



Wiltshire Housing Site Allocations Plan

Pre-submission
draft plan

Habitat Regulations assessment (HRA)

June 2017

Wiltshire Housing Site Allocations Plan
Pre-Submission Draft
Assessment under the Habitats Regulations

June 2017

Wiltshire Council

Contents

Non-Technical Summary.....	4
Introduction	7
Purpose of the Assessment.....	7
The Plan	7
Structure of the Document	8
Methodology.....	9
Legislative Background	9
Guidance	9
Plan Level Assessment Process	11
Screening Assessment.....	11
Appropriate Assessment.....	21
Settlement Level Screening Assessment (Stage 3).....	25
Likely Significant Effects.....	25
Recreational Pressure	25
Visual Disturbance	28
Habitat Loss / Deterioration.....	28
Phosphate	31
Water Abstraction	32
Nitrogen Deposition.....	34
Policy Level Screening Assessment (Stage 6).....	36
Likely Significant Effects.....	36
Recreational Pressure	36
Visual Disturbance	37
Habitat Loss / Deterioration.....	37
Phosphate	38
Water Abstraction	39
Nitrogen Deposition.....	40
Policy Level Screening Matrix (Table 10)	41
Appropriate Assessment.....	43
Salisbury Plain SPA – Recreational Pressure	43
Information Used in Making the Assessment	43

Effects Alone.....	44
In-combination Effects.....	45
Mitigation Measures.....	46
Conclusions on Integrity Test	46
Recommendations – Salisbury Plain SPA Recreational Pressure	47
River Avon SAC - Phosphate.....	47
Information Used in Making the Assessment	47
Effects Alone.....	53
In-combination Effects.....	54
Mitigation Measures.....	58
Recommendations – River Avon SAC Phosphate	61
River Avon SAC - Abstraction	61
Information Used in Making the Assessment	61
Effects Alone.....	64
In-combination Effects.....	65
Mitigation Measures.....	66
Conclusions on Integrity Test	66
Bath and Bradford on Avon Bats SAC - Habitat Loss / Deterioration	67
Information Used in Making the Assessment	67
Effects Alone.....	69
In-combination Effects.....	70
Mitigation Measures.....	71
Conclusions on Integrity Test	73
Bath and Bradford on Avon Bats SAC – Recreational Pressure.....	77
Information Used in Making the Assessment	77
Effects Alone.....	80
In-combination Effects.....	83
Mitigation Measures.....	84
Conclusions on Integrity Test	90
Conclusions of Appropriate Assessment	91
Appendix 1 – Outputs from the Settlement Level Screening Assessment (Stage 3).....	93
Appendix 2 – Policies Considered in the Policy Level Screening Assessment and Appropriate Assessment	113

Non-Technical Summary

A Habitats Regulations Assessment (HRA) of the Wiltshire Housing Site Allocations DPD has been carried out by Wiltshire Council in accordance with the provisions of Regulation 61 and 102 of the Habitats Regulations. The HRA has been carried out iteratively alongside the development of the plan itself. The plan comprised three main stages:

1. Settlement level screening assessment; this was carried out at Stage 3 of the site selection process in order to inform the sustainability appraisal. This was carried out at a settlement level, rather than individual sites to identify locations where HRA issues were likely to be a significant constraint to growth.
2. Policy Level Screening Assessment: this was carried out at Stages 4 and 6 of the site selection process. Individual policies were screened for likely significant effects alone and in-combination in order to establish the scope of the appropriate assessment. The application of established mitigation measures was also considered at this stage.
3. Appropriate Assessment: this was carried out at Stages 4 and 6 of the site selection process. The effects of the plan as a whole on the integrity of relevant individual Natura 2000 sites (alone and in-combination) was considered and the need for any additional / updated mitigation measures such as policy caveats and mitigation strategies.

The HRA identified the following likely significant effects of the plan that were subject to appropriate assessment.

Salisbury Plain SPA – Recreational Pressure

Allocations at Warminster, Market Lavington, Bratton, Ludgershall and Durrington lie within the visitor catchment of the SPA and will all contribute to increased recreational pressure on Salisbury Plain SPA, particularly when considered in combination with other planned growth and projects such as the Army Basing Programme (ABP). The Council has an existing Salisbury Plain Mitigation Strategy which deals with this issue and was agreed with Natural England in 2012. New evidence indicates that recreational pressure from projected growth up to 2026 would be higher than was originally expected in 2012. However it is considered that the general approach to mitigation remains effective and that the existing strategy can accommodate any potential uplift in growth during the plan period. As such it can be concluded that the plan would not have an adverse effect on the integrity of the SPA. It is nonetheless recommended that the Salisbury Plain Mitigation Strategy be updated in light of new evidence and changes to projected growth in the visitor catchment of the SPA.

River Avon SAC - Phosphate

Certain stretches of the River Avon SAC¹ are particularly sensitive to increasing levels of phosphate as a result of both diffuse sources e.g. agriculture, and point sources e.g. sewage treatment plants (STWs). As a consequence several stretches of the SAC are in unfavourable condition and the river is currently failing its conservation targets. Development has the potential to exacerbate this situation and the Council, Natural England and the Environment Agency, have therefore jointly produced a

¹ Please note this relates to the Hampshire Avon catchment in the south of the county, rather than the Bristol Avon catchment in the north of the county

Nutrient Management Plan (NMP), in order to demonstrate how levels of growth proposed by the Core Strategy can be delivered without compromising the conservation targets in the long term.

Modelling undertaken to support this housing allocations document demonstrates that housing delivery has exceeded growth anticipated in the NMP and this is further increased by the proposed allocations at Warminster, Salisbury and Durrington. Further refinement of the model is required in order to identify the implications for the NMP targets in specific stretches of the river but the Lower Avon sub-catchment is anticipated to be particularly vulnerable due to its position at the bottom of the catchment. Mitigations options are available and the Council is working with Natural England and the Environment Agency to develop these as part of an Annex to the NMP. Development will be required to be in accordance with this document which will be finalised before further allocations are approved. It can therefore be concluded that the plan will not compromise the delivery of the NMP targets and that it will not have an adverse effect on the integrity of the SAC through increasing phosphate inputs subject to the effective implementation of the NMP.

River Avon SAC - Abstraction

Certain stretches of the River Avon SAC catchment are particularly sensitive to increasing levels of abstraction. Effects of allocations at Durrington could be significant, particularly when considered in combination with the effects of the Army Basing Programme. It is understood that a review of military and public water abstractions in this area is due to be carried out by the end of 2019, and that abstraction limits are likely to be tightened as a result. If this occurs, it is unlikely Wessex Water would be unable to supply the proposed development as an infrastructure solution would probably be implemented during the period 2021-25². It may therefore be concluded that the plan would not have an adverse effect on the integrity of the SAC through increased water abstraction. However it is recommended that the potential need for infrastructure improvements should be recognised in the supporting text to policies H3.5, H3.6 and H3.7.

Bath and Bradford on Avon Bats SAC - Habitat Loss / Deterioration

Several of the allocations at Trowbridge are within areas likely to be used by bat species which are features of this SAC. The allocations are likely to contain habitat features used by these species and development could lead to their deterioration through physical loss as well as lack of or inappropriate habitat management and higher ambient light levels. These effects become more significant when the effects of the plan are considered as a whole due to the potential for significant loss and deterioration at a landscape scale. It is recommended that the need to protect important habitat features is expressly stated in the relevant policies (H2.1, H2.2, H2.4, H2.5, and H2.6). The Council will also need to develop and implement a Trowbridge Recreation Management Mitigation Strategy before development comes forward to address the residual uncertainty, particularly due to effects of growth at a landscape scale. It may be concluded that the plan would not have an adverse effect on the integrity of the SAC through habitat loss / deterioration, subject to the implementation of these mitigation measures.

Bath and Bradford on Avon Bats SAC – Recreational Pressure

² Most likely to involve an extension to Wessex Water's integrated grid to import water from Amesbury implemented as part of AMP7

Recent evidence has shown that housing expansion on the eastern edge of Trowbridge is generating increased visitor pressure at ancient woodlands which support an important colony of Bechstein's bats associated with the SAC. Further allocations at the town could exacerbate this, particularly when considered in combination with planned growth such as the Ashton Park Urban Extension. The options closest to the woodlands, and therefore most likely to contribute to the number of visits, have been removed from the plan and the Council is currently preparing a Trowbridge Recreation Management Mitigation Strategy to address any residual effects in relation to this issue. It is therefore concluded that the plan would not have an adverse effect upon the SAC through increased recreational pressure, subject to the implementation of that mitigation strategy.

Introduction

Purpose of the Assessment

As the Local Planning Authority for Wiltshire, the Council is also a competent authority with legal responsibility to undertake Habitats Regulations Assessments (HRA) of any plans or projects which it intends to adopt or consent which may impact on the Natura 2000 network of sites.

The following assessment has been made by the Council in order to fulfil its statutory obligations under the Habitats Regulations and demonstrate that the Wiltshire Housing Site Allocations Plan would not have an adverse effect on the integrity of the Natura 2000 network either alone, or in combination with other plans and projects. This assessment has been made on the basis of the best available scientific knowledge at the time of writing.

Although it is of primary importance that the Council itself is satisfied that the plan would not have an adverse effect upon the Natura 2000 network before adoption, the assessment is also intended to inform the examination of the draft plan by the Secretary of State. In that respect it is intended to provide the Inspector with all the necessary evidence to demonstrate the Council has adequately fulfilled its statutory duties and the plan is sound in that respect. It is also presented as part of the public consultation on the draft plan in order that statutory consultees and all interested parties may make representations on the effects of the plan as proposed.

The Plan

The subject of this HRA is the Wiltshire Housing Site Allocations Plan, referred to hereafter as 'The Plan'. The objectives of The Plan are:

- Objective 1: To ensure there is a clear and accurate definition to the extent of the built up areas at principal settlements, market towns, local service centres and large villages
- Objective 2: To help demonstrate a rolling five year supply of deliverable land for housing development - a duty on each Local Planning Authority required by the National Planning Policy Framework
- Objective 3: To allocate sites in settlements which support the Wiltshire Core Strategy and thereby promote sustainable development of the County

The Plan comprises policies for the allocation of land for housing development. It does not include allocations for other forms of development and does not include policies for the general control of development. Each policy includes:

- A red line boundary which defines the extent of the developable area
- An approximate housing number
- Constraints to the development to be addressed during the planning application process
- Contributions which the development must deliver e.g. infrastructure

It is worth noting that the policies themselves do not grant consent for development; rather they provide policy support for housing delivery at the sites allocated. All sites will be subject to planning applications and require further approvals and detailed assessment before they can be developed. Some aspects of the development such as layout are therefore not specified by the plan, but will be determined through the planning application process. The final housing number approved for each site may also vary from the approximate number stated in the policy once the constraints to the site are fully understood, however for the purposes of this assessment the stated approximate housing number for each site has been used.

Structure of the Document

The document is broadly structured in the following sections:

- Methodology
- Settlement Level Screening Assessment
- Policy Level Screening Assessment
- Appropriate Assessment

A summary of the effects considered and the conclusions of the assessment process are provided at the end of each section.

The appropriate assessment forms the main body of the document, and has subsections for each likely significant effect on a designated site. Each of these subsections sets out:

- The information used to support the assessment
- Effects of the plan alone
- Effects of the plan in combination with other plans and projects
- Mitigation Measures
- Conclusions on the integrity test
- Recommendations

The assessments cross-reference a large number of external documents; where these are publically available web links have been provided, others may be available on request.

Methodology

Legislative Background

Articles 3 and 4 of the European Habitats Directive requires member states to identify and designate a series of Special Areas of Conservation (SACs) which are of Community Importance for the conservation of specified natural habitats (Annex I) and species (Annex II). Together with Special Protection Areas (SPAs) classified by the member states under the Birds Directive, this network of sites makes up the Natura 2000 network. In the UK the network is identified and selected by the Joint Nature Conservancy Council³.

The Habitats Regulations (2010) transpose the requirements of the European Habitats Directive into UK law. As Local Planning Authority, the Council is a 'competent authority' for the purposes of Regulation 7 of the Habitats Regulations and must carry out an 'appropriate assessment' of any plan which would have likely significant effects upon a 'European site' (which forms part of the Natura 2000 network) before it can be adopted. The Regulations transpose the requirements of Article 6 of the Directive, with general assessment provisions set out in Regulation 61, while the assessment of local development plans is dealt with specifically at Regulation 102. In carrying out an appropriate assessment, the competent authority must consult and have regard to any representations made by the appropriate 'nature conservation body' which for Wiltshire, is Natural England.

The purpose of Article 6 is to prevent the deterioration of the Natura 2000 network as a result of plans or projects approved by the member states. Both the Directive and the Regulations make it clear that a plan which would have an adverse effect upon the network may not normally be consented unless very strict criteria in relation to alternatives and public interest are met (Regulations 62 and 103). The purpose of an appropriate assessment is therefore to establish whether a plan would have no adverse effects and may be permitted, or where adverse effects cannot be ruled out, whether the strict derogation criteria can be applied.

Guidance

Neither the Directive nor the Regulations prescribe a specific process or procedure for an appropriate assessment and in that respect the competent authority has a degree of discretion as to how they carry out the assessment^{4,5,6}. However a significant body of domestic case law and rulings by the European Court of Justice has provided clarity on the legal parameters within which the process must be carried out.

The government's statutory advice to planning authorities on their statutory obligations under the Habitats Regulations is set out in Circular 06/2005; this document is now relatively old and should be treated with caution as it does not reflect recent case law. DEFRA has recently produced a number of guidance documents on HRA of plans and projects which are also of relevance.

³ <http://jncc.defra.gov.uk/page-4>

⁴ *Mynydd Y Gwynt Ltd, R v SoS for Business, Energy and Industrial Strategy* [2016] EWHC 2581 (Admin)

⁵ *No Adastral New Town Ltd (NANT) v Suffolk Coastal District Council* [2015] EWCA Civ 88

⁶ *R (Champion) v North Norfolk District Council* [2015] UKSC 52

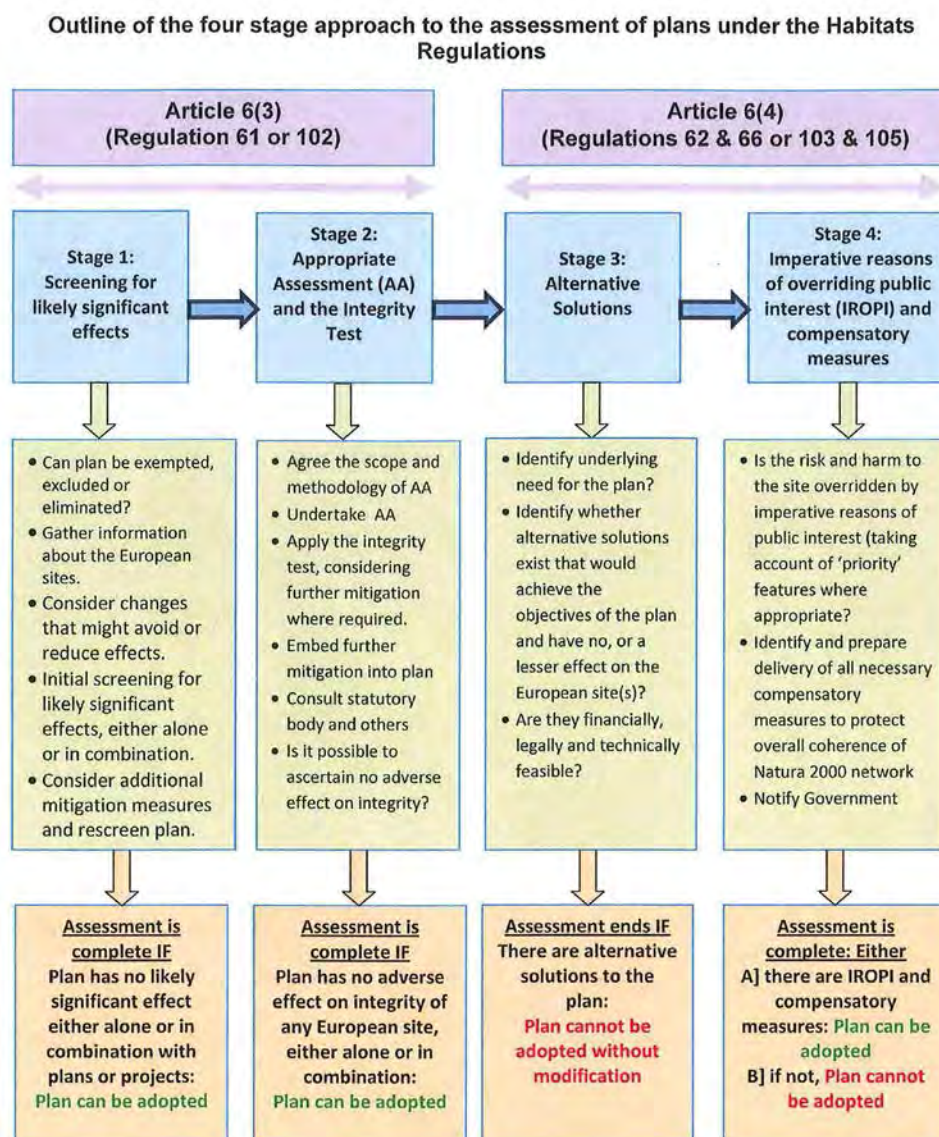
DTA Publications has recently produced comprehensive online guidance for the HRA of plans and projects⁷. This was developed in consultation with the relevant nature conservation bodies and legal experts, and is kept up to date to reflect the latest court rulings of relevance. It is widely accepted by planning and ecological professionals as the authoritative guidance on the assessment of plans and projects under the Habitats Regulations.

The Council has had regard to the DTA guidance, government advice and relevant case law in carrying out this assessment.

⁷ <http://www.dtapublications.co.uk/>

Plan Level Assessment Process

In the UK, it is normal practice to carry out HRA of plans in four stages, as shown in Figure 1 below.



Extract from *The Habitats Regulations Assessment Handbook*, www.dtapublications.co.uk
© DTA Publications Limited (September) 2013 all rights reserved
This work is registered with the UK Copyright Service

Figure 1 – Four Stages in the HRA of Plans

This assessment deals with Stages 1 and 2 only. Stages 3 and 4 are rarely required and beyond the scope of this assessment.

