E and H60F) will be ecologically functional for Curlew and Brent Geese.

Recognising the importance of primary sites, the mitigation is being provided with a 11.97 ha increase on the expected habitat loss. This helps to ensure any decision making is suitably precautionary, and in Natural England's expert opinion, this is an appropriate quantum of mitigation land. The HMMP could be strengthened by providing additional dog proof fencing along the H60E side of the Public Right of Way. During discussions we had raised the possibility of the footpath being moved to around the periphery of the site, however we acknowledge that this will be difficult and investigations have suggested this will not be feasible or practicable at this site.

With regard to financial security, a costing of ongoing maintenance and management have been provided, the funding mechanism has not yet been finalised with two options being considered. We would advise that this should be finalised and the Local Planning Authority (LPA) will need to be provided with relevant financial details for them to have confidence the scheme will be funded in perpetuity.

With regard to legal security there are a number of potential issues here which we would advise discussing with the competent authority as early as possible.

Firstly, the ownership of the reserve is to be retained by the landowner, the strategy proposes for the monitoring to be carried out by an independent third party ecologist annually with procedures and escalation routes up to local authority step-in-rights in order to ensure the management outcomes are complied with. It is proposed for the mitigation to be secured through section 106 agreement. The LPA will need to be satisfied that this approach provides certainty that the site will be managed appropriately in perpetuity. Step-in-rights agreed in writing with the LPA would provide increased legal certainty.

Secondly, the phased approach to delivering the mitigation on H60E, which will be used for dairy grazing for a period of 2 years before transitioning to the same low density beef cattle grazing as H60D and H60F. The competent authority will need to be satisfied that the overall mitigation strategy outlined for the development will be effective and deliverable in perpetuity. It will be important to consider the appropriateness of a phased approach and how it can be appropriately secured and enforced. Natural England have no comments to make on this aspect.

Nutrient Neutrality Assessment

We would re-iterate the importance of the text above regarding the need for financial, legal and ecological certainty. Natural England agree that in principle the bird mitigation site can also serve as a nutrient mitigation site, offsetting part of the proposed Campdown development. In principle, we are not opposed to the use of 'private delivery bodies' to deliver nutrient mitigation.

With respect to the ecological certainty, at this stage Natural England are content that if the land use can be secured and appropriately managed in-perpetuity, the proposed scheme would permanently change the 'nitrogen load' from the land. Section 10 of the Management Plan sets out the conversion of the existing cereals agricultural use to low density beef cattle grazing results in a

reduction of 420.45 Kg/TN/year, it is intended for this to offset 218 homes in the Campdown development.

We agree that the total nutrient credits have been calculated in accordance with the Natural England methodology and that the use of the 'lowland grazing' figure for the future land use in the calculation is appropriate.

Our advice to the application and the Competent Authorities is that, for this plan to act as suitable in perpetuity mitigation for the Campdown development it must:

> Be certain to succeed following the general article 6/*Waddenzee* (C127-02) principles and the 'dutch nitrogen' (C-293/17 and C-294/17) cases.
> Demonstrate that the funding for the ongoing management is secured and sustainable.
> Ensure the sale of land does not impinge upon the delivery of the agreed management principles (i.e. no N inputs/agricultural activities)
> Be subject to a strict monitoring programme which ensures the legal agreement is adhered to and that the site maintains its function as mitigation in perpetuity.

The detail for the delivery of the nutrient mitigation is set out in Section 10 of the Wintering Bird Mitigation and Management Plan, at this stage we would advise that more detail is required on how the nutrient levels will be managed at the mitigation site (e.g. how nutrient enrichment would be avoided). The management prescriptions set out in the HMMP are sensible, but it is not clear how this will be legally secured. Likewise, the monitoring programme for SWBGs is really strong, but there is not detail on monitoring in relation to nutrient levels. It is assumed that the monitoring and delivery of the bird reserve would effectively also be a monitoring of the nutrient mitigation, but this should be specified in the documentation.

This advice is provided on the basis that all mitigation measures will be secured as planning conditions or obligations by Havant Borough Council to ensure their strict and timely implementation for the full duration of the development and that these conditions/obligations meet NE's relevant mitigation principles and advice on combining environmental payments.

☒ The advice provided in this letter has been through Natural England's Quality Assurance process

The advice provided within the Discretionary Advice Service is the professional advice of the Natural England adviser named below. It is the best advice that can be given based on the information provided so far. Its quality and detail is dependent upon the quality and depth of the information which has been provided. It does not constitute a statutory response or decision, which will be made by Natural England acting corporately in its role as statutory consultee to the competent authority after an application has been submitted. The advice given is therefore not binding in any way and is provided without prejudice to the consideration of any statutory consultation response or decision which may be made by Natural England in due course. The final judgement on any proposals by Natural England is reserved until an application is made and will be made on the information then available, including any modifications to the proposal made after receipt of discretionary advice. All pre-application advice is subject to review and revision in the light of changes in relevant considerations, including changes in relation to the facts, scientific knowledge/evidence, policy, guidance or law. Natural England will not accept any liability for the accuracy, adequacy or completeness of, nor will any express or implied warranty be given for, the advice. This exclusion does not extend to any fraudulent misrepresentation made by or on behalf of Natural England.