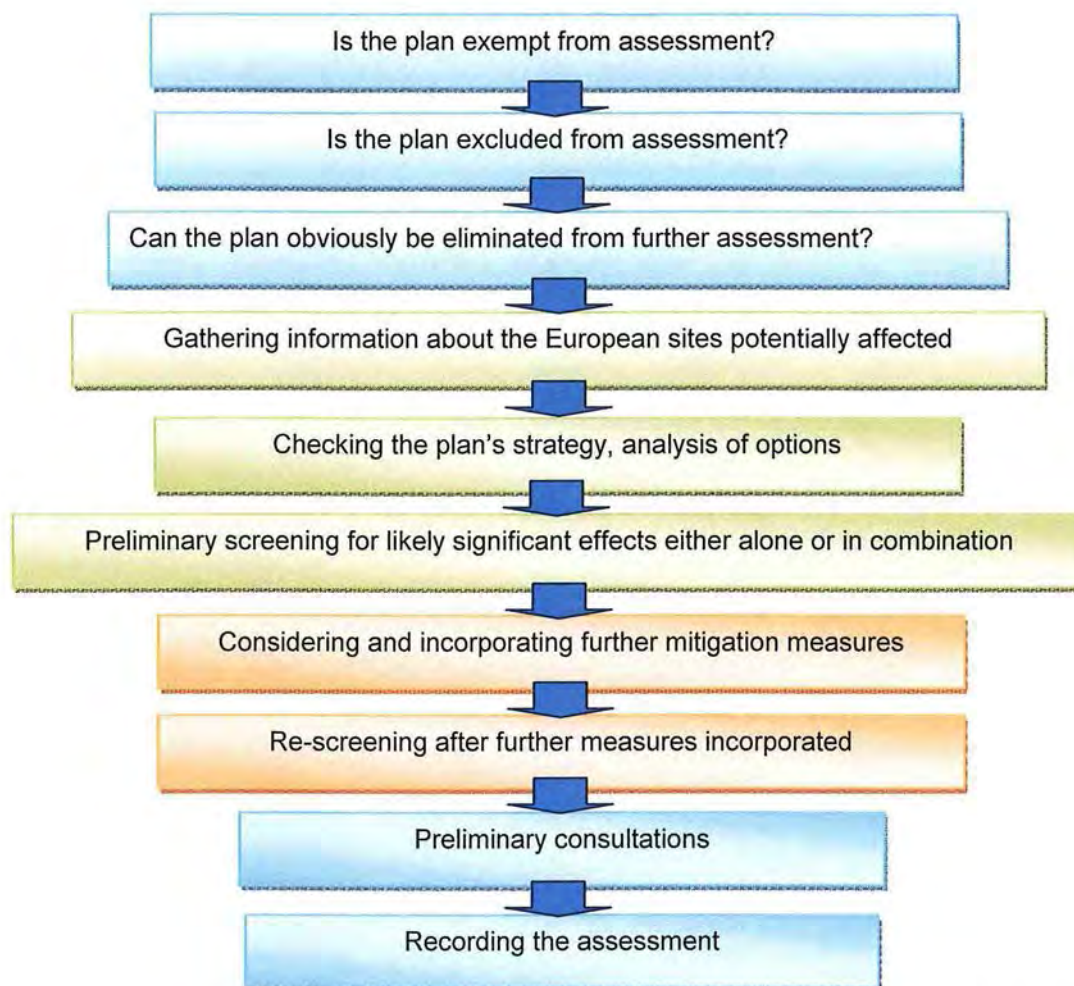
Screening Assessment

The Purpose of Screening

The term 'screening' is not used in the Habitats Regulations however it is typically applied at the beginning of the HRA process to:

- Establish whether the plan requires an appropriate assessment
- Identify parts of the plan which would not have any likely significant effects (LSE), and can therefore be screened out of the appropriate assessment
- Identify those parts of the plan which would have LSE, and thereby focus the scope of the appropriate assessment

Outline of the screening steps



Extract from *The Habitats Regulations Assessment Handbook*, www.dtapublications.co.uk
 © DTA Publications Limited (September) 2013 all rights reserved
 This work is registered with the UK Copyright Service

Figure 2 – Steps in the Screening Assessment Process

It is worth noting that for the purposes of screening, the term ‘likely significant effect’ requires some clarification. As Advocate General Sharpson explained in *Sweetman*⁸, with regards to the term ‘likely’ there need only be a *possibility* of there being a significant effect on the site to generate the need for an appropriate assessment. Also, the requirement that the effect in question be ‘significant’ exists in order to lay down a *de minimis* threshold. The threshold at which appropriate assessment

⁸ *Sweetman v An Bord Pleanála* (C-258-11) AG Opinion (Para.46-50)

is needed is thus a very low one, and operates merely as a trigger; the screening assessment for this plan has been made on the basis of this interpretation.

Exemption, Exclusion and Elimination of a Plan

The DPD is a 'land use plan' for the purposes of Regulation 102, as defined in Regulation 107(1)(c); it therefore cannot be exempted, excluded or eliminated from the HRA process.

Gathering Information about the European Sites

The plan has been initially screened for effects on all European sites within 15km of the administrative boundary of Wiltshire, as was agreed with Natural England for the Core Strategy HRA. The full list of sites included in the screening assessment is shown in Table 1 below.

Sites Partially or Entirely within Wiltshire	Within 15km of Wiltshire
<ul style="list-style-type: none"> • Porton Down SPA • Salisbury Plain SPA • Bath & Bradford on Avon Bats SAC • Chilmark Quarries SAC • Great Yews SAC • Kennet & Lambourn Floodplain SAC • New Forest SAC • North Meadow and Clattinger Farm SAC • Pewsey Downs SAC • Prescombe Down SAC • River Avon SAC • Salisbury Plain SAC 	<ul style="list-style-type: none"> • New Forest SPA • Dorset Heathlands SPA • Solent & Southampton Water SPA • Avon Valley SPA • Avon Valley SAC • Costswolds Beechwood SAC • Dorset Heathlands SAC • Emor Bog SAC • Fontmell and Melbury Downs SAC • Hackpen Hill SAC • Kennet Valley Alderwoods SAC • Mells Valley SAC • Mendip Woodlands SAC • Mottisfont Bats SAC • River Lambourn SAC • Rodborough Common • Solent Maritime SAC

Table 1 – List of European Sites Screened for LSE

Information on the sites was gathered through the JNCC and Natural England websites, which generally includes a list of qualifying features, conservation objectives, Site Improvement Plan and condition assessments for each site.

Sites Screened Out

A number of Natura 2000 sites have been screened out of the HRA process at an early stage as development in Wiltshire would not have an LSE on them, based on the information gathered for the sites:

- Great Yews SAC – threats / pressures are non-development related and include deer browsing and nitrogen deposition (non-vehicular)
- Pewsey Downs SAC – threats / pressures are non-development related and include habitat fragmentation, over grazing and nitrogen deposition (non-vehicular)

- Prescombe Down SAC – threats / pressures are non-development related and include changes in species distribution and nitrogen deposition (non-vehicular)
- Dorset Heathlands SAC / SPA – a large number of threats / pressures have been identified, the majority of which are not development related. Some pressures including public access and arson are known to be influenced by development, however any significant effects are understood to occur within 5km of the sites (outside the administrative area of Wiltshire)
- Avon Valley SPA – the majority of threats / pressures to the interest features are not development related. Public access / disturbance is a pressure to Bewick's Swan, however the visitor catchment for the site is believed to be localised and outside of the administrative area of Wiltshire
- Emor Bog SAC – the majority of threats/ pressures to the site are not development related. Public access / disturbance is a threat to the wet mire communities, however the visitor catchment for the site is believed to be localised and outside of the administrative area of Wiltshire
- Hackpen Hill SAC – currently no identified threats to this site
- Kennet Valley Alderwoods SAC – inappropriate water levels are a threat at this site, however this relates to channel modifications rather than water abstraction issues
- Mells Valley SAC – the majority of threats / pressures are non-development related. Public access and arson of the underground mines are a threat, however the visitor catchment for the site is believed to be localised and outside of the administrative area of Wiltshire
- Mendip Woodlands SAC - threats / pressures are non-development related and include deer browsing, off road vehicles, disease and nitrogen deposition (non-vehicular)
- Mottisfont Bats SAC - threats / pressures are non-development related and include woodland management, uncertainty about the barbastelle population, and availability of offsite habitat

Screening Criteria

The plan has been screened for the same broad LSEs as the Core Strategy HRA (recreational pressure, water resources, water quality, habitat loss / damage, nitrogen deposition); LSE have been identified using distance criteria on the basis of the proximity of allocations to European sites. However it is worth noting that for the purposes of this assessment, the screening criteria have been refined on the basis of best available scientific evidence, local knowledge and the Council's experience of carrying out HRAs in the local area. One additional criteria has also been added to include visual disturbance of stone curlew caused by built development on the basis of new evidence. Evidence which supports the screening criteria is summarised in the Settlement Level Screening Assessment (Stage 3), where relevant. The refined screening criteria used for this assessment are shown in Table 2 below.

LSE criteria	Justification	Methodology
R1 - Recreation	Visitor access studies have shown that 75% of regular visits to Salisbury Plain SPA originate from within 6.4km ⁹	Identify locations within a 6.4km radius Salisbury Plain

⁹ Panter, C. & Liley, D. (2015). Salisbury Plain Visitor Survey 2015. Unpublished report by Footprint Ecology for Wiltshire Council.

LSE criteria	Justification	Methodology
R2 - Recreation	Visitor access studies have shown that the majority of regular visits to the New Forest SPA originate from within 8km ¹⁰	Identify locations within a 8km radius around the SPA
R3 - Recreation	Increased public access to the core roosts in woodland associated with the Bath and Bradford on Avon Bats SAC could result in deterioration of foraging habitats (woodland) and damage or vandalism of the roost structures. Sites closest to the roost will have the most acute impact on the core roosts. It is expected that residents within 500m of woodlands would be most likely regularly use woodlands for recreation ¹¹ .	Identify locations within a 500m radius of the core roosts associated with the Bath and Bradford Bats and Chilmark Quarries SACs
R4 - Recreation	Increased public access to the core roosts in woodland associated with the Bath and Bradford Bats SAC could result in deterioration of foraging habitats (woodland) and damage or vandalism of the roost structures. Available evidence indicates that woodlands in Wiltshire typically have a two mile visitor catchment (75 th percentile) ¹² .	Identify locations within a two miles of radius of publically accessible core roosts in woodland associated with the Bath and Bradford Bats SAC
B1 - Buildings	Buildings within 1.5km of stone curlew nesting sites could displace the birds (likely to be associated with Salisbury Plain and Porton Down SPAs) ¹³	Identify locations within a 1.5km radius around known stone curlew nest records
H1 – Habitats	Physical damage to supporting habitats for bats and/or interruption of flight lines etc. Proposed allocations could give rise to issues for the Bath and Bradford on Avon Bats and Chilmark Quarries SACs	Identify locations within the Bath and Bradford on Avon Bats and Chilmark Quarries SAC Core Areas, as shown on Wiltshire Council's guidance document ¹⁴
H2 - Habitats	Development in close proximity to the River Avon SAC could result in damage / degradation to habitats during the construction phase and increased pollution from urban runoff in the long-term.	Identify locations within a 20m radius of the River Avon SAC ¹⁵
W1 – Water resources	Development within high risk' sub catchments of the River Avon Nutrient	Identify locations within high risk catchments identified in the NMP or

¹⁰ Sharpe, J., Lowen, J. & Liley, D. (2008). Changing patterns of visitor numbers within the New Forest National Park, with particular reference to the New Forest SPA. Unpublished report by Footprint Ecology for the New Forest National Park Authority, New Forest District Council, Natural England and Forestry Commission.

¹¹ Please note that this is based on a literature review, recent experience of the effects of new development, discussions with Natural England and professional judgement. This represents the best available evidence at the current time.

¹² Ditto note 11

¹³ Clarke, R., & Liley, D. (2013). Further assessments of the relationship between buildings and stone curlew distribution. Unpublished report by Footprint Ecology for Breckland Council.

¹⁴ http://www.wiltshire.gov.uk/bath_and_bradford_on_avon_september_2015_bat_sac_guidance.pdf

¹⁵ Habitats Regulations Assessments for projects potentially affecting the River Avon Special Area of Conservation: Procedure for Wiltshire's Development Management Teams

LSE criteria	Justification	Methodology
	Management Plan (NMP) could compromise the delivery of the NMP targets for the River Avon SAC. Development at settlements lacking sewage infrastructure will also require full HRA.	lacking sewage infrastructure.
W2 – Water resources	Low flows have previously been recorded on the Upper Kennet which could affect the downstream Kennet and Lambourne SAC, and could be exacerbated by development in the catchment.	Identify locations within the River Kennet catchment
P1 – Phosphate	Development within ‘high risk’ sub catchments of the River Avon Nutrient Management Plan (NMP) could compromise the delivery of the NMP targets for the River Avon SAC. Development at settlements lacking sewage infrastructure will also require full HRA.	Identify locations within ‘high risk’ catchments identified in the NMP or lacking sewage infrastructure.

Table 2 – Refined Screening Criteria

The approach taken to identifying LSE from nitrogen deposition in the Core Strategy HRA was to identify all European sites within 200m of a main road, the justification for which can be found in the government’s DMRB guidance¹⁶. Therefore unlike other LSE’s, this is not triggered on the basis of a distance criteria relating to the proximity of a development proposals location to a European site. Although no distance criteria are available, likely significant effects of nitrogen deposition are still considered in the screening assessment.

In-Combination Effects

The in-combination assessment at the screening stage includes consideration of how the effects of individual policies on a European site may act cumulatively such that the plan as a whole would result in a LSE upon that site.

The assessment also considers the potential effects of other plans and projects which could act in combination with the plan to result in LSE upon European sites within the scope of the current assessment. Relevant plans and projects include:

- Other development plan documents in Wiltshire e.g. other DPDs, neighbourhood plans etc
- Neighbouring local development plans (draft and adopted)
- Major development proposals, either approved or pending approval

In most cases these plans and projects have been subject to a HRA process, the results of which have been reviewed in order to provide a clear indication of the LSE which might act in combination with this plan.

¹⁶ Design Manual for Roads and Bridges <http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section4.htm>

Settlement Level Screening Assessment

The only timing constraint stipulated in the Regulations is for appropriate assessment to be carried out before deciding to adopt a plan. However, if the assessment process was delayed until the final stages of plan development, significant constraints to policy options could remain unidentified until a late stage risking delays to the plan making process, or even the plan being found unsound at examination. Experience has therefore shown that HRA of plans is most effective when applied in an iterative manner, and indeed the importance of early assessment through plan making has been highlighted by the Advocate General, particularly with regards to choosing alternative policy options¹⁷.

Article 11 of the Strategic Environmental Assessment (SEA) Directive (2001/42/EC) also sets out an expectation that environmental assessment of plans should be carried out in a coordinated manner, with specific reference to the requirements of the Habitats Directive at Paragraph 19. Indeed with regards to the current plan there are clear interrelationships between the two assessments through the inclusion of specific SA/SEA questions which refer to the available outputs of the HRA at those stages.

For the purposes of this HRA an initial screening assessment was therefore carried out at Stage 3 of the site selection processes in order to inform the SA/SEA, identify potential constraints, and to influence the emerging plan. Given the scale of the plan this was restricted to a screening of settlements rather than a screening of all policy options. Most of the large number of options under consideration at that stage would not be included in the final plan and it would not have been possible to carry out a meaningful in-combination assessment, as on a precautionary basis, one would have had to assume all options could potentially come forward, producing an unrealistic assessment which may have resulted in the plan as a whole failing the HRA process. The objectives of the initial screening assessment were to:

- Identify and avoid highly constrained locations at an early stage;
- Provide an early indication of the likely significant effects of the plan as a whole to inform early discussions with statutory consultees;
- Identify issues requiring further assessment, particular those where further evidence or input from statutory consultees was needed; and
- Inform the SA/SEA process.

While there is no prescribed format for the outputs of a HRA screening assessment, typically the assessment would simply determine whether or not there were any LSE on a European site which required appropriate assessment, with the output being a list of LSE and the European sites affected. While the settlement level screening assessment provides this information, it has been expanded to provide additional information to inform Stage 3 of the site selection process.

¹⁷ *Commission of the European Communities v United Kingdom of Great Britain and Northern Ireland. (C-6/04)*

Risk Rating

HRA can potentially create a significant constraint to the selection of development sites. Therefore the settlement level screening assessment includes an early indication of delivery risk at each settlement based on the LSE identified through the above screening criteria and three additional factors:

- Availability of adequate scientific information – case law¹⁸ has determined that appropriate assessments must be made on the basis of the best available scientific information. In the absence of adequate information to demonstrate that no adverse effect would occur the proposal should, and often does, fail the appropriate assessment. Where the Council is aware that robust scientific information is lacking, this has been highlighted as a risk to delivery.
- Mitigation measures – case law¹⁹ has also determined that a competent authority may take relevant mitigation measures into consideration in a screening assessment. In its role as competent authority, the Council is familiar with several of the LSE identified by the screening assessment and has previously identified mitigation measures to address many of these issues. While it is necessary to reconsider the efficacy of such measures in detail as part of the appropriate assessment process, in some cases the Council is reasonably confident that LSE could be mitigated and would not pose a major risk to delivery. In other cases the Council may have less confidence for example where mitigation is untested, discussions with statutory consultees are ongoing, or difficulties in mitigating certain effects have arisen in the past. In these cases there would be a greater risk of delivering development at settlements.
- In-combination effects –the Council has a good understanding of recent developments arising from the Core Strategy allocations where it has worked with developers on resolving challenging HRA issues. Further development at these settlements will trigger the same LSE and are therefore likely to be problematic to mitigate when considered in-combination.

This information has been used to colour code the results of the HRA screening, based on a risk rating as follows:

¹⁸ *Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij (C-127/02)* – Judgement of the Court (Grand Chamber)

¹⁹ *Hart District Council v Secretary of State for Communities & Local Government [2008] EWHC 1204 (Admin)*

LSE have been identified. Appropriate assessment of those effects will be required if options at this settlement are to be taken forward. The Council considers that any appropriate assessment is likely to result in a negative outcome for options at this settlement due to a lack of information or reliable mitigation measures to clearly demonstrate no adverse effect upon site integrity. As a result there is a significant risk that options at this settlement could result in the entire plan failing the HRA process and being found unsound; it is therefore recommended that options at this settlement are removed from the plan at this stage of the process.
LSE have been identified. Appropriate assessment of those effects will be required if options at this settlement are to be taken forward. Mitigation may be required to demonstrate that options at this settlement will have no adverse effect on site integrity. Mitigation measures have not been fully developed and agreed with the statutory consultees, or there are known to be considerable in-combination effects, therefore there is a risk that LSE could be problematic to mitigate.
LSE have been identified. Appropriate assessment of those effects will be required if options at this settlement are to be taken forward. Mitigation may be required to demonstrate that options at this settlement will have no adverse effect upon site integrity. Mitigation measures for the LSE identified are well developed and have been agreed with the statutory consultees, therefore this is a low risk to delivery of options at this settlement.
No LSE have been identified. No appropriate assessment is required. No mitigation is needed to demonstrate that options at this settlement will have no adverse effect upon site integrity. No risk to delivery of options at this settlement.

Table 3 – Explanation of risk rating for the HRA screening assessment

Please note that the results of the risk rating provided represent the assessment by the Council at the time of writing. This may change as new evidence becomes available, in-combination effects change or feedback is received from the statutory consultees. The risk rating does not pre-determine the final outcome of the full HRA process at Stage 4 / 6.

In most cases the risk rating will apply equally to all potential options at a settlement regardless of location, as the issues are spatially wide ranging. However, in some cases the risk may be more spatially specific with some options at a settlement carrying a greater risk than others. In these cases, the distribution of risk at a settlement level will be explained in the accompanying text.

Decision Aiding Questions

The settlement level screening assessment provides a commentary on the following decision aiding questions within the SA/SEA:

- **Objective 1, Q.7** - Consider the findings of the HRA in site selection and design?
- **Objective 1, Q.9** – Require that disturbance impacts of proposed development are assessed as part of development proposals, particularly in relation to Salisbury Plain and New Forest SPAs?
- **Objective 1, Q.10** - Consider Wiltshire Council guidance to maintain SAC integrity in relevant areas?

- **Objective 3, Q.6** – Encourage sustainable and efficient management of water resources, including consideration of the potential impact of water usage and discharge on biodiversity, particularly in relation to the River Avon SAC and Kennet and Lambourn Floodplain SAC?
- **Objective 4, Q.5** - Ensure that air quality impacts on local biodiversity sites are avoided?

The commentary includes answers to each of these questions to ensure that the HRA directly informs the SA/SEA in a consistent manner.

At this point it is worth clarifying the terminology used in the HRA and SA/SEA processes in order to avoid confusion. As explained above, the terms ‘likely’ and ‘significant’ have a particular interpretation in the context of the Habitats Regulations. The SEA Directive also makes several references to ‘likely significant environmental effects’, however this phrase should be interpreted in a more literal sense for the purposes of SEA, as the Commission explains:

‘The use of the word ‘likely’ suggests that the environmental effects to be considered are those which can be expected with a reasonable degree of probability.’

The purpose of the SA/SEA is to quantify the significance of environmental effects, typically on a scale of Negligible / Low / Moderate / High. It seeks to evaluate the substantive effects of the development proposals such that they can be compared against each other in decision making, rather than in HRA screening where the purpose is simply to determine whether they meet a low threshold which triggers the need for further detailed assessment.

While there are clear interactions and synergies between the two processes which should be identified as part of a coordinated approach, the reader should bear in mind that the term ‘likely significant effect’ does not translate easily between the two processes when using the results of the settlement level screening assessment to inform the SA / SEA for the plan.

Screening Assessment of Policies

Although the ultimate objective of the screening assessment is to determine the LSE of the plan as a whole, it is widely accepted best practice to initially screen individual elements of a plan separately in order to identify those elements which can be excluded from further consideration and focus the scope of any appropriate assessment on those elements which require more detailed examination.

- A. Further to simply identifying whether LSE are triggered or not, policies are characterised as part of the process as follows: General statement of policy / general aspiration (screened out)
- B. Policy listing general criteria for testing the acceptability / sustainability of proposals (screened out)
- C. Proposals referred to but not proposed by the plan (screened out)
- D. Environmental protection / site safeguarding policy (screened out)
- E. Policies or proposals which steer change in such a way as to protect European sites from adverse effects (screened out)
- F. Policy that cannot lead to development or change (screened out)
- G. Policy that would not have any conceivable effect on a European site (screened out)

-
- H. Policy or proposal, the effects of which (actual or theoretical) cannot undermine the conservation objectives (either alone or in combination with other plans or projects) (screened out)
 - I. Policy or proposal with a likely significant effect on a site alone (screened in)
 - J. Policy or proposal with an effect on a site, but not likely to be significant alone so need to check for likely significant effects in combination
 - K. Policy or proposals not likely to have a significant effect either alone or in combination (screened out after in-combination assessment)
 - L. Policy or proposals likely to have a significant effect either alone or in combination (screened in after in-combination assessment)

Consideration of Strategic Mitigation Measures

A number of mitigation strategies have already been produced by the Council to address commonly occurring HRA issues in the county. These include:

- Salisbury Plain SPA Mitigation Strategy²⁰
- Planning Guidance for Bat SACs²¹
- River Avon Nutrient Management Plan²²

The Council has had regard to these documents as part of the screening process. In doing so the Council has also considered whether new evidence has become available since their publication which would require them to be re-examined before they could be wholly relied on to mitigate the effects of development.

Each document and its application to the effects of the plan is explained in detail within relevant sections of the appropriate assessment.

Appropriate Assessment

The 'Integrity Test'

The scope of the appropriate assessment is clearly established through the screening process, which identifies policies within the plan that may cause LSE. The appropriate assessment focuses closely on these, having regard to the conservation objectives for the relevant European site and degree to which the plan may undermine achievement of those objectives.

The test which must be met is whether or not the scale of the relevant LSE is sufficient to cause an adverse effect on the integrity of the site. An in-depth objective assessment must be made on the basis of the best available scientific information relating to both the LSE and the ecology of the qualifying features.

Draft DEFRA guidance²³ defines 'integrity' as follows:

²⁰ <http://www.wiltshire.gov.uk/guidance-for-developers-hra-mitigation-strategy-salisbury-plain-spa.pdf>

²¹ http://www.wiltshire.gov.uk/bath_and_bradford_on_avon_september_2015_bat_sac_guidance.pdf

²² <http://www.wiltshire.gov.uk/biodiversity-protecting-river-avon-sac.pdf>

²³ DEFRA (2013) Habitats Regulations Assessments (July 2013 draft, unpublished)

'The authority should take the "integrity" of a European site to mean the coherence of its ecological structure and function across its whole area, that enables it to sustain the habitat, complex of habitats and / or the levels of populations of the species for which the site is (or will be) designated.'

The assessment must include close scrutiny of all mitigation measures on which the conclusions will rely. To be taken fully into account, mitigation measures should be effective, reliable, timely, guaranteed to be delivered and as long-term as they need to be to achieve their objectives. Any doubts about the effectiveness, reliability, timing, delivery or duration of mitigation measures should be taken into account by the competent authority before relying on such measures to determine the integrity test. In plan level HRA, mitigation normally involves the inclusion of policy caveats, modification / deletion of policies, or reference to a mitigation strategy.

The integrity test must be met on a precautionary basis, having established there would be no harm to site integrity before adoption of the plan. The competent authority must be convinced about the lack of effects on integrity, such that no reasonable scientific doubt remains as to the absence of such effects.

'Down the line' assessment

It is often the case that all aspects of a development proposal will not be specified in a plan, and as such the full effects of the development cannot be accurately assessed at the plan making stage. Those further details will typically be determined through a lower level plan and / or subsequent planning application, which would be subject to a further, more detailed HRA of the effects of the development proposal. It is therefore an established principle that the assessment need only assess the effects of the proposal in as much detail as is specified by the plan, as explained by Advocate General Kokott:

*'Many details are regularly not settled until the time of the final permission. It would also hardly be proper to require a greater level of detail in preceding plans or the abolition of multistage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan. This assessment is to be updated with increasing specificity in subsequent stages of the procedure.'*²⁴

This principle may not be used as a way to defer or delay the assessment process, as the competent authority must still be convinced that an adverse effect on integrity can be avoided through mitigation measures in a lower level plan or later stage assessment. The competent authority can only rely on such measures at a later stage where:

- The higher level assessment cannot reasonably predict any effect on a European site in a meaningful way;

²⁴ UK v Commission (AG Opinion) C-6-04 (Para.49)

- The lower level plan or later stage assessment will have sufficient flexibility to establish the nature, timing, duration, scale or location of development and thus its potential effects, in a manner that will allow an adverse effect to be avoided; or
- The HRA of the proposal at the later stage or lower level is required as a matter of law or policy.

Adoptions of other decisions by a competent authority

In some cases the effects of development will need to be assessed by more than one competent authority. The government supports coordination between competent authorities in assessing such effects, as this can simplify the assessment process and reduce its time and costs for both the applicant and the competent authorities involved.

Government guidance states competent authorities may adopt all or part of the conclusions of previous decisions taken by other competent authorities, however they remain responsible for ensuring their decisions are consistent with the Habitats Directive, so must be satisfied:

- No additional material information has emerged, such as new environmental evidence or changes or developments to the plan or project, that means the reasoning, conclusion or assessment they are adopting has become out of date
- The analysis underpinning the reasoning, conclusion or assessment they are adopting is sufficiently rigorous and robust. This condition can be assumed to be met for a plan or project involving the consideration of technical matters if the reasoning, conclusion or assessment was undertaken or made by a competent authority with the necessary technical expertise²⁵

For the purposes of this assessment the Council has referred to previous decisions by other competent authorities, particularly by the Environment Agency with regards to water related issues, and adopted part of their reasoning and conclusions to inform its own conclusions in the appropriate assessment, having regard to the above principles.

These principles should also be applied where a competent authority continues to rely on the conclusions of a previous HRA which it has undertaken for further decisions. The appropriate assessment makes references to the conclusions of the Wiltshire Core Strategy HRA process, which is of strategic relevance to the key issues assessed in this document; however the Council has had regard to the above principles in considering the current relevance of those conclusions to this plan.

Functionally Linked Land

The assessment makes references to the term ‘functionally linked land’; this is land beyond the boundary of a European site which ecologically supports the populations for which the site was designated or classified. Such land is therefore ‘linked’ to the European site in question because it provides an important role in maintaining or restoring the population of qualifying species at favourable conservation status. Case law and appeal decisions have demonstrated that once identified as functionally linked land, the evidence required by decision makers in the Habitats

²⁵ DEFRA (2012) *Guidance on competent authority coordination under the Habitats Regulations*

Regulations Assessment process is no different to that which might reasonably be expected in relation to direct or on-site effects on the European site, and that the precautionary principle applies equally to functionally linked land and sea²⁶.

²⁶ (Natural England, 2016) *Functional linkage: How areas that are functionally linked to European sites have been considered when they may be affected by plans and projects –a review of authoritative decisions*

Settlement Level Screening Assessment (Stage 3)

A total of 20 settlements were included in the settlement level assessment carried out at Stage 3 of the site selection process. No LSE were identified at 6 settlements, with LSE identified at the other 14. A summary of the screening assessment is presented in Table 4 below while full details, including the commentary on the decision aiding questions for the SA/SEA, are provided in Appendix 1 (Outputs from the Settlement Level Screening Assessment (Stage 3)).

Settlement	Screening Criteria									
	R1	R2	R3	R4	B1	H1	H2	P1	W1	W2
Market Lavington	Y	N	N	N	N	N	N	N	N	N
Ludgershall	Y	N	N	N	N	N	N	N	Y	N
Hullavington	N	N	N	N	N	N	N	N	N	N
Kington St Michael	N	N	N	N	N	N	N	N	N	N
Yatton Keynell	N	N	N	N	N	N	N	N	N	N
Crudwell	N	N	N	N	N	N	N	N	N	N
Oaksey	N	N	N	N	N	N	N	N	N	N
Trowbridge	N	N	Y	Y	N	Y	N	N	N	N
Warminster	Y	N	N	N	N	N	Y	Y	Y	N
Chapmanslade	N	N	N	N	N	N	N	N	N	N
Codford	Y	N	N	N	N	N	N	Y	Y	N
Heytesbury	Y	N	N	N	N	N	Y	Y	Y	N
Bratton	Y	N	N	N	N	N	N	N	N	N
Amesbury	Y	N	N	N	Y	N	Y	N	Y	N
Durrington	Y	N	N	N	N	N	Y	N	Y	N
Shrewton	Y	N	N	N	N	N	Y	N	Y	N
The Winterbournes	N	N	N	N	N	N	Y	N	Y	N
Salisbury	N	N	N	N	N	N	Y	Y	N	N
Wilton	N	N	N	N	N	N	Y	Y	N	N
Fovant	N	N	N	N	N	Y	N	N	N	N

Table 4 – Summary of screening for Likely Significant Effects

Y = screened into Appropriate Assessment

N= screened out

Likely Significant Effects

Recreational Pressure

Salisbury Plain SPA (Criterion R1)

Description of LSE

This site is designated for internationally important populations of breeding stone curlew and overwintering hen harrier. Other Annex II species include common quail and Eurasian hobby. Ongoing monitoring at the site demonstrates that the stone curlew population is relatively stable,

but that productivity has often fallen below the 0.61 chicks per pair required to maintain a stable population, suggesting that immigration is maintaining numbers on Salisbury Plain. Non-designated land outside the plains (within 5km) has also been found to be of vital importance to maintaining the overall population, with productivity generally higher on the surrounding farmland than within the SPA²⁷. The site is understood to be currently in favourable condition for both stone curlew and hen harrier.

Research has shown that stone curlews are very sensitive to disturbance, particularly by dog walkers^{28, 29}. Salisbury Plain SPA is known to attract a large number of visitors from a relatively wide catchment area, with the majority of visits (75%) originating from a radius of 6.4km³⁰. Recreational use is greatest on the eastern plain as public access on much of the central and western plains is limited due to military restrictions. However the margins of these plains and surrounding land are still widely used by local people for recreation. The vast majority of visits to Salisbury Plain (74%) are for dog walking.

Summary of Screening Assessment Results

Settlements at Stage 3 of the site selection process falling wholly or partly within 6.4km of Salisbury Plain SPA include:

- Market Lavington
- Ludgershall
- Warminster
- Codford
- Heytesbury
- Bratton
- Amesbury
- Durrington
- Shrewton

Development at these 9 settlements would contribute to recreational pressure upon the SPA. Sites beyond 6.4km of the SPA are considered unlikely to make a significant contribution to recreational pressure on the stone curlew population and have been screened out from further assessment on this issue.

In addition to housing planned in the Core Strategy, the MoD has plans to relocate many of its troops and their families to the garrisons of Larkhill, Bulford, Tidworth and Perham Down as part of its Army Basing Programme (ABP). This will require an estimated 1,200 Service Family Accommodation units which will result in additional visits to the SPA and will have in-combination effects with development proposed in this plan and the Core Strategy.

This issue was identified and assessed as part of the Core Strategy HRA, which concluded that planned growth till 2026 would not have an adverse effect on the integrity of the Salisbury Plain SPA provided the Stone Curlew Mitigation Strategy was implemented. However, the conclusions of that

²⁷ Tomalin, N (2014) *Stone Curlew CIL Monitoring Area Report 2014*

²⁸ Taylor, E, (2006) Stone curlews *Burhinus oedicnemus* and human disturbance: effects on behaviour, distribution and breeding success. (Doctoral Thesis)

²⁹ Taylor *et al* (2005) *Dogs, access and nature conservation* (English Nature Research Report 649)

³⁰ Panter, C., & Liley, D. (2015). *Salisbury Plain Visitor Survey 2015*

assessment and the effectiveness of the mitigation strategy cannot be wholly relied on to screen out this LSE in view of the findings of the latest visitor survey of the plains³¹ and the change in distribution of planned growth which has occurred since those documents were produced.

New Forest SPA (Criterion R2)

No settlements were identified in the visitor catchment of the New Forest SPA. No LSE upon this site have been identified by the settlement level screening assessment.

Bath and Bradford on Avon Bats SAC / Chilmark Quarries SAC (Criteria R3 and R4)

Description of LSE

The Bath and Bradford on Avon Bats and Chilmark Quarries SACs comprise a network of underground sites supporting internationally important populations of roosting / hibernating bats including greater and lesser horseshoe, and Bechstein's bats. Research has shown that the bats rely on a wide range of other non-designated roosts in mines, buildings and woodlands throughout an extensive network of core areas within the surrounding landscape over the course of the year. Unauthorised action and vandalism at underground sites is a known threat / pressure for both SACs, while recent monitoring has demonstrated that recreational pressure is also having a significant effect on core Bechstein's roosts located in woodlands south of Trowbridge. These latter roosts are considered to be functionally linked to the Bath and Bradford on Avon SAC as individual bats have been proved to move between the woodlands and the mines in the SAC through ongoing monitoring studies.

Summary of Screening Assessment Results

Settlements at Stage 3 of the site selection process falling wholly or partly within 500m of any core roosts (R3), or within 2 miles of a woodland core roost site associated with the Bath and Bradford Bats and Chilmark Quarries SAC include:

- Trowbridge (R3 and R4)

Development at Trowbridge has the potential to bring development within easy walking distance (<500m) of some of the core woodland roosts for Bechstein's bats. (R3). Recent experience with new development has demonstrated that mitigation in close proximity to the woodlands cannot be achieved with confidence and any further sites in such positions are likely to fail an appropriate assessment. It was therefore recommended that any allocations within easy walking distance of the woodlands should be removed from the site selection process at stage 3 and alternative sites found at Trowbridge as there would be a significant risk to their delivery.

Development elsewhere at Trowbridge would contribute in-combination to the general increase in recreational pressure on the SAC, as additional residents would be within the wider visitor catchment and make at least occasional visits (R4).

No recreational pressure related LSE upon the Chilmark Quarries SAC have been identified by the settlement level screening assessment.

³¹ Panter, C., & Liley, D. (2015). *Salisbury Plain Visitor Survey 2015*

Visual Disturbance

Salisbury Plain SPA (Criterion B1)

Description of LSE

Stone curlews have been shown to breed in much lower densities in close proximity to settlements, with this effect being significant at distances of up to 1,500m. Settlement size also has an influence, with larger settlements generally having a more pronounced effect upon nesting density than smaller settlements. Current research suggests that additional buildings will always be associated with a reduction in stone curlew nest numbers but that the effect is smaller the more buildings are already present³².