Yours sincerely,

Rachael Clemson
Sustainable Development – Higher Officer
Thames Solent Team

Cc commercialservices@naturalengland.org.u

Annex 1
European Protected Species

A licence is required in order to carry out any works that involve certain activities such as capturing the animals, disturbance, or damaging or destroying their resting or breeding places. Note that damage or destruction of a breeding site or resting place is an absolute offence and unless the offences can be avoided (e.g. by timing the works appropriately), it should be licensed. In the first instance it is for the developer to decide whether a species licence will be needed. The developer may need to engage specialist advice in making this decision. A licence may be needed to carry out mitigation work as well as for impacts directly connected with a development. Further information can be found in Natural England's 'How to get a licence' publication.

If the application requires planning permission, it is for the local planning authority to consider whether the permission would offend against Article 12(1) of the Habitats Directive, and if so, whether the application would be likely to receive a licence. This should be based on the advice Natural England provides at formal consultation on the likely impacts on favourable conservation status and Natural England's guidance on how the three tests (no alternative solutions, imperative reasons of overriding public interest and maintenance of favourable conservation status) are applied when considering licence applications.

Natural England's pre-submission Screening Service can screen application drafts prior to formal submission, whether or not the relevant planning permission is already in place. Screening will help applicants by making an assessment of whether the draft application is likely to meet licensing requirements, and, if necessary, provide specific guidance on how to address any shortfalls. The advice should help developers and ecological consultants to better manage the risks or costs they may face in having to wait until the formal submission stage after planning permission is secured, or in responding to requests for further information following an initial formal application.

The service will be available for new applications, resubmissions or modifications – depending on customer requirements. More information can be found on Natural England's website.

Campdown and Northney

Record of Teams Meeting Held 18/03/24

1. INTRODUCTION

1.1 This note summarises the discussion held via MS Teams between Natural England (NE), Ecological Planning & Research Ltd (EPR) and Dandara Southern Ltd, starting at 10am on Monday 18 March 2024.

1.2 Attendees:

Rachael Clemson (RC)	NE
Mary Bell (MB)	NE
Ben Kite (BK)	EPR
Rob Souter (RS)	EPR
Alex Laney (AL)	Dandara
Nicola Jane-Bascombe	Dandara

2. RECORD OF MEETING

2.1 Following introductions BK gave an overview of the revised mitigation proposals for the loss of functionally linked land at the development at Campdown. Reference was made to the Briefing Note for Natural England that was produced by EPR and sent to NE on Thursday 14 March that should therefore be read in conjunction with this meeting record, and for the sake of brevity the content of that Briefing Note is not therefore repeated here.

2.2 BK explained that the previously submitted mitigation proposals to the east of Northney Farm had been 'parked', and a search had taken place for land that could provide replacement supporting habitat that was not subject to the same or similar complex constraints and limitations.

2.3 BK explained that the newly revised mitigation proposals centred around the provision (and securing 'in perpetuity') of newly enhanced supporting high-tide habitat in the fields referenced as H60D, H60E and H60F in the SWBGS. In summary this includes:

Conversion of H60D and H60F from arable to grass pasture grazed at a low intensity with beef cattle, with public rights of way fenced off and screened, and wet scrapes installed for Curlew.

Removal of the understorey/bramble scrub in H60E to remove predator cover, with the eventual transition of this field from being grazed by a dairy herd to being grazed by a smaller beef herd.

2.4 BK invited comments/feedback on the proposal.

2.5 RC and MB indicated that the revised proposals were generally more positive than the previously submitted scheme and that they didn't think there were any major blockers. Notwithstanding this, MB indicated that NE would need to see the detail on the following main considerations:

How the proposals would cater specifically to Curlew in terms of providing adequately enhanced/increased soil fauna (earthworms) to provide the required uplift in foraging habitat value for Curlew; and

How potential recreational disturbance would be addressed.

2.6 In respect of recreational pressure, MB acknowledged that the Briefing Note for NE had already addressed this point to some extent. RC queried however whether it might be possible to divert the existing footpath so that it went around the periphery of the new mitigation field complex, rather than through the centre. BK stated that he thought this would be difficult, but EPR and Dandara would take this away to explore.

2.7 RC indicated support for the suggestion of involving an independent third party in future monitoring, and also requested that NE be given the opportunity to 'sign off' the provision of the new habitat prior to development commencement via a Discretionary Advice Service (DAS) site 0visit. BK indicated that there shouldn't be a problem with this.