Summary of Screening Assessment Results

Settlements at Stage 3 of the site selection process falling wholly or partly within 1.5km of known stone curlew nests include:

- Amesbury

Development at Amesbury could potentially occur within 1,500m of known stone curlew nest sites; these nests are not within Salisbury Plain SPA but are considered to be used by the same populations, and are therefore treated as being on functionally linked land. Development at Amesbury therefore, could cause disturbance of these nest sites, which would result in a likely significant effect upon the SPA.

Habitat Loss / Deterioration

Bath and Bradford on Avon Bats SAC / Chilmark Quarries SAC (Criterion H1)

Description of LSE

The bat species which are features of the SACs use foraging areas surrounding core roosts to sustain their populations. They are reliant on established commuting routes to travel between the various roosts and foraging areas. The core roosts and core areas for the Bath and Bradford on Avon Bats and Chilmark Quarries SACs have been established by the Council, in close consultation with Natural England and local experts, as shown on Figure 3 below.

Allocations within the plan are expected to be largely greenfield sites. Experience has shown that physical loss of these sites to urban development within the core areas is likely to result in the direct loss of foraging habitat and commuting routes including hedgerows, scrub and pastures as well as loss of potential roosting trees. Research has shown that urbanisation can also have indirect negative effects on important foraging habitats even where development is at some distance from the woodlands themselves³³. The potential exists therefore for development within the identified core areas to have LSE on the Bath and Bradford on Avon Bats / Chilmark Quarries SACs through habitat loss / deterioration.

³² Footprint Ecology (2013) *Further assessments of the relationship between buildings and stone curlew distribution*

³³ Corney *et al* (2008) *Impacts of nearby development on the ecology of ancient woodland*

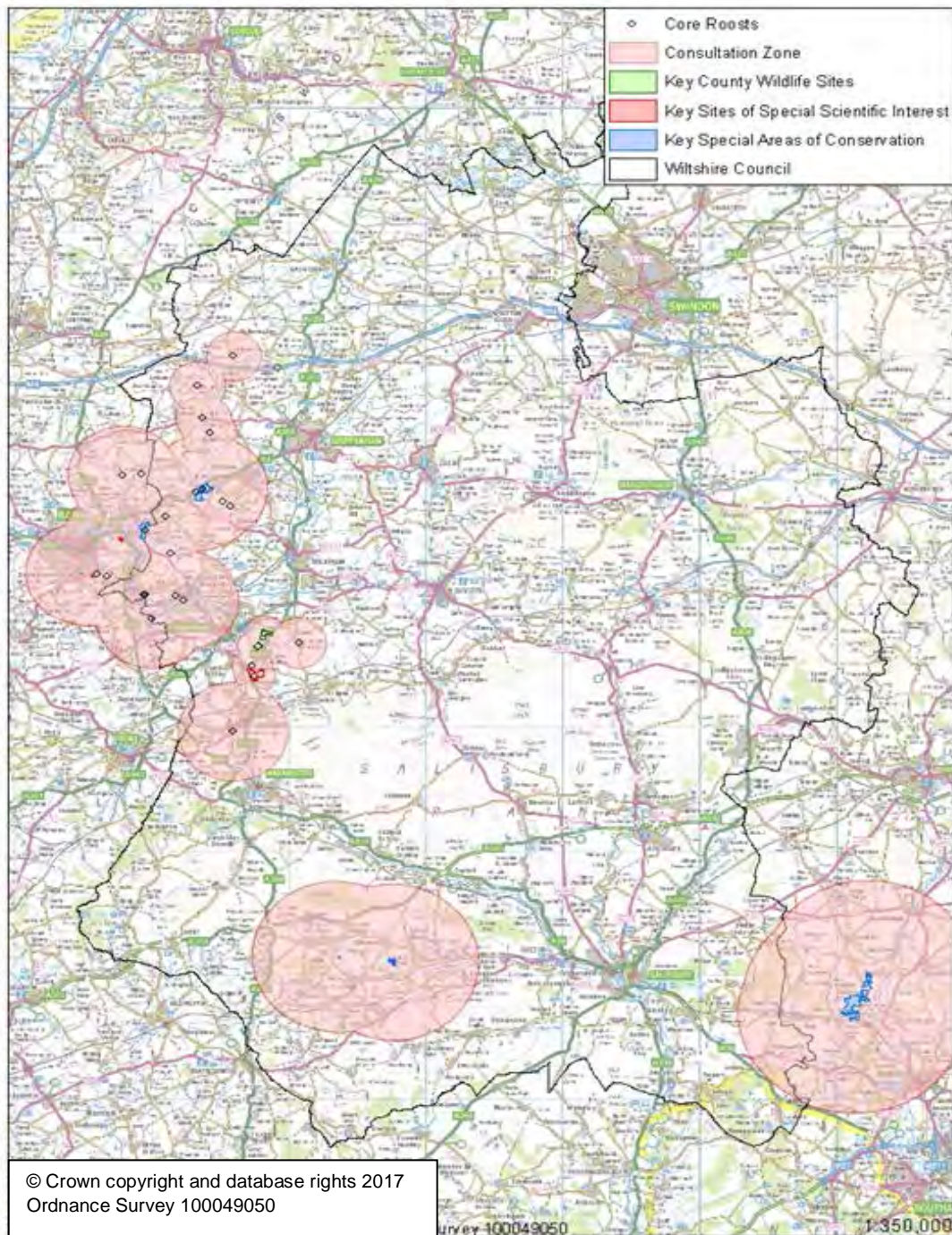


Figure 3 –Core Areas associated with the Bath and Bradford on Avon Bats and Chilmark Quarries SACs taken from Bat Special Areas of Conservation: Planning Guidance for Wiltshire. Issue 3.0. 10 September 2015

Summary of Screening Assessment Results

Settlements at Stage 3 of the site selection process falling wholly or partly within core areas associated with the Bath and Bradford on Avon / Chilmark Quarries SACs include:

- Trowbridge
- Fovant

Development at Trowbridge would occur within the core areas associated with the Bath and Bradford on Avon Bats SAC. Development at Fovant would occur within the core areas associated with the Chilmark Quarries SAC.

A large number of recent planning applications within the core areas have been found to have LSE on the Bath and Bradford on Avon Bats SAC, typically through the loss / degradation of foraging and commuting features in the core areas, particularly at Corsham, Bradford on Avon and Trowbridge. The Bath and North East Somerset Core Strategy also identified a number of greenfield sites in relatively close proximity to components of the SAC within the Bath and North East Somerset administrative area. There is therefore potential for considerable further in-combination LSE on this site as a result of other plans and projects.

River Avon SAC (Criterion H2)

Description of LSE

The River Avon SAC is a chalk river system, which comprises the Annex I habitat type, 'watercourses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation (Rivers with floating vegetation often dominated by water-crowfoot)'. It is also designated for supporting internationally important populations of the following Annex II species; Desmoulin's whorl snail, sea lamprey, brook lamprey, Atlantic salmon and bullhead.

Development close to the river has the potential to result in direct loss of valuable marginal habitats as a result of new buildings, hard standing and amenity landscaping. Even if not affected directly, river banks can be vulnerable to damage during the construction phase due to temporary works, pollution and construction activities. The river channel itself is also vulnerable during construction through spills and sediment run-off, which could cause deterioration of aquatic habitats and associated qualifying features. Where marginal habitats become unmanaged through cessation of grazing or neglect, this can lead to development of scrub and shading out of marginal and emergent vegetation.

The Council has identified that these impacts are most likely to occur on developments within 20m of the river and this is recognised through CP69 of the Core Strategy. It is assumed for the current assessment therefore, that development at settlements within 20m of the River Avon SAC could lead to LSE.

Summary of Screening Assessment Results

Settlements at Stage 3 of the site selection process falling wholly or partly within 20m of the River Avon SAC include:

- Warminster
- Heytesbury
- Amesbury
- Durrington
- Shrewton

- The Winterbournes
- Salisbury
- Wilton

The potential impacts of development in these settlements would be entirely site specific therefore no further description of the LSE can be made at this stage.

Phosphate

River Avon SAC (Criterion P1)

Description of LSE

Natural England has assessed several stretches of the SAC as being in unfavourable condition due to elevated phosphate (P) levels and as a result the river is currently failing its conservation targets. Research has shown that elevated P levels can be detrimental to chalk river systems as these typically rely on maintaining nutrient poor conditions to support their special interest such as the qualifying features for this designated site. It is estimated that projected population growth and development could result in up to an additional 18 tonnes of P per year from sewage treatment works (STWs) in the catchment. Wessex Water strips the vast majority of P from sewage at STWs in accordance with strict EA permit conditions before it is discharged to the river. However in some high risk sub-catchments the residual P still makes a significant contribution to overall P levels in the river and could compromise the ability of the River Avon Nutrient Management Plan (NMP) to reduce these to target levels through the reduction of diffuse sources of P³⁴.

The NMP makes it clear that other than in these high risk catchments, it will normally be possible to rely on the EA's Review of Consents in relation to existing discharge consents.

Where a new consent is required e.g. where development cannot discharge to a Wessex Water STW, full appropriate assessment is likely to be required, the effects of which would be difficult to assess without considerable environmental information.

Summary of Screening Assessment Results

Settlements at Stage 3 of the site selection process falling wholly or partly within a high risk catchment include:

- Warminster
- Salisbury
- Wilton

Development at these settlements could contribute towards LSE on the River Avon SAC through additional P loading. Although development would discharge to mains STW, it would require further assessment to determine whether it might compromise the delivery of the NMP reduction targets.

A further two settlements in the catchment are understood to have no mains sewage infrastructure:

³⁴ See Tables D.5 and D.6 of the Nutrient Management Plan.

- Codford
- Heytesbury

These are located in the Middle Wylfe sub-catchment which is highlighted in the NMP as being at moderate risk of not being able to meet the conservation targets. While not in the high risk category, there are no existing EA discharge permits which can be relied on for the purposes of HRA, and the effect of sewage discharges for any development at these settlements would therefore need to be subject to full appropriate assessment. No information about potential solutions is available, however in the absence of existing sewage infrastructure, it is expected that new development would require a package treatment plant, which would typically discharge to the river at much higher P concentrations than mains STW. Recent experience of a development nearby indicates that an EA permit would not be forthcoming and this is supported in the EA's consultation response to the Plan dated 2 May 2014 where Katherine Burt confirms "All proposed allocations must be able to connect to a mains foul sewer". Consequently it has been assumed there would be a high risk that allocations at Codford and Heytesbury could not be delivered and as such it was recommended that any options for these settlements be removed from the site selection process at stage 3. This approach is in line with Natural England's advice that the plan should direct development to larger STWs with higher standards and avoid settlements on the headwaters where possible in order to avoid impacts on the SAC³⁵.

In the Upper Avon sub-catchment, the ABP will result in a significant increase in sewage discharges from intensification of use at the garrisons and the additional Service Family Accommodation units. These impacts have been exacerbated by the need to close Larkhill STW and pump both existing and additional sewage flows to Ratfyn STW, which also discharges to the Upper Avon. Although the Upper Avon was classified as a 'moderate risk' sub-catchment by the NMP, the potential uplift in P levels is substantial and potential in-combination effects should be considered alongside LSE from this plan. Additional discharges will also result from planned growth in the Lower Avon, as set out in the New Forest District local plan, which may have further in-combination effects with this plan³⁶.

Assessments within the NMP concluded that as a result of planned diffuse reductions, further growth could be accommodated in the catchment while still moving towards favourable conservation status of the SAC. This conclusion was agreed by NE, EA and the Council at the time of writing. However conclusions of that assessment cannot be wholly relied on to conclude that there would be no LSE, given that patterns of growth have changed and new evidence may have emerged since the assessments in that document were made; the assessments within the NMP should therefore be reviewed as part of an appropriate assessment of this plan.

Water Abstraction

River Avon SAC (Criterion W1)

Description of LSE

³⁵ Letter from Kayleigh Cheese dated 3rd December, 2015

³⁶ Development in the New Forest National Park is considered to be very low and dispersed and has therefore not been included in the assessment. Development in Christchurch is expected to discharge close to the mouth of the river where the SAC it is unlikely to be affected.

Previous studies have shown that existing levels of abstraction for Public Water Supplies (PWS) have the potential to exceed guideline levels on short stretches of the upper reaches of the River Avon SAC including the Upper Avon, Bourne and Wylde, with some uncertainty within the model with regards to the River Till³⁷. Allocations within these catchments would result in increased levels of abstraction from PWS which could potentially exacerbate this situation further and cause greater exceedances and cause LSE through low flows which would impact upon the qualifying features.

Summary of Screening Assessment Results

Settlements at Stage 3 of the site selection process falling wholly or partly within sub-catchments where abstraction from PWS could cause LSE on the River Avon SAC include:

- Warminster
- Codford
- Heytesbury
- Ludgershall
- Amesbury
- Durrington
- Shrewton
- The Winterbournes

Other abstractions for agricultural, commercial and military use have the potential to contribute to low-flows in-combination with the PWS abstractions to cause larger LSE on the qualifying features. In particular, the ABP will result in a significant level of increased water use to support intensification at the garrisons and additional Service Family Accommodation which without mitigation would affect the Upper Avon and the River Till.

In particular, recent modelling has shown that existing abstraction is a cause of unfavourable condition on the River Till and that without mitigation closure of the Larkhill STW would reduce flows on the perennial section of the Till yet further causing it to fail its flow targets³⁸. Any further development at Shrewton is therefore likely to contribute towards this effect. Natural England has highlighted that failure along the River Till is for the entire length modelled, from Winterbourne Stoke to its confluence with the River Wylde, while flows on the winterbourne length of the SSSI/SAC above this point cannot be reliably modelled and the impact of abstraction and licensing is uncertain³⁹. Given this, it would be difficult to reliably assess the effects of further development at the village. It was therefore recommended that any options for Shrewton be removed from the site selection process at stage 3 as any development here would fail an appropriate assessment on the basis of uncertainty.

Kennet and Lambourn Floodplain SAC (Criterion W2)

Description of LSE

³⁷ Wessex Water and Hyder Consulting (2008) *River Avon SAC Low Flow Investigation: Final Report for Steering Group Consultation*

³⁸ Kelda Water Services (2016) *Integrated Water Management Strategy: Army Basing Programme, Salisbury Plain (July 2016, draft)*

³⁹ Email from Charles Routh to Jon Taylor dated 19th August, 2016

The Kennet and Lambourn Floodplain SAC, is a relatively unmodified river which supports an extensive population of the Annex II species Desmoulin's whorl snail in association with chalk stream habitat.

There is known to be limited water available for abstraction in both the Upper Kennet and the Og rivers, and therefore the EA has declared a water resource status of 'Water not available for licensing' for much of these catchments in Wiltshire⁴⁰. Both rivers flow into the Kennet and Lambourn Floodplain SAC, several components of which have been assessed as being in unfavourable condition as they fail to meet target moisture levels, which has been attributed to water abstraction⁴¹.

Summary of Screening Assessment Results

There are no settlements at Stage 3 of the site selection process falling wholly or partly within the catchment of the River Kennet. No further assessment is required for this criterion.

Nitrogen Deposition

Guidance contained in the Design Manual for Roads and Bridges identifies that the threshold for scoping a development into appropriate assessment for traffic related nitrogen deposition is where development would result in an increase in Annual Average Daily Traffic (AADT) flows of 1,000 cars or more on roads within 200 m of a European site. A recent court judgement demonstrates that this trigger is relevant to a development plan or project both alone and in-combination⁴².

Nine European sites within the scope of this assessment occur within 200m of a main road but of these only four are understood to be under threat from vehicular air pollution, namely:

- Cotswold Beechwoods SAC
- Rodborough Common SAC
- New Forest SAC
- Salisbury Plain SAC

The Core Strategy HRA did not identify an adverse effect on the integrity of any European sites from nitrogen deposition, subject to the implementation of an air quality strategy for Wiltshire. It is considered that the conclusion of the Core Strategy HRA on this issue can generally be adopted for the purposes of this assessment in relation to the first three sites, as very little has changed since that assessment was made, and the level of growth proposed in those parts of the county closest to those designations remains largely the same and will not be altered by this plan.

In relation to Salisbury Plain SAC additional in-combination effects of development will occur due to additional growth associated with ABP. The MoD's HRA screening assessment for the ABP masterplan did not identify any likely significant effects upon Salisbury Plain SAC either alone, or in combination with the Wiltshire Core Strategy through nitrogen deposition. That assessment was made relatively recently, and was accepted by both the Council and Natural England at the time. No significant changes have occurred since then and therefore it is considered that the conclusions of

⁴⁰ Environment Agency (2012) *Kennet and Vale of the White Horse Catchment Abstraction Licensing Strategy*.

⁴¹ <https://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1027150>

⁴² *Wealden v SSCLG* [2017] EWHC 351 (Admin)

that assessment may still be relied upon for the purposes of this screening assessment. It is possible that the dualling of the A303 may create further in-combination effects on the SAC in the future, particularly if the northern bypass option at Winterbourne Stoke brings the alignment of the road closer to the Parsonage Down component of the site. However the A303 proposals are not at a sufficiently advanced stage to be considered in combination at the current time, although this issue may need to be revisited if those proposals become more advanced during the course of the plan making process.

Policy Level Screening Assessment (Stage 6)

A total of 25 options were included in the policy level screening assessment carried out at Stage 6 of the site selection process. No LSE were identified for four options, with LSE identified at the other 21. The full list of policies included in the screening assessment is presented in Appendix 2. A summary of the policy screening assessment is presented in Table 9.

Likely Significant Effects

Recreational Pressure

Salisbury Plain SPA (Criterion R1)

A total of 10 allocations proposed at Stage 4 of the site selection process relate to land within 6.4km of the Salisbury Plain SPA, as set out in Table 4 below.

Settlement	Policy	Site Name	Proposed housing numbers
Ludgershall	H1.1	Empress Way	270
Market Lavington	H1.2	Underhill Nursery	50
	H1.3	Southcliffe	15
	H1.4	East of Lavington School	15
Warminster	H2.7	East of the Dene	100
	H2.8	Bore Hill Farm	70
	H2.9	Boreham Road	30
Bratton	H2.14	Court Orchard / Cassways	40
Durrington	H3.5	Clover Lane, Durrington	30
	H3.6	Larkhill Road, Durrington	15

Table 4 – Policies with potential to have LSE on the Salisbury Plain SPA in-combination through recreational pressure

These individual allocations would not have LSE on the SPA through increased recreational pressure when considered alone, but could have LSE when considered in-combination with other plans and projects. This issue will therefore be taken forward for further investigation through the appropriate assessment.

New Forest SPA (Criterion R2)

No allocations were identified in the visitor catchment of the New Forest SPA. No LSE have been identified on this site due to this criterion by the policy level screening assessment.

Bath and Bradford on Avon Bats / Chilmark Quarries SACs (Criteria R3 and R4)

A total of six allocations relate to land within two miles of a woodland core roost site associated with the Bath and Bradford on Avon Bats SAC (R4), as shown in Table 6 below. No allocations relate to land within 500m of a core roost (criterion R3).

Settlement	Policy	Site Name	Proposed housing numbers
Trowbridge	H2.1	Elm Grove Farm	200
	H2.2	Land off A363 at White Horse Business Park	150
	H2.3	Elizabeth Way	205
	H2.4	Church Lane	45
	H2.5	Upper Studley	20
	H2.6	Southwick Court	180

Table 5– Policies with potential LSE on the Bath and Bradford Bath SAC in-combination through recreational pressure

These individual policies would not have LSE on the SAC through increased recreational pressure when considered alone, but could have LSE when considered in-combination with other plans and projects. Criterion R4 will therefore be taken forward for further investigation through the appropriate assessment.

Visual Disturbance

Salisbury Plain SPA (Criterion B1)

No allocations were identified within 1.5km of known stone curlew nest sites. No LSE on the Salisbury Plain SPA through visual disturbance have been identified by the policy level screening assessment.

Habitat Loss / Deterioration

Bath and Bradford / Chilmark Quarries SACs (Criterion H1)

No allocations are proposed within the recognised Core Areas for the Bath and Bradford on Avon Bats SAC, however following the initial screening assessment based on the distance criteria, a total of six allocations for Trowbridge have been screened in on the basis of recent evidence that they are likely to be used by bats associated with the Bath and Bradford on Avon Bats SAC (this is explained further in the appropriate assessment section). No allocations are proposed within the Core Areas associated with the Chilmark Quarries SAC.

Settlement	Policy	Site Name	Proposed housing numbers
Trowbridge	H2.1	Elm Grove Farm	200
	H2.2	Land off A363 at White Horse Business Park	150
	H2.3	Elizabeth Way	205
	H2.4	Church Lane	45
	H2.5	Upper Studley	20
	H2.6	Southwick Court	180

Table 6 – Policies with potential LSE on the Bath and Bradford Bath / Chilmark Quarries SACs in-combination through habitat loss / deterioration

These individual allocations would not have LSE on the SAC through habitat loss / deterioration when considered alone, but could have LSE when considered in-combination with other plans and projects. This issue will therefore be taken forward for further investigation through the appropriate assessment.

While Elizabeth Way, Church Lane, Upper Studley and Southwick Court lie outside any of the recognised Core Areas, recent survey evidence is available which shows there is a possibility of them being used by Bechstein's bats. They have therefore been screened into the appropriate assessment.

River Avon SAC (Criterion H2)

No allocations lie within 20m of the River Avon SAC. No LSE on the SAC through habitat loss / deterioration have been identified by the policy level screening process.

Phosphate

River Avon SAC (Criterion P1)

A total of seven allocations relate to land within high risk sub-catchments including the Upper Wyllye and Lower Avon, as shown in

Sub-catchment	Settlement	Policy	Site Name	Proposed housing numbers
Upper Wyllye	Warminster	H2.7	East of the Dene	100
		H2.8	Bore Hill Farm	70
		H2.9	Boreham Road	30
Lower Avon	Salisbury	H3.1	Netherhampton Road	640
		H3.2	Hilltop Way	10
		H3.3	North of Netherhampton Road	100
		H3.4	Land at Rowbarrow	100

Table 7 below. Allocations within "low/moderate risk sub-catchments which connect to a mains STW are considered unlikely to compromise the ability to achieve target P levels in the river and have been screened out from further assessment of this issue.

Sub-catchment	Settlement	Policy	Site Name	Proposed housing numbers
Upper Wylve	Warminster	H2.7	East of the Dene	100
		H2.8	Bore Hill Farm	70
		H2.9	Boreham Road	30
Lower Avon	Salisbury	H3.1	Netherhampton Road	640
		H3.2	Hilltop Way	10
		H3.3	North of Netherhampton Road	100
		H3.4	Land at Rowbarrow	100

Table 7 – Policies with potential LSE on the River Avon SAC in-combination through phosphate loading

While it is considered highly unlikely that any of the individual allocations would have LSE on the River Avon SAC through increased P loading alone, it is not possible to conclude that they would not have LSE when considered in-combination with other commitments, planned development in the Core Strategy, other local plans / core strategies, and the ABP. This issue will therefore be dealt through the appropriate assessment of the plan.

Water Abstraction

River Avon SAC (Criterion W1)

A total of six allocations relate to land within the Wylve, Bourne or Upper Avon sub-catchments of the River Avon SAC, which are known to be potentially sensitive to water abstraction pressures, as shown in Table 8 below.

Sub-catchment	Settlement	Policy	Site Name	Proposed housing numbers
Bourne	Ludgershall	H1.1	Land at Empress Way	270
Upper Wylve	Warminster	H2.7	East of the Dene	100
		H2.8	Bore Hill Farm	70
		H2.9	Boreham Road	30
Upper Avon	Durrington	H3.5	Clover Lane, Durrington	30
		H3.6	Larkhill Road, Durrington	15

Table 8 – Policies with potential LSE on the River Avon SAC in-combination through water abstraction

While it is considered highly unlikely that any of the individual allocations would have LSE upon the River Avon SAC through increased water abstraction when considered alone, it is not possible to conclude that they would not have LSE when considered in-combination with other commitments, planned development in the Core Strategy, other local plans / core strategies, and the ABP. This issue will therefore be dealt through the appropriate assessment of the plan.

Kennet and Lambourn SAC (Criterion W2)

No allocations were identified within the River Kennet catchment. No LSE upon the Kennet and Lambourn SAC have been identified by the policy level screening assessment

Nitrogen Deposition

As for the settlement level screening assessment, no likely significant effects upon Natura 2000 network have been identified through the policy level screening assessment. This is largely due to the limited number of designations in the local area which are vulnerable to vehicular nitrogen deposition, and the conclusions of both the Wiltshire Core Strategy HRA and the ABP HRA.

Policy Level Screening Matrix (Table 10)

LSE have been identified for 21 out of the 25 proposed policies. The results of the policy level screening assessment are shown in Table 9 below.

Policy	Screening Criteria									
	R1	R2	R3	R4	B1	H1	H2	P1	W1	W2
H1.1 - Land at Empress Way, Ludgershall	Y	N	N	N	N	N	N	N	Y	N
H1.2 - Underhill Nursery, Market Lavington	Y	N	N	N	N	N	N	N	N	N
H1.3 - Southcliffe, Market Lavington	Y	N	N	N	N	N	N	N	N	N
H1.4 - East of Lavington School, Market Lavington	Y	N	N	N	N	N	N	N	N	N
H2.1 - Elm Grove Farm, Trowbridge	N	N	N	Y	N	Y	N	N	N	N
H2.2 - Land off the A363 at White Horse Business Park, Trowbridge	N	N	N	Y	N	Y	N	N	N	N
H2.3 - Elizabeth Way, Trowbridge	N	N	N	Y	N	N	N	N	N	N
H2.4 - L Church Lane, Trowbridge	N	N	N	Y	N	Y	N	N	N	N
H2.5 - Upper Studley, Trowbridge	N	N	N	Y	N	Y	N	N	N	N
H2.6 - Southwick Court, Trowbridge	N	N	N	Y	N	Y	N	N	N	N
H2.7 - Land east of The Dene, Warminster	Y	N	N	N	N	N	N	Y	Y	N
H2.8 - Land at Bore Hill Farm, Warminster	Y	N	N	N	N	N	N	Y	Y	N

Policy	R1	R2	R3	R4	B1	H1	H2	P1	W1	W2
H2.9 - Boreham Road, Warminster	Y	N	N	N	N	N	N	Y	Y	N
H2.10 - Barthers Farm Nurseries, Chapmanslade	N	N	N	N	N	N	N	N	N	N
H2.11 - The Street, Hullavington	N	N	N	N	N	N	N	N	N	N
H2.12 - East of Farrells Field, Yatton Keynall	N	N	N	N	N	N	N	N	N	N
H2.13 - Ridgeway Farm, Crudwell	N	N	N	N	N	N	N	N	N	N
H2.14 - Court Orchard/Cassways, Bratton	Y	N	N	N	N	N	N	N	N	Y
H3.1 - Land at Netherhampton Road, Salisbury	N	N	N	N	N	N	N	Y	N	N
H3.2 - Land at Hilltop Way, Salisbury	N	N	N	N	N	N	N	Y	N	N
H3.3 - North of Netherhampton Road	N	N	N	N	N	N	N	Y	N	N
H3.4 - Land at Rowbarrow	N	N	N	N	N	N	N	Y	N	N
H3.5 – Clover Lane, Durrington	Y	N	N	N	N	N	N	N	Y	N
H3.6 - Larkhill Road, Durrington	Y	N	N	N	N	N	N	N	Y	N

Table 9 – Results of the Policy Level Screening Assessment:

Y = screened into Appropriate Assessment,
N= screened out

Appropriate Assessment

Salisbury Plain SPA – Recreational Pressure

Information Used in Making the Assessment

In addition to the conservation objectives, SSSI condition monitoring and site improvement plan, the following additional sources of information were used to inform the appropriate assessment.

Salisbury Plain Visitor Survey 2015⁴³

This survey was intended to update and extend the scope of a previous study carried out in 2006⁴⁴. Surveyors used driving transects, automated counters, and face to face interviews across the plains to identify patterns in recreational use and behaviour of those visiting the site. As in 2006, the survey showed that the vast majority of people use the plains for dog walking, and tend to visit regularly throughout the year. However the 2015 survey indicated that the visitor catchment was smaller than previously estimated for the eastern plain, but larger for the central and western plains with towns to the west have a much stronger influence on visitor numbers than was previously understood to be the case.

Salisbury Plain Mitigation Strategy⁴⁵

The HRA of the emerging Core Strategy identified that planned development in Wiltshire was likely to increase recreational pressure on the Salisbury Plain SPA, particularly through increased levels of dog walking leading to disturbance of nesting stone curlew. In 2012 the Council therefore developed a mitigation strategy in consultation with Natural England, RSPB and Defence Infrastructure Organisation (DIO). The mitigation strategy comprises three main elements to secure the conservation status of the stone curlew populations on Salisbury Plain:

1. Annual monitoring of stone curlew breeding success – Information about the location of active nests is communicated to DIO and tenant farmers to avoid inadvertently damaging / disturbing nests. Monitoring information is compiled in an annual report, which DIO use to inform future management of the training estate, including stone curlew plots.
2. Advice to landowners / tenants – nesting opportunities within a 5km functional buffer of the SPA are maintained through collaboration with farmers, ensuring that if breeding birds are disrupted from the plains, alternative opportunities are available nearby.
3. Visitor monitoring – surveys are to be carried out every five years to help understand if and where recreational pressure is increasing on the plains, and whether this is likely to conflict with areas of known nesting activity.

The Council currently uses the Community Infrastructure Levy to fund annual monitoring and advice to landowners by the RSPB, and to purchase visitor monitoring by a specialist contractor.

⁴³ Footprint Ecology (2016) *Salisbury Plain Visitor Survey 2015*

⁴⁴ Liley, D., Payne, K. & Peat, J. (2007) *Access Patterns on Salisbury Plain*. Footprint Ecology / Enviros Ltd., Wareham, Dorset

⁴⁵ Wiltshire Council (2012) *HRA and Mitigation Strategy for Salisbury Plain SPA in Relation to Recreational Pressure From Development* <http://www.wiltshire.gov.uk/guidance-for-developers-hra-mitigation-strategy-salisbury-plain-spa.pdf>

Information is shared and discussed between all stakeholders (NE/DIO/RSPB/WC), who are in agreement that this is an effective way to monitor and manage the potential effects of residential development on stone curlew populations. The mitigation strategy was important in allowing Natural England to agree with the conclusions of the Core Strategy HRA, and the Council also relies on it to demonstrate that planning applications for residential development would not have an adverse effect on the integrity of Salisbury Plain SPA.

Stone Curlew Management Plan

The MoD actively manages Salisbury Plain training area for the conservation of stone curlew in accordance with the Stone Curlew Management Plan. Management measures include the creation, management and maintenance of 35 dedicated nesting plots in appropriate locations to suit the particular requirements of nesting stone curlews. When the first management plan was produced in 2000, there were 20 pairs of stone curlew nesting on the training estate. However it now regularly supports 26 – 32 pairs, and has proved to be an effective mechanism in increasing both the range and size of the population breeding on the plains. The latest version of the management plan⁴⁶ includes a commitment to maintain 35 plots across the plains and monitor each plot's productivity, investigating the potential to move unsuccessful plots to more appropriate parts of the plain where appropriate. The evidence gathered as part of the Council's mitigation strategy (above), is therefore vital in supporting and informing the MoD's adaptive management of the plain in line the objectives of the management plan.

Stone Curlew Monitoring

A large amount of historical data exists for stone curlews at Salisbury Plain and across the Wessex area due to monitoring that was undertaken by the RSPB when funding was available through the EU Life Fund. This data is invaluable for being able to put current monitoring into context. After a few years of poor weather when productivity was below the level required to maintain the population, the most recent monitoring reports show the population is slowly increasing again. Productivity in the surrounding private farmland continues to be generally higher than on MoD land, suggesting that immigration is maintaining numbers in the SPA⁴⁷.

Effects Alone

Ten allocations relate to sites within the 6.4 km visitor catchment for Salisbury Plain SPA and could potentially increase recreational pressure on the stone curlew population, as shown in Table 4. The most recent visitor survey indicates that approximately 1% of residents in this area regularly visit the plains and using the average household size for Wiltshire of 2.27 people per dwelling, it can be estimated that the potential allocations would result in an additional 14.4 visits to the Salisbury Plain SPA per day as shown in Table 10 below.

⁴⁶ Ash *et al* (2014) A Progress Report and Management Plan for Stone Curlew; Salisbury Plain Training Area

⁴⁷ RSPB (2017) Stone Curlew CIL Monitoring Area Report 2016

Settlement	Policy	Site Name	Proposed housing numbers	Estimated population increase	Estimated Additional Visits
Ludgershall	H1.1	Empress Way	270	613	6.13
Market Lavington	H1.2	Underhill Nursery	50	114	1.14
	H1.3	Southcliffe	15	34	0.34
	H1.4	East of Lavington School	15	34	0.34
Warminster	H2.7	East of the Dene	100	227	2.27
	H2.8	Bore Hill Farm	70	159	1.59
	H2.9	Boreham Road	30	68	0.68
Bratton	H2.14	Off B3098 adjacent to Court Orchard / Cassways	40	91	0.91
Durrington	H3.5	Clover Lane, Durrington	30	68	0.68
	H3.6	Larkhill Road, Durrington	15	34	0.34
Total					14.42

Table 10 – Estimated additional visits to Salisbury Plain SPA

In-combination Effects

Planned housing growth including the DPD policies, extant permissions, pending applications and recent delivery (2006-16) is still within the Core Strategy indicative housing targets for the vast majority of settlements and community areas within the visitor catchment of Salisbury Plain. The only exception is at Warminster town, where a masterplan has been approved by the Council which would see the Core Strategy allocation deliver approximately 650 more houses than the Core Strategy had allocated. However based on planned housing trajectories, the majority of this planned housing would not be delivered until well after the end of the current plan period (i.e. post-2026), indeed even when all the in-combination growth is considered there is still expected to be an under delivery of 292 dwellings at Warminster at the end of the current plan period compared with the Core Strategy indicative requirements. Therefore the in-combination effects of growth are arguably still lower than was anticipated in the Salisbury Plain Mitigation Strategy.

The Core Strategy HRA considered the potential in-combination effects of the ABP, which at the time was based on a general assumption of 1,200 SFA units, which was estimated to generate approximately an additional 38 visits per day. The potential in-combination effect of this plan with the ABP is therefore an additional 52.4 visits per day to Salisbury Plain SPA.

In the HRA of the ABP Masterplan which was updated by the HRA of the final scheme (18 December 2015), DIO committed to providing the following mitigation to reduce residual impacts:

- i. Revision of the Stone Curlew Management Plan to improve the management and number of plots on the plains
- ii. Prepare a Recreation Access Action Plan to review existing Public Rights of Way and accessible open spaces and identify opportunities for additional routes for running and dog-walking which would reduce potential conflict with Stone Curlew plots.

- iii. Provide information on responsible access for service personnel and families. This would include information on existing access arrangements and suggested local walking/ running routes based on the results of the above study, alongside information about the environmental sensitivity of the Salisbury Plain training Area and the importance of keeping to existing tracks.

The Council and NE agreed with the conclusion of the HRA that additional visits generated by SFA would not have an adverse effect on the Salisbury Plain SPA in combination with the Core Strategy planned development. Measure i. has been completed, and measures ii. and iii. have been secured through a planning condition / obligation.

Mitigation Measures

If the Council is to continue to rely on the Salisbury Plan Mitigation Strategy, it must be satisfied that it remains a valid and effective means by which to avoid an adverse effect on the Salisbury Plain SPA. In order to adopt the conclusion of a previous assessment, the Council must satisfy itself that the principles of the DEFRA Guidance can be met (as set out in the methodology section 'Appropriate Assessment' above):

- 'No additional material information has emerged' – a visitor survey has been carried out since the Salisbury Plan Mitigation Strategy was produced, which changes assumptions about both the scale of the visitor catchment and the proportion of local visitors from within that area. Housing numbers within visitor catchment have also changed due to some increases to the Core Strategy indicative housing numbers advised by the inspector, additional housing to be delivered by the ABP and the potential for over delivery of the housing allocation at Warminster.
- 'The analysis underpinning the reasoning, conclusion or assessment they are adopting is sufficiently rigorous and robust' – the reasoning and conclusions of the Mitigation Strategy remain sound and are supported by recent monitoring which shows that the stone curlew populations are stable despite recent increases in local housing numbers. No plots have repeatedly failed in recent years and the partners have no raised any concerns about the effectiveness of the strategy.