2.8 MB indicated concern that the Briefing Note suggested that the replacement supporting habitat would only be in place by the first winter after development had taken place, and queried what would happen if there were any failures of delivery. The tight timescales may reduce certainty that mitigation will function prior to loss of habitat at the development site. BK clarified that the Briefing Note for NE had meant to explain that habitat creation would actually need to start at the latest in the Spring <u>prior to</u> the first winter in which it was needed by the birds – this is because it would take one full growing season for the grassland sward to develop. BK explained that development commencement could therefore be prevented from occurring until <u>after</u> the capital works had been completed and that this would occur one growing season prior to the first winter after development. BK also explained that the development at Campdown would not occur all at once, so if the above approach was progressed, the whole replacement habitat site would be ready for the first winter it was needed, but only part of the habitat on site at Campdown would have been lost. MB indicated contentment with this explanation although ultimately it will be up to the LPA as competent authority to be satisfied that any potential uncertainty has been addressed.

2.9 MB requested that the submitted habitat creation and management plan for the replacement habitat site include all of the above detail, and also be fully costed in terms of the measures envisaged. MB also indicated the desirability of having additional survey data for the proposed

replacement habitat fields to further inform the argument that these areas could replace the ecological function of the development site.– BK and RS explained that some survey data was already available for these fields from the period 2002 to 2023 from work undertaken to inform the SWBGS, and this could be supplemented by ongoing monitoring, but that it would not be possible to undertake overwintering surveys before the Campdown application was determined as the winter survey period was now ending.

2.10 Whilst recognising that replacement of ecological function is key, MB asked for the submitted documents to contain some objective explanation of how the newly provided replacement habitat area compared with the area of lost habitat, so that a loss to replacement habitat ratio could be understood. BK explained that this would be done, but it would be difficult to be wholly accurate because the birds were only using discrete parts of the fields in question (not the whole areas) and their numbers had decreased markedly from historical counts undertaken for the SWBGS, which did not contain details of which parts of the fields had been used in previous years. Any information provided therefore would have to combine past SWBGS bird counts with more recent survey data for fewer birds, to infer the likely loss of habitat area and compare this to the newly provided/enhanced areas.

2.11 MB sought re-confirmation that Havant Borough Council's Ecologist has reviewed the proposals. BK confirmed that whilst he had not seen the Briefing Note for NE specifically (as this had only been produced recently to inform the NE meeting), he had been talked through the revised mitigation proposals which were the same as that presented to NE in terms of material/substantive aspects, and had indicated a positive view.

2.12 RC asked for permission to circulate the Briefing Note for NE to the Solent Wader and Brent GooseStrategy Steering Group, and BK/AL confirmed that this was fine. They may wish to provide comments on these mitigation proposals.

2.13 Overall, in terms of SPA birds (Curlew and Brent Goose) MB and RC confirmed that the proposals were positive in principle, subject to seeing the fine detail, and whether any comments that the SWBGS steering group may wish to raise are addressed.

2.14 BK raised the point that the proposed change in farming operation from arable and dairy farming to lowland grazing (beef cattle) would generate a net reduction in Nitrogen pollution to the Solent based on the farming and land use types recognised in NE's Nutrient Budget Calculator for the Solent. BK explained that whilst it was usually considered difficult to reliably secure and enforce a particular type of farming operation to achieve nutrient neutrality, in this case it was already proposed that the ongoing management of the land in question be monitored by an independent third party (e.g. a conservation charity) as part of a publicly visible bird mitigation scheme, which would provide the transparency and security needed for both SPA bird mitigation requirements and nutrient neutrality that farming operations would not lapse back into unfavourable regimes. BK also explained that this would support the landowners aspiration to move the remainder of the farm into more environmentally friendly (i.e. lower Nitrogen loss) form of farming in what is a key farm immediately adjacent to the SPA. RC and MB agreed to take this query away and provide further guidance in due course on whether the circumstances of this proposal meant that this would be acceptable.

2.15 RC and MB indicated that they understood that NE feedback on the revised mitigation strategy 'in principle' was ideally required before the end of March due to the planning application extension deadline approaching, and agreed to circulate the Briefing Note for NE to the Solent

Wader and Brent Goose Strategy Steering Group and endeavour to provide a written response before this time.

Document Prepared By: Ben Kite BSc (Hons) MSc CEcol MCIEEM PIEMA
Document Dated: 22 March 2024

Date: 28 March 2024
Our ref: DAS/A013354

Ben Kite
EPR Ltd

BY EMAIL ONLY

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

0300 060 3900

Dear Ben

Discretionary Advice Service (Charged Advice)
Development proposal and location: Land east of College Road, Campdown

This advice is being provided as part of Natural England's Discretionary Advice Service. Ecological Planning & Research Ltd has asked Natural England to provide advice upon:

The mitigation strategy for Solent Wader & Brent Goose Strategy (SWBGS) sites
Potential options to generate nutrient credits

This advice is provided in accordance with the Quotation and Agreement dated 12th March 2024.