Conclusions on Integrity Test

The patterns of planned growth within the visitor catchment of Salisbury Plain SPA are largely in line those proposed in the Core Strategy, as envisaged when the Stone Curlew Mitigation Strategy was prepared and agreed with Natural England in 2012. The Council shortly intends to update the document to reflect any such changes, however the general approach of the mitigation strategy is still considered to be an effective and reliable means of mitigating the effects of increasing recreational pressure on Salisbury Plain, despite the potentially larger number of additional visits to be generated by new housing development. The RSPB has continued to give advice to farmers and DIO continue to manage the training area responsibly for the stone curlew population, and monitoring shows that the population is stable. At the current time therefore, it is considered that continued implementation of the Stone Curlew Mitigation Strategy can be relied upon to conclude that the Wiltshire Housing Site Allocations Plan would not affect the integrity of the Salisbury Plain SPA either alone or in combination with other plans or projects.

Recommendations – Salisbury Plain SPA Recreational Pressure

There are no recommendations for changes to policies or supporting text. The Council will be updating the Salisbury Plain Mitigation Strategy to take the latest visitor survey results and stone curlew monitoring into consideration and NE, RSPB and the MoD will be consulted as part of this work.

River Avon SAC - Phosphate

In addition to the conservation objectives, SSSI condition monitoring and site improvement plan, the following additional sources of information were used to inform the appropriate assessment.

Information Used in Making the Assessment

River Avon SAC Review of Consents⁴⁸

The 'Review of Consents' (RoC) process is an obligation under Regulation 63 of the Habitats Regulations to ensure that competent authorities review any consents which were issued before Natura 2000 designations were formally made, that could affect the integrity of such sites. It is effectively a retrospective HRA of extant consents, which requires the competent authority to affirm, modify or revoke such consents in order to avoid ongoing or future deterioration of the site.

In 2010, the EA carried out a RoC of all of its environmental permits relating to the River Avon SAC. The RoC paid particular attention to the potential effects of STW discharges on P levels in the River Avon and concluded that the majority of licences would not affect the integrity of the SAC. That conclusion was subject to the implementation of substantial P stripping upgrades to Best Available Technology (BAT) by Wessex Water under AMP4 at main STWs to achieve proportionate reductions in P concentrations, as well as the tightening of discharge consents by the EA to achieve higher performance levels at those works. A number of consents at fish / cress farms were also modified by tightening their consent conditions, requiring them to discharge lower concentrations of P. The EA therefore concluded that the discharge consents would not affect the integrity of the River Avon SAC either alone or in-combination. The only exception was at Warminster STW, where additional P stripping measures did not achieve the necessary proportionate reduction in P levels. Having appraised various potential solutions, the EA concluded it would be most appropriate to address this issue through a Nutrient Management Plan (NMP) to reduce diffuse sources of P from elsewhere in the catchment (see below).

At the time of the examination of the Core Strategy a joint 'letter of intent' between EA and NE stated these statutory bodies would not object to any development which would discharge to a STW within the permit headroom⁴⁹. This was on the basis that those permits had recently been assessed under the RoC and the forthcoming NMP would secure any necessary further reductions in P to secure the favourable conservation status of the river. The Core Strategy HRA confirmed that planned housing till 2026 could be accommodated within the permitted headroom at each of the

⁴⁸ Environment Agency (2010) River Avon – Site Action Plan

⁴⁹ Nutrient management in the Hampshire Avon catchment – Letter of intent by Environment Agency and Natural England (23rd January, 2013)

relevant STWs, and concluded that the total Core Strategy development would not have an adverse effect on the River Avon SAC through additional P loading, on the basis of the conclusions of the RoC, the letter of intent by EA and NE, and production of the forthcoming NMP.

River Avon Nutrient Management Plan⁵⁰

The main driver for producing a NMP for the River Avon SAC was the obligation under the Article 6 of the Habitats Directive to '*establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites*' and to '*take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated*'. Given that the River Avon SAC was known to have been failing its targets for Phosphorus for some time, EA and NE agreed that development of a NMP was required in order to establish the necessary conservation measures to contribute towards the achievement of favourable conservation status of the river and fulfilment of the UK's obligations under Article 6.

As discussed above, the NMP was also needed to address diffuse sources of P in order to offset residual effects of the discharge consent for Warminster STW (see above) and the Council was relying on the NMP to address P loading from further planned growth at Warminster (as set out in CP31).

In 2015, the EA, NE and the Council jointly produced a NMP for the river which set out a credible long-term plan to reduce P from diffuse sources within the catchment (predominately agriculture), particularly through increasing the uptake of Catchment Sensitive Farming (CSF)⁵¹. Achievement of the Common Standards Monitoring Guidance (CSMG) targets for phosphorus are understood to be particularly challenging in the River Avon, therefore 'interim progress goals' have been agreed between EA and NE which the NMP aims to achieve by 2021 and thereby demonstrate progress is being made towards the CSMG targets

The NMP acknowledges an emerging evidence base suggesting a relatively high natural presence of phosphorus in the Avon catchment contained within the underlying Upper Greensand geology (see below). As a result of this research, it is agreed that in the future it will be necessary to reconsider the CSMG targets for phosphorus and decide whether local evidence indicates they should be revised along certain stretches.

With regards to assessing the effects of development for the purposes of HRA, the NMP revisited the conclusions of the RoC to understand whether these could still be entirely relied on by competent authorities in light of additional material information which had become available since the RoC was carried out. In this respect, the NMP concluded that '*Sewage Treatment Works should be allowed to accept further connections without the need for an appropriate assessment, where permit headroom remains and where further development will not compromise deliverability of this NMP*'. Essentially, deliverability is compromised where interim progress goals cannot be achieved because the reduction in diffuse sources of P is offset by increases due to population growth; sub-catchments where achievement of the interim progress goals appear to be more susceptible to the effects of

⁵⁰ <https://www.gov.uk/government/publications/nutrient-management-plan-hampshire-avon>

⁵¹ <https://www.gov.uk/guidance/catchment-sensitive-farming-reduce-agricultural-water-pollution>

growth are identified as 'high risk', whilst those which are less affected are 'low risk'. In Wiltshire, the high risk sub-catchments and associated STWs were identified as:

- Lower Avon – Salisbury STW, Downton STW
- Upper Wyle (headwaters) – Warminster STW, Maiden Bradley STW

The risk assessment tables were based on an assumption of an optimal uptake of CSF across the catchment, which may also vary dependent on available resources and actual uptake rates from landowners. The calculations and assumptions within the NMP were based on the best available scientific information at the time, which is subject to change as new research emerges.

Nonetheless, recent dialogue with both NE and EA has confirmed it is still appropriate to assume that the optimal scenario is realistic and achievable, based on current levels of resourcing and best available scientific information.

In this respect, the NMP updated the previously agreed position stated in the letter of intent that all development within permit headroom will not have an adverse effect on the integrity of the site, by introducing the potential for an adverse effect to occur where development within headroom could compromise the delivery of the NMP interim progress goals. The NMP recognises that the potential for this scenario to arise would be limited to those catchments identified as being in a high risk category and that it should continue to be assumed that development within permit headroom will not compromise the deliverability of the plan until such time as monitoring or modelling of impact on river water quality suggests otherwise. Nonetheless where the allocation of permit headroom is deemed to compromise the deliverability of the NMP on the basis of monitoring or modelling evidence, phosphorus removal or offsetting is likely to be required.

It is worth noting that the risk assessment tables in the NMP were based on forecast growth figures at the time of writing, and the plan recognises that changes in growth forecasts may lead to subsequent changes to those tables. Planned levels of growth have increased in some areas since the Core Strategy was adopted due to increased yield from allocations, speculative development, and the need to boost delivery. NE and EA have confirmed that development within the growth scenarios used in the NMP will generally be acceptable. However beyond those scenarios it will be necessary to consider whether the additional growth might compromise delivery of the NMP goals.

The Council is preparing Annex 2 of the NMP which will set out a methodology to identify whether planned growth discharging to a high risk catchment would compromise delivery of the NMP, based on the most up to date housing figures. Annex 2 will also review the options for delivering proportionate P offsetting in the event that development is deemed to compromise the delivery of the NMP interim progress goals.

The NMP makes it clear that in situations where development could not be delivered within existing headroom at a STW, the conclusions of the RoC cannot be relied upon by competent authorities and a full appropriate assessment of the potential impacts would be required before a new licence could be issued to consent the additional discharge required.

Wiltshire Core Strategy CP69 – Protection of the River Avon SAC

A requirement of the Core Strategy HRA was the inclusion of a Core Policy 69, which deals specifically with the protection of the River Avon SAC in planning decisions. It sets a clear framework for:

- when development may be required to provide mitigation - where development cannot be accommodated at the STW without a risk that it would lead to an effect on the SAC;
- what mitigation may be provided – onsite or offsite measures, to secure a proportionate reduction in P loading (relative to its contribution to overall P loading); and
- how mitigation might be secured – developer led in kind measures or financial contributions.

Although this policy predates the NMP, it is broadly consistent with the requirements for mitigation set out in that plan.

Consultee Responses to the DPD

Statutory consultees and utilities providers provided responses of relevance to this HRA as part of the statutory consultation process for the Plan.

NE's response is of particular relevance as a statutory nature conservation body for the purposes of Regulation 102 under the Habitats Regulations. NE raised concerns that the levels of growth in the plan may now be different from those used in the NMP, and advised a two stage approach to avoid effects on the SAC:

Stage 1

The spatial distribution of the development growth should be used to reduce the risk of impacting on achievement of the River Avon SAC conservation objectives over the longer term (beyond 2021). This can be done by focussing growth on those STW catchments with STWs that are i) best suited to improvements to achieve the highest Phosphorous (P) reduction standards now coming forward and ii) where there is the greatest natural water flow (especially from chalk groundwater) in the river for dilution (that is flow not derived from discharges). (Chalk groundwater has very low P concentrations). Criterion i) is likely to favour development sites in STW catchments served by the larger works such as Salisbury STW over smaller ones such as Tisbury STW, but Wessex Water will be best placed to say which works are best suited to the highest treatment standards now coming forward. On the second criterion ii) STWs on the larger rivers from Salisbury downstream will be better than those on headwaters such as Warminster (unless here the effluent is piped well downstream or pumped over the watershed into the Somerset Frome catchment).

Stage 2

The authority should look at the shorter-term impacts on achieving the interim SAC objectives (to 2021) from additional effluent discharge into the river over the development plan period. We therefore advise that you should follow the same approach as the MoD on their development growth i.e. work with Wessex Water to decide what the additional development means in terms of total additional flows to STWs from development growth and hence additional P inputs to the river (and also whether SAC standards on organic pollution e.g. ammonia would be maintained in the river) and further revise the NMP tables on the deliverability of the NMP targets.

Wessex Water responses have provided some useful information on locations where physical capacity, infrastructure requirements and permit headroom are all likely to be constrained, which are all of relevance in light of the NMP. Specifically they highlighted:

- the need to 'wind down' consent limits at Warminster
- a new EA consent required to accommodate growth at Codford
- potentially limited physical capacity of the local distribution network at Salisbury, The Winterbournes
- limited physical capacity of the works at Hindon and Shrewton
- Sewer flooding at Wilton and Shrewton

They also recognised the need to generally reduce consent limits across the Hampshire Avon catchment in the future.

EA has not commented on the potential effects of P loading as a result of the plan to date.

Conservation Objectives

One aspect of the Conservation Objectives for the River Avon SAC is to maintain or restore "the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely". Achievement of this objective relies on reaching targets for water quality and river flows. In 2014 these were revised with reference to Common Standards Monitoring Guidance (CSMG) with the result that target phosphate levels were reduced on several stretches including the Upper Wylfe. This is a material consideration as it effectively takes the river further away from reaching favourable conservation status than was the case when the RoC was carried out. However these targets were devised nationally, based on standard river typologies in line with the CSMG, rather than the water chemistry of specific river catchments. In certain catchments it is acknowledged that the CSMG target may not reflect the natural conditions in the river, therefore *'where achievement of the targets based on CSMG is not possible in the next river basin planning cycle [by 2021] then interim progress goals have been agreed by Natural England and the Environment Agency. These can be in the form of numerical targets or, if inappropriate to set quantitative targets, descriptive measures that will achieve, by 2021, progress towards the long term targets set using CSMG.'*⁵² The River Avon SAC is one such site, with the Wylfe being a particularly challenging stretch with regards to meeting the CSMG target of 50µg/l. Less stringent interim progress goals have therefore been agreed and adopted in the NMP; 80µg/l in the Wylfe headwaters and 60µg/l in the Middle and Lower Wylfe, to be achieved by 2021.

Greensand Investigations

Recent investigative work commissioned by the EA has revealed that phosphate levels in groundwater within areas of greensand bedrock are naturally much higher than would typically be expected. It is therefore considered that this groundwater entering the river system is likely to have a significant influence on its water chemistry by elevating the natural background phosphate levels, particularly in the some of the upper reaches of the River Wylfe. Further investigative work is ongoing to determine the influence of the greensand which is likely to result in the targets for the

⁵² Moving towards common Standards monitoring guidance targets for SAC Rivers. Natural England and Environment Agency. 18 September 2014

Wylve being further relaxed to reflect the natural chemistry of this river system. EA and NE have acknowledged this in supplementary advice for the SAC's conservation objectives which is currently unpublished:

“These targets are likely to be modified in the future for the upper reaches of the rivers Avon, Wylve and Nadder where natural P leaching from the Upper Greensand geology result in a natural background level of P in the river that is above the SAC target. Ongoing investigation will aim to identify both the contribution to the total level of P in these reaches that originates from the Upper Greensand geology and also the interaction of factors that may moderate the adverse effects of naturally high P such as low nitrogen levels, high flow velocity, shade, low water temperature. This will inform the revision of nutrient (and other attribute) targets that will protect the ecology of these upper reaches but also protect the ecology of the downstream reaches where P is limiting.”

Investigative work is still ongoing, however the Site Improvement Plan for the SAC anticipates that this work will be complete by 2021, at which point it is considered reasonable to assume that the long-term conservation targets will be reviewed and revised accordingly.

Army Basing Integrated Water Management Strategy⁵³

The HRA for the ABP identified that the proposals would result in increased P loading to the Upper Avon due to:

- Increased provision of Service Living Accommodation within the garrisons
- Delivery of substantial numbers of Service Family Accommodation (SFA) outside the garrisons
- The closure of Larkhill STW due to limited capacity, resulting in all existing discharge from the garrison (to ground) being pumped to Wessex Water's Ratfyn STW on the Upper Avon

NE considered that the P loading resulting from the proposals could compromise the delivery of the NMP targets for the Upper Avon despite being a medium risk sub-catchment, and therefore P offsetting would be required in accordance with the requirements of the NMP and CP69. The MoD has therefore produced a water management strategy which clearly sets out the total uplift in P loading from ABP and a Phosphate Management Plan including measures to offset the P loading from the ABP. DIO also funds a CSF officer dedicated to the Upper Avon catchment, to offset the effects of additional P loading from ABP development; NE has agreed this is sufficient to conclude that ABP will be P neutral.

Assessing the Effects of Development

In order to establish whether a development might have an adverse effect on the integrity of the SAC it is important to first understand whether it would compromise the delivery of the NMP interim progress goals. This has been assessed using a model created by the Council which will form the basis for Annex 2 of the NMP⁵⁴. While full details of the methodology are still under discussion between the Council, NE and EA, it broadly comprises the following stages.

i. Is the Development in a High Risk Catchment?

⁵³ Kelda Water Services (2016) Integrated Water Management Strategy – Southern Salisbury Plain Area

⁵⁴ Annex 2 will provide details of the measures available to offset phosphate increases from new development

Development is only likely to compromise the delivery of the NMP in areas where additional P loading from growth could realistically outstrip reductions from diffuse sources through CSF. Assessment of the effects of growth in low or medium risk sub-catchments is therefore not normally necessary. However it should be noted that in assessing the effects of P loading (Stage iii. below), all upstream development must be considered in combination regardless of the risk category of the upstream sub-catchments. Therefore, when assessing the effects of P loading in the Lower Avon, all development in the catchment will be included in the in combination calculations.

ii. Comparison with Wessex Water Population Projections

The NMP took account of a level of predicted growth at each settlement, based on population projections for the catchments of each of the main STWs produced by Wessex Water. Provided growth will not result in these population projections being exceeded by 2021, it can be assumed it would not compromise the delivery of the NMP targets.

iii. Comparison of P Loading to NMP Growth Scenarios

For the purposes of the appropriate assessment, the P loading from each allocation within the high risk sub-catchments has been calculated by establishing the average amount of residual phosphate produced per person at each settlement; this was based on published figures in the NMP for Total P loading (tonnes per annum) (Table 2.4.1: 2) and population within the STW catchment as recorded at the baseline year (2011) (Table 2.4.1: 1a and b). It is then possible to extrapolate forward to 2021 in order to estimate additional P loading based on increased population levels arising from planned development at each settlement. For larger sites, it is unlikely that the entire development will be built out and occupied by 2021; therefore a proportion of the P loading is included in the assessment based on trajectories for those sites.

The effect of proposed DPD development alone on P loading has been calculated on a sub-catchment basis, combining P loading from all allocations in each of the relevant sub-catchments. The in-combination effects have then been calculated on the basis of estimated P loading from the DPD combined with estimated P loading from other relevant plans or projects within and upstream of the sub-catchment; these include commitments from extant planning permissions and allocations in development plan documents⁵⁵. Windfall development has not been included in these calculations as the Council does not have a reliable way of calculating this figure for STW catchments.

Previous delivery at each settlement predating the NMP baseline year (2006-11) is also not included in the in-combination assessment, however recent delivery since the baseline year (2010/11-2015/16) has been taken into account when comparing the planned P loading with the NMP growth scenarios. Provided the P loading from growth does not exceed the NMP projections by 2021, it can be concluded that it would not compromise the delivery of the NMP targets.

Effects Alone

Warminster

Allocations screened in:

⁵⁵ As set out in the Council's Housing Land Supply Statement dated March 2017.

- Bore Hill Farm
- East of The Dene
- Boreham Road

The three allocations at Warminster will deliver an estimated 200 dwellings. Wessex Water's forecasts used in the NMP took account of a population increase of 1,563 residents between 2010/11 and 2020/21, equivalent to 689 dwellings (@2.2 persons / dwelling)⁵⁶. The allocations are therefore well within the NMP growth scenario (assuming that all dwellings were completed by 2021), and as such it is concluded that the plan would not compromise the delivery of the NMP target reductions through phosphate loading from increased sewage discharges of these dwellings alone.

Salisbury

Allocations screened in:

- Land at Hilltop Way
- Land at Netherhampton Road
- North of Netherhampton Road
- Land at Rowbarrow

These four allocations at Salisbury would deliver an estimated 850 dwellings. Wessex Water's forecasts used in the NMP took account of a population increase of 5,511 residents during 2010/11-2020/21, equivalent to 2,428 dwellings (@2.2 persons / dwelling)⁵⁷. The allocations are therefore well within the NMP growth scenario (even assuming that all of these dwellings could be delivered by 2021), and as such it is concluded that the plan would not compromise the delivery of the NMP target reductions through phosphate loading from increased sewage discharges of these dwellings alone.

In-combination Effects

Warminster

Wessex Water forecasted an estimated increase in P loading of 95 kg/annum during the period 2010/11-2021⁵⁸. In order to assess whether the in-combination effects of planned growth will exceed the NMP growth scenarios, the following P sources need to be taken into account in addition to the 200 dwellings identified in this plan:

- Deliverable commitments – 73⁵⁹ dwellings have extant planning permission up to 2015/2016, and it is assumed that this would be built before 2021
- West Warminster Urban Extension (as proposed in the approved masterplan) – Although this proposes a total 1,550 dwellings to be built at the site, only 270⁶⁰ would have been delivered by 2020/21

⁵⁶ River Avon NMP Annex 4 - Table 2.4.1:1a Wessex Water Current and Forecast Future Population Growth within its Sewage Treatment Works (from Appendix 2.3.2:1)

⁵⁷ River Avon NMP Annex 4 - Table 2.4.1:1a Wessex Water Current and Forecast Future Population Growth within its Sewage Treatment Works (from Appendix 2.3.2:1)

⁵⁸ River Avon NMP Annex 4 - Table 2.3.2d Current & Forecast Future Wessex Water Sewage Treatment Work Loads to the Avon

⁵⁹ Based on trajectories in the Housing Land Supply Statement Wiltshire Council March 2017 (Appendix 1)

⁶⁰ Ditto⁶⁰

- Delivery 2010/11-2015/16 – Although completed projects would not normally be included in an in-combination assessment, it is necessary to take account of the retrospective portion of the growth forecast period. Council surveys show that 252⁶¹ dwellings were completed at Warminster during this period.
- By 2020/21 this Plan is projected to have delivered 99 of the allocated 200 dwellings
- Commercial effluent – the Wessex Water forecasts in the NMP took account of an increase in commercial effluent as a Population Equivalent (PE) of 443 during 2011-21⁶². It is assumed that this would be delivered as planned.

It is understood there are no further plans or projects in the Upper Wylde sub-catchment outside of Warminster which need to be considered in assessing the potential for growth to compromise the delivery of the NMP target for this sub-catchment.

Field Ref	Field Calculation	Growth Source	Total P (kg/annum)
A		NMP P Loading @ 2010/11	957.000
B		Delivery 2010/11 - 2015/16	26.873
C		Site Allocations DPD	10.557
D		Allocations in the Core Strategy	28.793
E		Deliverable commitments	7.785
F		Commercial Effluent	20.985
G	A+B+C+D+E+F	Revised P Loading @ 2020/21	1051.993
H		NMP P Loading @ 2020/21	1052.000
I	G-H	Difference	-0.007
J	I/H	Difference (%)	0.00%
K		Upstream P Modifier	0.000
L		Greenfield P Modifier	-43.606
M	I+K+L	Difference + Modifiers	-43.613
N	M/H	Difference + Modifiers (%)	-4.15%
O		Windfall P Estimate	4.888
P	M+O	Difference + Modifiers + Windfall	-38.725
Q	P/H	Difference + Modifiers + Windfall (%)	-3.68%

Table 11 – Estimated P loading at Warminster 2010/11-2020/21

Upstream P Modifier (Field K) - Cumulative P loading from the sub-catchments upstream of this STW

Greenfield P Modifier (Field L) - the amount of P which can be offset due to the change of use from agricultural to residential in the catchment of this STW

Windfall P Estimate (Field O) number of dwellings that could come forward on non-allocated sites based on calculations in the Housing Land Supply Statement 2017 (March update)

⁶¹ Ditto ⁶⁰

⁶² River Avon NMP Annex 4 - Table 2.4.1:1b Wessex Water Current and Forecast Future Population Equivalent Growth within its Sewage Treatment Works (from Appendix 2.3.2:1).

Table 11 demonstrates that the current planned in-combination growth will not exceed the P loading predictions in the NMP by 2021. It is therefore considered that proposed growth would not compromise the delivery of the NMP interim progress goal for the Wylle.

Salisbury

In order to assess whether the in-combination effects of planned growth will exceed the NMP growth scenarios, the following P sources need to be taken into account:

- Deliverable commitments – 1,270⁶³ dwellings have extant planning permission and are expected to be delivered up to 2020/21 at Salisbury / Wilton
- Development allocated in the Core Strategy is 861⁶⁴ dwellings up to 2020/21
- Delivery 2010/11-2015/16 – Although completed projects would not normally be included in an in-combination assessment, it is necessary to take account of the retrospective portion of the growth forecast period. Council surveys show that 1,434⁶⁵ dwellings were completed at Salisbury / Wilton during this period.
- By 2020/21 this Plan is projected to have delivered 56 of the allocated 850 dwellings
- Commercial effluent – the Wessex Water forecasts also took account of an increase commercial effluent as a PE of 1,443 during 2010/11-2020/21⁶⁶. It is assumed that this would be delivered as planned.

Field Ref	Field Calculation	Growth Source	Total P (kg/annum)
A		NMP P Loading @ 2010/11	4200.000
B		Delivery 2010/11 - 2015/16	243.822
C		Site Allocations DPD	9.522
D		Allocations in the Core Strategy	146.395
E		Deliverable commitments	216.009
F		Commercial Effluent	111.007
G	A+B+C+D+E+F	Revised P Loading @ 2020/21	4926.755
H		NMP P Loading @ 2020/21	4735.000
I	G-H	Difference	191.755
J	I/H	Difference (%)	4.05%
K		Upstream P Modifier	-58.023
L		Greenfield P Modifier	-50.855
M	I+K+L	Difference + Modifiers	82.876
N	M/H	Difference + Modifiers (%)	1.75%
O		Windfall P Estimate	35.166
P	M+O	Difference + Modifiers + Windfall	118.042
Q	P/H	Difference + Modifiers + Windfall (%)	2.49%

Table 12 – Estimated P loading at Salisbury 2010/11 – 2020/21

⁶³ Ditto ⁶⁰

⁶⁴ Ditto ⁶⁰

⁶⁵ Ditto ⁶⁰

⁶⁶ Ditto ⁶³

Upstream P Modifier (Field K) – Cumulative P loading from the sub-catchments upstream of this STW

Greenfield P Modifier (Field L) - the amount of P which can be offset due to the change of use from agricultural to residential in the catchment of this STW

Windfall P Estimate (Field O) number of dwellings that could come forward on non-allocated sites based on calculations in the Housing Land Supply Statement 2017 (March update)

Table 12 shows that the current planned in-combination growth will exceed the NMP P loading predictions by an estimated 82.876 to 118.042 kg of P/annum. It is therefore considered that proposed in-combination growth at Salisbury could compromise the delivery of the NMP interim progress goal for the Lower Avon.

Lower Avon Sub-catchment

Given the potential for growth at Salisbury to compromise the delivery of the Lower Avon goal, the in-combination assessment has been expanded further to consider other plans or projects in the sub-catchment.

Table 14 below considers growth at Downton in isolation and demonstrates that, even though the current Plan does not allocate any development for the village, P loading at the sewage works will exceed NMP projections by 10.7 kg of P/annum due to current commitments. When the P loading from upstream sub-catchments is added, this rises to an exceedance of up to 127.415 kg/annum by 2020/21.

Field Ref	Field Calculation	Growth Source	Total P (kg/annum)
A		NMP P Loading @ 2010/11	326.000
B		Delivery 2010/11 - 2015/16	8.499
C		Site Allocations DPD	0.000
D		Allocations in the Core Strategy	0.000
E		Deliverable commitments	28.181
F		Commercial Effluent	3.306
G	A+B+C+D+E+F	Revised P Loading @ 2020/21	365.986
H		NMP P Loading @ 2020/21	355.286
I	G-H	Difference	10.700
J	I/H	Difference (%)	3.01%
K		Upstream P Modifier	118.042
L		Greenfield P Modifier	-3.628
M	I+K+L	Difference + Modifiers	125.115
N	M/H	Difference + Modifiers (%)	35.22%
O		Windfall P Estimate	2.300
P	M+O	Difference + Modifiers + Windfall	127.415
Q	P/H	Difference + Modifiers + Windfall (%)	35.86%

Table 13 – Estimated P loading at Downton 2010/11-2020/21

Upstream P Modifier (Field K) – Cumulative P loading from the sub-catchments upstream of this STW

Greenfield P Modifier (Field L) - the amount of P which can be offset due to the change of use from agricultural to residential in the catchment of this STW

Windfall P Estimate (Field O) number of dwellings that could come forward on non-allocated sites based on calculations in the Housing Land Supply Statement 2017 (March update)

Mitigation Measures

The Plan follows the guidance in NE's consultation response and has focused development as much as possible downstream where water volume and therefore dilution is greater and to places served by large STWs which are most suited to take advantage of future P reduction technologies. To this end, the Plan under provides at Warminster and focuses delivery at Salisbury.

Warminster

While the Plan leads to a minimal increase in P loading at Warminster, it is notable that a significant further reduction in P is achieved by taking land out of agricultural use for the proposed housing development. By 2020/21 the reduction from this source will be 43.61 kg, resulting in headroom of 43.07 kg of P. While this could unlock further development at Warminster, it would inevitably increase the level of failure at Salisbury.

Salisbury / Lower Avon

The projected increase of 201.093 kg of P/annum in 2020/21 arising from in-combination growth at Salisbury (Table 13) represents 4.25% (5.22%) of the NMP target. This can be expected to compromise achievement of the NMP interim progress goals. The increase is partially offset by land which will be taken out of agricultural production for housing development, including 50.86 kg in the Salisbury / Wilton catchment and a further 68.35kg from catchments upstream which together mitigate the exceedance to 1.73% (3.12%) above the 2020/21 target.

Although the Plan would deliver about 850 dwellings over the plan period, the large allocation at Netherhampton Road (600 dwellings) is a reserve site introduced to compensate for delayed delivery of the Core Strategy Churchfields allocation. It also serves as a contingency because of continued uncertainty. As a consequence delivery over the plan period is expected to be as anticipated in the Core Strategy.

As the trajectory predicts only 56 dwellings to be delivered by 2020/21, it can be seen that, the Plan makes comparatively little contribution to the exceedance at this point in time (9.666 kg/annum from Table 13 above). By 2025/26, the trajectory anticipates 750 of 850 dwellings to have been built and the exceedance at that time will be 81.79 kg P/annum after allowing for land taken out of agricultural production.

It is notable that even without the growth proposed in the current Plan, modelling by the Council demonstrates the sewage works at Salisbury started to exceed the NMP targets in 2014/15. Therefore, although the Plan will contribute to the NMP being compromised, housing growth at Salisbury is already leading to the targets being missed.

The extent to which the Council's model can be relied is uncertain at this stage. While the principles on which it is based have been discussed with NE and EA, the details have yet to be agreed and it is expected that the figures in Tables 12 to 15 will change, potentially in either direction. For example, the model assumes that land will be taken out of production gradually in accordance with the delivery shown in the housing trajectories. However it is probably more realistic to remove it in the

first year of delivery which would delay the impact of increased STW discharges by several years. Also the Council has applied a blanket reduction of 0.4 kg of P/ha for greenfield land taken out of agricultural production by development which has occurred since 2010/2011 and this may need to be looked at in further detail. The Council's model also flags up inconsistencies within the NMP model regarding the scale and distribution of development proposed in the Core strategy which could have a significant bearing on the outcome of this assessment.

If it emerges that this plan leads to elevated phosphate, offsetting will be required. Discussions over Annex 2 of the NMP which discusses this issue are ongoing and it is expected that this document will be completed before the Housing Sites Allocation Plan is adopted. Many of the solutions to resolving excess phosphate are outside the control of developers and will rely on a strategic response from Wessex Water and the EA. The following options would however be available:

Reducing flow to STWs through water efficiency measures

Building Regulation 36(3) allows planning authorities to impose more stringent water efficiency measures in order to reduce average water consumption down to 110l/person/day through the application of planning conditions. This could secure a further 12% reduction in sewage discharge from new dwellings below current Building Regulations requirements but would rely on ensuring that the current discharge concentrations continue to be met which may require changes to permit conditions.

Temporary silt traps on agricultural land

Silt is known to act as a vector, carrying phosphate from agricultural land into rivers and streams, where it becomes dissolved into the water. By holding water back, silt traps allow sediment to be deposited and captured by wetland plants before the water is discharged to the river. The effectiveness of the silt traps will ultimately depend on the design; location and ongoing maintenance of the traps but research suggests they may remove 50% of phosphate from water flowing through. It is possible a scheme could be set up to allow developer funding to be used to deliver measures identified by CSF officers which would otherwise not be funded.

Topping up CSF Capital Grants

Related to the above, developers could pay into a fund which could be created to 'top up' the capital grants farmers can apply for to implement measures recommended by CSF officers. Such measures might include resurfacing gateways or surfacing tracks.

Taking land out of agricultural production

Development on greenfield sites which are currently used for agricultural production provides a partial offset for the increased discharges to STWs which depends, amongst other things, on the local geology, proximity to the river and nature of agricultural production. Developers may be able to generate further offsets by taking larger areas of land out of production than would normally be required for development of a given scale. The amount of the offset can be increased if land is planted with trees. The allocation for 600 dwellings at Netherhampton offers the potential for an offset of this kind.

Conclusions on Integrity Test

The following issues have arisen through this appropriate assessment:

- Allocations at Codford and Heytesbury would have contributed proportionately high levels of phosphate as they would probably have relied on discharge to a package treatment plant which is inherently less effective at phosphate removal. As a consequence environmental permits would be unlikely to pass the relevant tests in the Habitats Regulations and housing delivery at these sites would have been uncertain. The Council therefore removed these sites at Stage 3 of the plan making process.
- Further modelling work is necessary before it will be possible to determine the impact of proposed housing on phosphate levels in the SAC and whether the NMP interim progress goals will be exceeded. Currently it appears that:
 - i. Development proposed at Warminster marginally exceeds the NMP growth scenario in terms of the number of dwellings but due to several years of under delivery, P loading would not compromise the NMP interim progress goals for the Wylve catchment to 2020/21.
 - ii. Planned in-combination development elsewhere in the catchment exceeds the NMP growth scenarios in terms of numbers of dwellings and modelling therefore suggests the Plan could compromise delivery of the NMP interim progress goals in the Lower Avon sub-catchment.
- Improvements in water efficiency of the new properties and to the performance of the Salisbury STW could achieve proportionate reductions in P loading to ensure that development does not exceed the NMP growth scenario and will not compromise the delivery of the NMP interim progress goals for the SAC. Installation of silt traps, topping up capital grants and taking land out of agricultural production are all viable alternative or additional options for achieving further reductions depending on the final outcome of the model.
- Development proposed at Amesbury does not exceed the NMP growth scenario. Although the Army Basing Programme will cause the growth scenario for the Upper Avon to be exceeded in terms of the number of dwellings and resulting P loading, mitigation measures secured through the Integrated Water Management Strategy⁶⁷ will ensure that the in-combination development would not compromise the delivery of the NMP interim progress goals for the Upper Avon.

Further work is required before it can be determined whether mitigation is required, and if so the scale of mitigation required and its location. If the NMP interim progress goals are compromised, this is most likely to be evident in the Lower Avon catchment and a whole catchment approach would be required to offsetting as housing delivery at Salisbury to 2020/21 is only anticipated to be 56 dwellings. The approach to offsetting will be concluded in Annex 2 of the NMP. At this stage this is most likely to recommend that all developments in the River Avon (Hampshire) catchment reduce average water consumption down to 110l/person/day through the application of planning conditions and that developer contributions are used where necessary towards CSF type capital works in a programme agreed between NE and EA. The Council's revised CIL Regulation 123 List (September 2016) makes provision for CIL contributions to be used towards the NMP. It is therefore possible to conclude that development proposed in this plan would not adversely affect the integrity

⁶⁷ Kelda Water Services (2016) Integrated Water Management Strategy – Southern Salisbury Plain Area

of the River Avon SAC through phosphate loading, either alone or in-combination with other plans and projects.

Recommendations – River Avon SAC Phosphate

Supporting text should be added to the Plan explaining that all development will be required to comply with Annex 2 of the River Avon Special Area of Conservation Nutrient Management Plan for Phosphorus.

River Avon SAC - Abstraction

In addition to the conservation objectives, SSSI condition monitoring and site improvement plan, the following additional sources of information were used to inform the appropriate assessment.

Information Used in Making the Assessment

Low Flows Investigations (2008)⁶⁸

This report summarises the work carried out in the Low Flow investigation of the impact of public water supply (PWS) sources on the River Avon SAC in order to inform the EA's RoC (see below). Potential exceedances were identified against Natural England guidelines as those causing 10% reduction of natural flow at summer low flow conditions (Q95). The report identified exceedances, modelled on the basis of full permit operation, on the rivers Bourne and Wylfe. The representation of the River Till in the hydrological model was not as good as the rest of the catchment, and some doubt remained as to the effects of abstraction on that waterbody. The effects of abstraction were found to have only a weak causal relationship with the condition of fish and macroinvertebrates.

River Avon SAC Review of Consents (2010)

The RoC reviewed existing consents for abstractions in the River Avon catchment and their effects on the SAC through low flows both alone and in-combination. The EA found that it was not possible to conclude that a number of consents for fish farms and PWS would not have an adverse effect on the integrity of the SAC through low flows, particularly on the Bourne, Wylfe and Till. The EA therefore modified the relevant consent conditions to secure tighter restrictions on timing and volumes of abstractions in order to achieve acceptable minimum flows in line with Natural England guidelines (see above). This resulted in an overall reduction in abstraction of 23.5 MI/d within the Hampshire Avon catchment and allowed the EA to conclude that the revised consents would not have an adverse effect on the SAC alone or in-combination. However, it is worth noting that the RoC assessments did not take account of MoD abstractions, which are exempt from permitting.