The following advice is based upon the information within:

Roman Fields and Northney NE briefing note, 14.03.24

SWBGS mitigation strategy

The proposed mitigation measures presented are to secure SWBGS sites H60D, H60E and H60F as bird refuge offsite on Hayling Island in order to offset the loss of H02A, H106, H125, and H113 to the development proposals.

I am supportive of the proposals in principle however this is with the caveat that significant further detailed assessment is required to show the proposed bird refuge will satisfy the criteria for loss of a Primary site as set out in the SWBGS mitigation guidance. Campdown is one of the most important sites identified within the SWBGS for curlew and regularly supports in excess of 100 curlew as well as brent geese.

I recommend that robust evidence is provided to support whether the proposed offsetting site can replicate and enhance the ecological function of the existing site. This should include creating appropriate foraging conditions at the offsetting site and monitoring to evidence whether the offsetting site is used by curlew and whether it fulfils the same function. The sites to be lost are particularly important for curlew, that have particular ecological requirements which are different to those of brent geese and this should be kept in mind when assessing the suitability of the proposed bird refuge.

<u>Ecological Function:</u>
Any proposed offsetting site must support habitats, or be suitable for recreating habitats that provide the same, or enhanced, ecological function as those that are to be lost or damaged. The habitat

type at the development site attracts high numbers of curlew. This is likely to be due to a number of reasons, one of which is likely to be good quality soil fauna. I recommend that further information is provided on how any offsetting site can replicate and enhance this function. Records of existing use by curlew, including bird movement data would be helpful to evidence the suitability of the sites.

Size:
Although the key measure of suitability of mitigation sites will be based on ecological function (as above), it is noted that the overall package of offsetting sites is larger than the sites to be lost which is positive. I recommend an estimate of the functional area to be lost and the functional area of the proposed bird refuge should be provided to clarify this and help strengthen any argument for the suitability of the mitigation proposals.

Disturbance:
Disturbance is another key issue – the ecological function of an offsetting site is likely to be seriously undermined if subject to regular disturbance from recreational use and unmanaged public access. One of the attractions of the Campdown site to curlew is likely to be linked to low levels of disturbance.

I have concerns that fencing alone would not be able to create the same secure and favourable environment with low disturbance levels that is being lost at Campdown. Therefore robust evidence should be provided on details how the footpath will be screened and fenced and how this might impact on sight lines and ultimately the functional area of any mitigation land. This could include exploration of whether the footpath that crosses the mitigation site could be redirected to the periphery of the fields, as this could potentially increase the functional area of the site as a whole. Possibly some hedgerows could be removed or reduced to increase sight lines (subject to their replacement where these are important wildlife corridors). Examples of where fencing and screening measures have been successfully deployed for curlew elsewhere may also help to evidence this suitability of these proposals.

Management & monitoring
A fully costed management and monitoring plan should be provided along with details of who will manage the land. It is our preference that bird refuges are transferred ownership to suitable third party organisations to manage as a nature reserve. As it has been indicated that the land owner will retain ownership and continue to use the land for low density grazing of beef cattle, it is crucial that discussions are had with Havant Borough Council about how they will secure and enforce the management and they will need to consider step in rights, should these ever be required.

I also advised during the call that Natural England would require a site visit to inspect the completed reserve, I would advise this is organised jointly with other relevant parties such as Havant Borough Council's ecologist.

Timing
In order to meet the requirements of the Habitats Regulations the mitigation must be demonstrated to be operational at the time it is required. Essentially, 'in time' to offset the adverse effects which are being addressed, with evidence to show it is functioning and readily available to SPA birds prior to any loss or damage to the original site.

Nutrients
The question was asked whether the bird refuge could additionally be suitable for offsetting the nutrient budget for the development proposals. This would be through land use change from the current arable farming to low density beef grazing, applying the lowland grazing rate as the future land use in the nutrient calculation.

Any mitigation proposal must meet the basic tests of certainty of delivery, enforceability and the need for securing the adopted measures for perpetuity to ensure it is effective mitigation. In this case, it may present challenges for the Local Planning Authority to secure and monitor the nutrient input rates, particularly as the site would also be required to be managed suitably for birds (and additionality would need to be demonstrated).

Credits are usually generated where there is a cessation of agricultural practices, for example if the bird refuge be turned into a nature reserve. The risks associated with nutrient mitigation schemes remaining in private ownership are outlined in Annex 1.

Senior adviser to QA letter and check box below

☐ The advice provided in this letter has been through Natural England's Quality Assurance process

The advice provided within the Discretionary Advice Service is the professional advice of the Natural England adviser named below. It is the best advice that can be given based on the information provided so far. Its quality and detail is dependent upon the quality and depth of the information which has been provided. It does not constitute a statutory response or decision, which will be made by Natural England acting corporately in its role as statutory consultee to the competent authority after an application has been submitted. The advice given is therefore not binding in any way and is provided without prejudice to the consideration of any statutory consultation response or decision which may be made by Natural England in due course. The final judgement on any proposals by Natural England is reserved until an application is made and will be made on the information then available, including any modifications to the proposal made after receipt of discretionary advice. All pre-application advice is subject to review and revision in the light of changes in relevant considerations, including changes in relation to the facts, scientific knowledge/evidence, policy, guidance or law. Natural England will not accept any liability for the accuracy, adequacy or completeness of, nor will any express or implied warranty be given for, the advice. This exclusion does not extend to any fraudulent misrepresentation made by or on behalf of Natural England.

Yours sincerely
Rachael Clemson
Sustainable Development Lead Adviser
Thames Solent Area Team

Cc commercialservices@naturalengland.org.uk

Annex 1 – Non-Woodland Nutrient Mitigation Schemes Remaining in Private Ownership

It is important that the competent authority is satisfied beyond reasonable scientific doubt that the any proposed mitigation strategy will be effective for the lifetime of future development, generally 80-125 years or for the duration over which the development is causing the effects. This should include assurance that positive management of the site will be delivered and monitored over this period.

There are several risks in ensuring the long-term effectiveness of mitigation land in private ownership, including:

- Risk of deliberate reversion to commercial agricultural uses, e.g. ploughing of land,
- reseeding, hay or silage making, livestock (e.g. sheep or horse paddocks), or allotments – all
- of which would increase the nitrogen loading
- Risk of any inadvertent mismanagement that increases nitrogen loading
- Increased risks associated with any future change in land ownership
- When considering mitigation proposals and how the above risks might be addressed, we
- advise competent authorities that they consider the following:
- How the land will be managed and monitored so that the required nutrient offsetting rate is
- maintained in perpetuity.
- Provisions for any necessary enforcement. Step-in rights may be required for the local
- authority to take over management and make any corrective changes to the management of
- the land.
- How will the mitigation be funded in perpetuity? Any residents' service charges will require
- robust legal financial arrangements in place that will guarantee the provision of sufficient
- funds to ensure the full delivery of the agreed management plan for the mitigation period,
- and to avoid any problems with claiming monies or shortfalls in payments etc.
-

Funding to cover legal step-in rights for the local authority may be required where the management plan should fail.

Measures to address the above considerations will need to be appropriately secured and the funded in perpetuity.

Annex 2
European Protected Species

A licence is required in order to carry out any works that involve certain activities such as capturing the animals, disturbance, or damaging or destroying their resting or breeding places. Note that damage or destruction of a breeding site or resting place is an absolute offence and unless the offences can be avoided (e.g. by timing the works appropriately), it should be licensed. In the first instance it is for the developer to decide whether a species licence will be needed. The developer may need to engage specialist advice in making this decision. A licence may be needed to carry out mitigation work as well as for impacts directly connected with a development. Further information can be found in Natural England's 'How to get a licence' publication.

If the application requires planning permission, it is for the local planning authority to consider whether the permission would offend against Article 12(1) of the Habitats Directive, and if so, whether the application would be likely to receive a licence. This should be based on the advice Natural England provides at formal consultation on the likely impacts on favourable conservation status and Natural England's guidance on how the three tests (no alternative solutions, imperative reasons of overriding public interest and maintenance of favourable conservation status) are applied when considering licence applications.

Natural England's pre-submission Screening Service can screen application drafts prior to formal submission, whether or not the relevant planning permission is already in place. Screening will help applicants by making an assessment of whether the draft application is likely to meet licensing requirements, and, if necessary, provide specific guidance on how to address any shortfalls. The advice should help developers and ecological consultants to better manage the risks or costs they may face in having to wait until the formal submission stage after planning permission is secured, or in responding to requests for further information following an initial formal application.

The service will be available for new applications, resubmissions or modifications – depending on customer requirements. More information can be found on Natural England's website.

Appendix 2

SPA Bird Data for Campdown and Northney

Bird Counts in SWBGS Areas (Campdown and Northney Farm) - data from HBIC (and WNF where indicated)

Curlew	Pre-2002	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Campdown																		
H02A	91							1 (1)	4-50 (11) f	18-50 (5) f	5-55 (9) f	9-133 (11)	1-54 (5) f			0-5 (6) f		2 (8) f
[H02A south and H02B]																	56 (8) f	42 (8) f
H106												2-80 (3)	45 (1) f					
H113												40-45 (2) f	4 (1) f					
H125							50 (1) f			50 (1) r			1-57 (10) f					
Northney																		
H60D	42		17 (1) f								31 (1) r							
H60E	50																	
H60F	0																	

Brent Geese	Pre-2002	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Campdown																		
H02A	120							180	43	40	200	100						
[H02A south and H02B]							20											14
H106												60						
H113												22						
H125							56			300								
Northney																		
H60D	529	320									2000							
H60E	100										300							
H60F	1000										1500							

Waders	Pre-2002	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Campdown																		
H02A	20 L.											8 L.	6 L.					
[H02A south and H02B]																		9 L.
H106																		
H113												1 SN	12 L.					
H125										50 L.								1 SN
Northney																		
H60D	300 L. / 200 GP			2 L. / 18 GP								75 L.						
H60E																		
H60F																		

Key	
f	Feeding
r	Roosting
(x)	No. of dates
X-X	Range of counts in period
X	Peak count in period
L.	Lapwing
GP	Golden Plover
SN	Snipe
2020-21	Data from WNF 2021 bird reports for Campdown and Northney
2021-22	Data from WNF 2022 bird reports for Campdown and Northney
2022-23	Data from WNF 2023 bird reports for Campdown and Northney

Appendix 3

Site Photos

Photo 1: View of one stand of trees in H60E where understorey is open (i.e. no deadwood piles or Bramble scrub present). Propose repeating in other stands.

Photo 2: View of another stand of trees in H60E where understorey contains deadwood piles and Bramble. Propose to clear this out to reduce cover for predators and open the view through.

Photo 3: View northwest across northern part of H60D toward house on road from junction of 3 areas in middle of site.

Photo 4: View southeast across H60F. Route of footpath in grass margin evident.

Photo 5: View north from central junction. Footpath evident. Southern end of established hedgerow with tree line along the boundary between H60D and H60E shown here.

Photo 6: View east along boundary treeline with scrub and water-filled ditch between H60E and H60F.

Appendix 4

Management and Monitoring Costs

Short-term Management Works	Unit	Cost per unit	Quantity	Annual cost	Years required	Total
New hedgerow planting aftercare	days	£ 350.00	5	£ 1,750.00	4	£ 7,000.00
Allowance for replacement planting	budget	£ 1,200.00	2	£ 2,400.00	2	£ 4,800.00
Contingency (10%)	n/a	n/a	n/a	n/a	n/a	£ 1,180.00
OHP (20%)	n/a	n/a	n/a	n/a	n/a	£ 2,360.00
Total				£ 4,150.00		£ 15,340.00

Long-term Management Works	Unit	Cost per unit	Quantity	Annual cost
Site inspection	days	£ 350.00	2	£ 700.00
Spot repairs & site maintenance	days	£ 350.00	4	£ 1,400.00
Grazing with beef cattle	days (for 50 LU)	£ 50.00	150	£ 7,500.00
Grass cutting / weed topping	ha	£ 50.00	40	£ 2,000.00
Rotational scrub, woodland and hedgerow management	days	£ 350.00	2	£ 700.00
Wetland vegetation management in scrapes	days	£ 350.00	2	£ 700.00
Administation & contracts supervision	days	£ 350.00	2	£ 700.00
Ecological Monitoring (average days per annum)	days	£ 600.00	8	£ 4,800.00
Contingency (10%)	n/a	n/a	n/a	£ 1,445.00
OHP (20%)	n/a	n/a	n/a	£ 2,740.00
Total				£ 22,685.00

Capital Replacement & Periodic Works	Unit	Cost per unit	Quantity	Cost	Life (years)
Interpretative sign	no.	£ 500.00	1	£ 500.00	10
Waymarker	no.	£ 120.00	4	£ 480.00	10
Kissing gate	no.	£ 600.00	2	£ 1,200.00	10
Field gate	no	£ 500.00	1	£ 500.00	25
Drinking water trough	no	£ 250.00	2	£ 500.00	20
Post and wire fence (machine) - post, stock net and 2 barbs	m	£ 10.90	2560	£ 27,904.00	10

Funding Requirement		
Number of years		80
Rate of Return		3.5%
Cumulative NPV Factor for Annual Maintenance		26.75
NPV for Long-term Management	£	606,795.98
NPV for Capital Replacement	£	87,890.31
Short-term Management Costs	£	15,340.00
Total Management Funding Requirement	£	710,026.29

Capital Replacement by 5 yr increments	Year 0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	Total
	£ 500.00		£ 500.00		£ 500.00		£ 500.00		£ 500.00		£ 500.00		£ 500.00		£ 500.00		£ 500.00	£ 4,500.00
	£ 480.00		£ 480.00		£ 480.00		£ 480.00		£ 480.00		£ 480.00		£ 480.00		£ 480.00		£ 480.00	£ 4,320.00
	£ 1,200.00		£ 1,200.00		£ 1,200.00		£ 1,200.00		£ 1,200.00		£ 1,200.00		£ 1,200.00		£ 1,200.00		£ 1,200.00	£ 10,800.00
	£ 500.00					£ 500.00					£ 500.00					£ 500.00		£ 2,000.00
	£ 500.00																	
	£ 27,904.00		£ 27,904.00		£ 27,904.00		£ 27,904.00		£ 27,904.00		£ 27,904.00		£ 27,904.00		£ 27,904.00		£ 27,904.00	£ 251,136.00
Subtotal	£ 31,084.00	£ -	£ 30,084.00	£ -	£ 30,084.00	£ 500.00	£ 30,084.00		£ 30,084.00	£ -	£ 30,584.00		£ 30,084.00		£ 30,084.00	£ 500.00	£ 30,084.00	
Preliminaries & OHP @ 20%	6,216.80	-	6,016.80	-	6,016.80	100.00	6,016.80	-	6,016.80	-	6,116.80	-	6,016.80	-	6,016.80	100.00	6,016.80	
Contingency @10%	2,331.30	-	2,256.30	-	2,256.30	37.50	2,256.30	-	2,256.30	-	2,293.80	-	2,256.30	-	2,256.30	37.50	2,256.30	
Total capital costs	£ 39,632.10	£ -	£ 38,357.10	£ -	£ 38,357.10	£ 637.50	£ 38,357.10	£ -	£ 38,357.10	£ -	£ 38,994.60	£ -	£ 38,357.10	£ -	£ 38,357.10	£ 637.50	£ 38,357.10	£ 348,401.40
NPV Rate		0.842	0.709	0.597	0.503	0.423	0.356	0.300	0.253	0.213	0.179	0.151	0.127	0.107	0.090	0.076	0.064	
Net Present Value		£ -	£ 27,192.07	£ -	£ 19,276.97	£ 269.76	£ 13,665.81	£ -	£ 9,687.95	£ -	£ 6,982.11	£ -	£ 4,868.83	£ -	£ 3,451.61	£ 48.30	£ 2,446.91	

Appendix 5

Completed Natural England Nutrient Neutrality Calculator

Nutrients from current land use

This sheet contains 2 tables. The tables are separated by a heading, which describes the following table.
Note: You will need to fill in cells B5 to B8 in the first table 'Current land use information'. You will need to fill in cells A11 to A27, and B11 to B27 in the second table 'Current land uses'. Cells B28 and C11 to C28 are automatically calculated and will state '0.00' unless the user inputs have been entered. Cells D11 to D27 are automatically generated and will state 'Not applicable' depending on automatically generated data in cells C11 to C27. Row 28 is a Total Row. The Total Row states 'Totals:' in cell A28 and automatically calculates the total sum of cells B11 to B27 in cell B28 and C11 to C27 in cell C28. Cell D28 is intentionally blank.
How to fill in the table 'Current land use information'
Cell B5: Choose the operational catchment the site is located within from the dropdown list.
Cell B6: Choose the soil drainage type associated with the predominant soil type within the development site from the dropdown list.
Cell B7: Choose the annual average rainfall the development will receive from the dropdown list. If the rainfall volume is not on the list, select the nearest value.
Cell B8: Choose whether the development is in a nitrate vulnerable zone (NVZ) from the dropdown list.
How to fill in the table 'Current land uses'
Cell A11-A27: Choose the existing (pre-development) land use type(s) from the dropdown list.
Cells B11-B27: Enter the area in hectares of each land use type.
The nutrient load from current land uses is shown in cells C11-C27 for total nitrogen (TN).
The total nutrient load from current land uses is shown in cell C28 for TN.

Current land use information

Description of required information	Data entry column - user inputs required
Operational catchment:	East Hampshire Rivers
Soil drainage type:	Freely draining
Annual average rainfall (mm):	750.1 - 800
Within nitrate vulnerable zone (NVZ):	Yes

Current land uses

Existing land use type(s) - user inputs required	Area (ha) - user inputs required	Annual nitrogen nutrient export (kg TN/yr)	Notes on data
Cereals	20.87	**582.21**	Not applicable
Cereals	6.99	**195.00**	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
Totals:	**27.86**	**777.20**	

Nutrients from current land use

This sheet contains 2 tables. The tables are separated by a heading, which describes the following table.
Note: You will need to fill in cells B5 to B8 in the first table 'Current land use information'. You will need to fill in cells A11 to A27, and B11 to B27 in the second table 'Current land uses'. Cells B28 and C11 to C28 are automatically calculated and will state '0.00' unless the user inputs have been entered. Cells D11 to D27 are automatically generated and will state 'Not applicable' depending on automatically generated data in cells C11 to C27. Row 28 is a Total Row. The Total Row states 'Totals:' in cell A28 and automatically calculates the total sum of cells B11 to B27 in cell B28 and C11 to C27 in cell C28. Cell D28 is intentionally blank.
How to fill in the table 'Current land use information'
Cell B5: Choose the operational catchment the site is located within from the dropdown list.
Cell B6: Choose the soil drainage type associated with the predominant soil type within the development site from the dropdown list.
Cell B7: Choose the annual average rainfall the development will receive from the dropdown list. If the rainfall volume is not on the list, select the nearest value.
Cell B8: Choose whether the development is in a nitrate vulnerable zone (NVZ) from the dropdown list.
How to fill in the table 'Current land uses'
Cell A11-A27: Choose the existing (pre-development) land use type(s) from the dropdown list.
Cells B11-B27: Enter the area in hectares of each land use type.
The nutrient load from current land uses is shown in cells C11-C27 for total nitrogen (TN).
The total nutrient load from current land uses is shown in cell C28 for TN.

Current land use information

Description of required information	Data entry column - user inputs required
Operational catchment:	East Hampshire Rivers
Soil drainage type:	Freely draining
Annual average rainfall (mm):	750.1 - 800
Within nitrate vulnerable zone (NVZ):	Yes

Current land uses

Existing land use type(s) - user inputs required	Area (ha) - user inputs required	Annual nitrogen nutrient export (kg TN/yr)	Notes on data
Lowland	20.87	**267.25**	Not applicable
Lowland	6.99	**89.51**	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
Totals:	**27.86**	**356.75**	

Nutrients from current land use

This sheet contains 2 tables. The tables are separated by a heading, which describes the following table.
Note: You will need to fill in cells B5 to B8 in the first table 'Current land use information'. You will need to fill in cells A11 to A27, and B11 to B27 in the second table 'Current land uses'. Cells B28 and C11 to C28 are automatically calculated and will state '0.00' unless the user inputs have been entered. Cells D11 to D27 are automatically generated and will state 'Not applicable' depending on automatically generated data in cells C11 to C27. Row 28 is a Total Row. The Total Row states 'Totals:' in cell A28 and automatically calculates the total sum of cells B11 to B27 in cell B28 and C11 to C27 in cell C28. Cell D28 is intentionally blank.
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How to fill in the table 'Current land uses'
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The nutrient load from current land uses is shown in cells C11-C27 for total nitrogen (TN).
The total nutrient load from current land uses is shown in cell C28 for TN.

Current land use information

Description of required information	Data entry column - user inputs required
Operational catchment:	East Hampshire Rivers
Soil drainage type:	Freely draining
Annual average rainfall (mm):	750.1 - 800
Within nitrate vulnerable zone (NVZ):	Yes

Current land uses

Existing land use type(s) - user inputs required	Area (ha) - user inputs required	Annual nitrogen nutrient export (kg TN/yr)	Notes on data
		0.00	Not applicable
		0.00	Not applicable
Dairy	12.23	**532.01**	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
Totals:	**12.23**	**532.01**	

Nutrients from current land use

This sheet contains 2 tables. The tables are separated by a heading, which describes the following table.
Note: You will need to fill in cells B5 to B8 in the first table 'Current land use information'. You will need to fill in cells A11 to A27, and B11 to B27 in the second table 'Current land uses'. Cells B28 and C11 to C28 are automatically calculated and will state '0.00' unless the user inputs have been entered. Cells D11 to D27 are automatically generated and will state 'Not applicable' depending on automatically generated data in cells C11 to C27. Row 28 is a Total Row. The Total Row states 'Totals:' in cell A28 and automatically calculates the total sum of cells B11 to B27 in cell B28 and C11 to C27 in cell C28. Cell D28 is intentionally blank.
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Cell B8: Choose whether the development is in a nitrate vulnerable zone (NVZ) from the dropdown list.
How to fill in the table 'Current land uses'
Cell A11-A27: Choose the existing (pre-development) land use type(s) from the dropdown list.
Cells B11-B27: Enter the area in hectares of each land use type.
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The total nutrient load from current land uses is shown in cell C28 for TN.

Current land use information

Description of required information	Data entry column - user inputs required
Operational catchment:	East Hampshire Rivers
Soil drainage type:	Freely draining
Annual average rainfall (mm):	750.1 - 800
Within nitrate vulnerable zone (NVZ):	Yes

Current land uses

Existing land use type(s) - user inputs required	Area (ha) - user inputs required	Annual nitrogen nutrient export (kg TN/yr)	Notes on data
		0.00	Not applicable
		0.00	Not applicable
Lowland	12.23	**156.61**	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
Totals:	**12.23**	**156.61**	