In order to comply with these revised licence restrictions significant infrastructure improvements were required by Wessex Water, including in particular their proposed Wessex grid project which allows bulk transfers across their resource area during dry periods; this infrastructure has largely been funded and delivered as part of AMP4 and AMP5.

Hampshire Avon Management Area Abstraction Licensing Strategy (2012)⁶⁹

⁶⁸ Wessex Water (2008) *Low Flows Investigation: River Avon SAC*

This Licensing Strategy sets out how water resources are managed in the Hampshire Avon catchment. The resource availability assessment shows that there is no water available for abstraction across the catchment during low flow (Q95) conditions, with parts of the Upper Wylde, Bourne and Upper Avon being restricted, even during more normal flow conditions. As a result, resource reliability on these waterbodies is also limited to <50% of the time. The strategy also highlights that new applications for abstraction in a SAC catchment will be subject to HRA, which may require that abstractions are limited by time / volume, or even refused in order ensure that they don't have an impact on the SAC.

Wessex Water's Water Resource Management Plan (2014)⁷⁰

This Water Resource Management Plan (WRMP) sets out the company's approach to meeting increasing demands for water resources in their area (which includes the Hampshire Avon) until 2040. The demand forecast took account of planned growth in emerging and adopted local plans and core strategies, including the Wiltshire Core Strategy, in addition to examining local trends and population projections based on established methods. The plan includes a clear commitment to reduce leakage in their network by 25% by 2040 in order to reduce impacts on river flows while still continuing to meet rising demand from an increasing population.

The company has also recently completed construction of a regional grid of pipelines across their operational area which allows them to bulk transfer large volumes of water to sensitive catchments experiencing low flows during periods of drought and peak demand, which gives them significant flexibility to meet demand and comply with new licence conditions which were tightened through the RoC process (see above) without putting sensitive stretches of river at risk. The WRMP has been signed off by DEFRA and OFWAT as a robust plan which demonstrates that Wessex Water can continue to sustainably meet demands for PWS in their area till 2040 despite the revised abstraction licences.

As a competent authority under the Habitats Regulations, Wessex Water carried out a HRA of their WRMP⁷¹. The HRA concluded that the plan would not have any likely significant effects on any Natura 2000 site, including the River Avon SAC. Both Natural England and the EA were consulted on both the WRMP and the accompanying HRA and were broadly satisfied with its conclusions.

Wiltshire Core Strategy HRA (2014)

The Core Strategy HRA confirmed that planned housing till 2026 could be accommodated within the headroom of the revised abstraction consents following the RoC. The HRA therefore relied on the conclusions of the RoC and Wessex Water's WRMP to demonstrate that the Core Strategy would not have an adverse effect upon the River Avon SAC through low flow conditions, the conclusions of which were accepted by EA and NE at that time.

Army Basing Programme – Groundwater Model Update

⁶⁹ <https://www.gov.uk/government/publications/hampshire-avon-abstraction-licensing-strategy>

⁷⁰ Wessex Water (2014) Final Water Resource management Plan (2015-40)

⁷¹ Cascade Consulting (March 2013). Draft Water Resources Management Plan 2013 Habitats Regulations Assessment Stage 1 – Screening

This is a recent study commissioned by the MoD as part of the ABP⁷², which updates the Wessex Basin Groundwater Model used in the RoC with more recent information, including for the first time taking into account existing MoD abstractions and the additional effects of ABP once complete. Although ABP will result in a relatively modest increase in overall abstraction due to reduced leakage within the garrisons, the closure of Larkhill STW will have significant effects on recharge rates to the Till and the Upper Avon. Larkhill STW is a groundwater discharge, providing recharge to both the upper reaches of the Till and a stretch of the Upper Avon upstream and downstream of Ratfyn STW. Following closure of the Larkhill STW, all discharges will be pumped to Ratfyn STW as a surface water discharge to the Upper Avon. The model shows that following ABP, flows will be lower upstream of Ratfyn due to groundwater abstraction, and higher downstream due to the increased surface discharge from the STW.

Army Basing Integrated Water Management Strategy⁷³

This strategy shows that the impact of ABP on the SAC and Nine-Mile river can be removed (and flows improved) if the Larkhill abstractions are reduced from 1.4 to 0.8MI/ day and the Round 'O' abstractions are reduced from 1.1 to 0.7MI/ day, with the shortfall drawn from the existing Wessex supply to the Camp. By 2018, MOD will therefore increase the use of the existing Wessex Water supply to Larkhill, and install a new supply to Bulford Camp. These supplies will provide up to 100% of the potable demand at both sites, which will allow the local MOD abstractions to be reduced or turned off as required during key periods of low flow in the Avon, without affecting supply to either site. To protect river flows in the interim, the Larkhill STW soakaway will not be turned off and MOD will not abstract water above current monthly peak volumes from the Larkhill, Bulford or Round 'O' boreholes, until the Wessex Water secondary supplies are secured and operational. It is understood that the Wessex Water secondary supplies can be provided within existing licence headroom and imported from other catchments using the integrated grid when necessary.

Both the EA and NE have accepted that this strategy will avoid any adverse effects on the River Avon SAC from ABP.

Consultation Responses

NE has raised concerns about potential effects of abstraction on certain upper reaches of the River Avon SAC. They highlighted a recent investigation on the western arm of the Upper Avon commissioned by Wessex Water⁷⁴ (unavailable to the Council at the time of writing), which identified naturally low (dry weather) flow is modelled to reduce in combination with of Wessex Water groundwater abstractions (actual abstraction), by 20-36% near the upstream limit of the SSSI declining to 12-26 % at the downstream end of the western arm, which therefore fails the accepted flow guidelines (10% reduction of natural flow at Q95).

NE also highlighted the updated Wessex Basin Groundwater Model and potential in-combination effects of PWS and military abstractions on the Till and a stretch of the Upper Avon near the Nine-

⁷² AmecFW, 2016. Army Basing Programme – Groundwater Model Update: Briefing note on Groundwater Model Scenario Output

⁷³ Defence Infrastructure Organisation (2017). Army Basing Programme, Salisbury Plain, Integrated Water Management Strategy February 2017

⁷⁴ Cascade Consulting, 2013. AMP5 Western Arm Water resources investigation.

Mile River during naturally low (dry weather) flow conditions (see above). On the Upper Avon there is a risk of failing the SAC favourable condition standard for flow depletion on a stretch of the Avon near the Nine-Mile River during naturally low flow conditions. They also highlighted a failure along the entire length of the River Till modelled from Winterbourne Stoke to its confluence with the River Wylfe and advised that flow on the winterbourne length of the SSSI/SAC above this point cannot be reliably modelled and the impact of abstraction and licensing is therefore uncertain.

The EA has advised that water supply capacity for all sites must be assessed in consultation with the relevant suppliers.

Wessex Water highlighted specific sites within the River Avon SAC catchment where there is limited supply capacity available from the local distribution network, however they have not highlighted any areas where supplies could not be met within existing abstraction licences.

Effects Alone

Although water supplies are clearly limited in several parts of the catchment, particularly during dry weather conditions, the EA's RoC process has ensured that the majority of licences in the most sensitive parts of the catchment were modified to the extent that they could no longer have an adverse effect on the SAC through low flows, and were deemed to be HRA compliant at that time. Based on responses received from Wessex Water to date, it appears that sufficient water resources are available to supply all current allocations within those modified abstraction licences. It is considered that the conclusions of the RoC can still be relied upon in the majority of areas on the basis that there is no more recent evidence to call the assessment into question, and therefore it can be concluded that the majority of allocations in the catchment would not have an adverse effect on the integrity of the SAC through abstractions and low flows.

The only exceptions are areas where new evidence has come to light, including settlements on the following watercourses:

- Till – The updated Wessex Basin Groundwater Model highlighted failure against flow guidelines along most of its length where it could be reliably modelled, while the impacts of abstraction upstream of Winterbourne Stoke (including Shrewton) remain uncertain. This issue was highlighted early in the site selection process / settlement level HRA screening assessment, and no allocations are currently proposed at Shrewton
- Upper Avon – The updated Wessex Basin Groundwater Model demonstrates that the existing PWS and military abstractions on the Upper Avon are having a significant effect on low flows causing more than a 10% reduction of natural flows at Q95 along a stretch of the river from upstream of Durrington to downstream of Amesbury. The Durrington PWS exacerbates these low flows, causing a >15% reduction on natural flows at Q95 for a stretch downstream as far as Ratfyn STW. A previous policy option for Amesbury was excluded at an earlier stage in the site selection process, however further abstraction (even within headroom) to supply the three proposed allocations at Durrington could exacerbate any adverse effects on the SAC. These three allocations would deliver an estimated 50 dwellings, which would use an estimated 15,900l/day.

Figure 4 – Full Licence (Run 296) Impact of abstraction as a % of Natural Flow (Run 251) at Q95

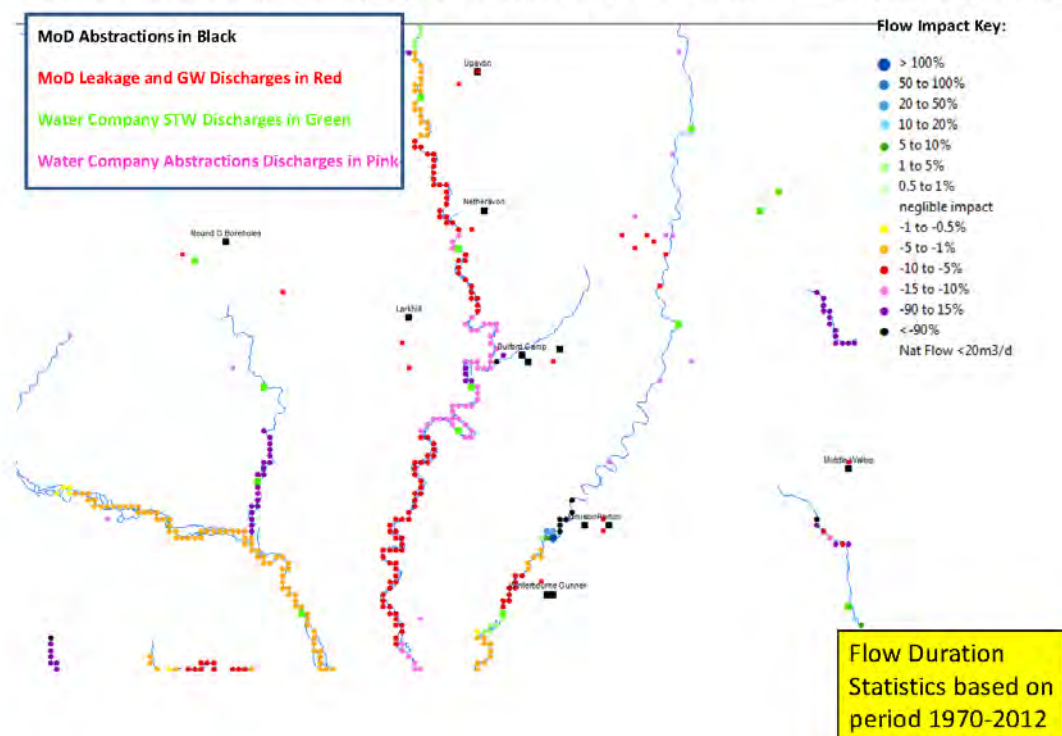


Figure 4 – Extract from the Wessex Ground Water Model

In-combination Effects

The updated Wessex Basin Groundwater Model has shown that the effects of abstraction at Larkhill on the Upper Avon (upstream of Ratfyn STW) will be exacerbated by the closure of Larkhill STW as a result of ABP, which has an impact of around 400m³/day. In order to mitigate the effects of this reduced recharge to the river, MoD groundwater abstractions at Larkhill and Round'O will both be reduced significantly and the Larkhill Water Resource Zone supplemented by an additional 1.162ML/day imported from the Wessex Water PWS at Durrington. The Wessex Basin Groundwater Model shows that following completion of ABP and the associated changes in the distribution of water supply and discharge, flows in the Upper Avon will not be significantly worse than the current situation, however local abstractions in this area will continue to impact significantly upon flows in this stretch of the Upper Avon with continued reductions >15% of natural flows at Q95 downstream of the Durrington PWS abstraction. This situation was deemed to be acceptable as the ABP would not make the modelled situation any worse due to a commensurate reduction in MoD abstractions, and it could all be delivered within the headroom of Wessex Water's existing abstraction licence, which had been subject to the RoC process.

The in-combination effects of ABP and the site allocations plan is therefore an additional 1.178ML/day to be abstracted from the Durrington PWS. It is understood that Wessex Water's

recent actual abstraction at Durrington PWS is 2.25 ML/ day against a licensed limit of 5 ML/day, therefore the in combination effects of development could easily be accommodated within the headroom of this licensed abstraction.

Mitigation Measures

It is widely accepted among the relevant stakeholders (MoD/Wessex Water/EA/NE) that the fully licensed scenario shown by the Wessex Basin Groundwater Model would be unsustainable and would have an adverse effect on the SAC if it were to be fully implemented. Investigations are currently underway to establish the need for further sustainability reductions for Durrington PWS and other local abstractions, which would be implemented through licensing of MoD abstractions when exemptions end in 2020, and through the PR19 process. If the investigations reveal that Wessex Water are unable to meet local demands through sustainable levels of local abstraction it may be necessary to extend their grid from Amesbury in order to transfer water in bulk from less sensitive abstraction licences. It is expected that any such infrastructure would be funded and delivered as part of AMP7 (2021-25). It should therefore be noted that the timescale for delivery of housing at Durrington may rely on such infrastructure improvements being in place.

Conclusions on Integrity Test

For the purposes of this assessment, the Council has reviewed the conclusions of the EA's RoC and WW's HRA of their WRMP in relation to water abstraction impacts on the River Avon SAC. Having regard to DEFRA guidance on adopting the conclusions of other competent authorities, the Council is satisfied that the conclusions of those assessments remain valid and robust across the majority of the Hampshire Avon catchment, and as such it is relatively straightforward to conclude that the majority of proposed allocations in the catchment (including those initially screened in at Warminster and Ludgershall) would not have an adverse effect on the integrity of the River Avon SAC.

New evidence gathered through a recent update to the Wessex Basin Groundwater Model (2016), has revealed that the in combination effects of existing MoD and PWS abstractions may impact on the Upper Avon and Till through low flows, although it should be noted that the model run was based on an assumption of full uptake of PWS licenced abstractions, which does not reflect the recent actual abstraction rates in this area. Nonetheless, it casts a degree of uncertainty on the conclusions of the RoC for those local abstraction licences, including Durrington PWS, which in turn has implications for the following allocations at Durrington:

- Clover Lane
- Larkhill Road

The abstraction required as a result of these options is less than 1% of the licensed headroom and arguably negligible when considered alone. The in combination effects of ABP and this plan will be an additional 1.178ML/day which is a significant increase of 24% of the licensed headroom, however that is almost entirely offset by reductions from MoD abstractions; indeed the HRA for the ABP, which was recently accepted by NE and EA, concluded that it would have no residual likely significant effects in relation to water abstraction. Even the in-combination effects following completion of ABP will be considerably lower than the fully licensed scenario which was modelled, with only 67%

of the licensed headroom actually required to meet demand. It is therefore currently possible to conclude that the plan would not have an adverse effect on the integrity of the River Avon SAC through water abstraction, either alone or in combination with other plans and projects.

Subject to the review of local abstractions, there is a risk that infrastructure improvements may be required to accommodate new growth. It will be the responsibility of Wessex Water to implement those upgrades which would probably be during the period 2021-25. This should be referred to in the supporting text for the Durrington allocations.

Recommendations – River Avon SAC Abstraction

It is recommended that the following wording is included in the supporting text to policies H.3.5 and H3.6: *“Upgrades to the local water supply network may be required to accommodate further growth at Durrington, pending a review of local abstraction licences due to be completed in 2019. It is possible that such upgrades may need to be completed before development at this site can commence.*

Bath and Bradford on Avon Bats SAC - Habitat Loss / Deterioration

In addition to the conservation objectives, SSSI condition monitoring and site improvement plan, the following additional sources of information were used to inform the appropriate assessment.

Information Used in Making the Assessment

Wiltshire Bats SAC Guidance⁷⁵

The Core Strategy HRA identified the potential for development in the landscapes surrounding the Bath and Bradford on Avon Bats SAC to affect the associated bat populations through loss, damage and deterioration of roosts, commuting routes and foraging areas through urbanisation of greenfield and derelict sites, and associated disturbance such as lighting. However those effects are very difficult to predict at a strategic scale, as they depend on the particular habitat features used by the qualifying bat species, the extent to which those features would be affected by the specific development proposals, and the nature and scale of mitigation measures proposed to avoid or reduce impacts. It was therefore considered that these issues would need to be assessed on a site by site basis through HRA of individual planning applications. In addition, it was proposed that guidance for developers and planners would help to identify those sites where HRA is most likely to be a constraint to development at an early stage in order to ensure that appropriate mitigation measures were fully incorporated into schemes coming forward. The Council therefore produced the Wiltshire Bats SAC Guidance document in consultation with NE, Bath and North East Somerset Council and local experts and researchers. The document identifies ‘Core Roosts’ associated with the SACs and ‘Core Areas’ surrounding those roosts which are important for the sustenance of the SAC populations and where development has the potential to trigger likely significant effects on the SAC. The document also describes the general type of onsite ‘Sensitive Features’ which are likely to

⁷⁵ Bat Special Areas of Conservation (SAC) Planning Guidance for Wiltshire. Issue 3.0 10 September 2015
http://www.wiltshire.gov.uk/bath_and_bradford_on_avon_september_2015_bat_sac_guidance.pdf

be used by the qualifying features, the presence of which increases the potential to trigger likely significant effects on the SAC.

NE confirmed it was satisfied that the document provided an appropriate mechanism to avoid and reduce potential impacts of development for the purposes of the Wiltshire Core Strategy HRA. The document has been in use by the Council for three years and was reviewed and updated in early 2016.

Recent Bat Surveys

Recent surveys carried out by ecological consultants, Wiltshire Wildlife Trust, Wiltshire Council and Wiltshire Bat Group have established that woodlands on the south east of Trowbridge, referred to hereafter as the 'Green Lane Wood complex', support one of the largest populations of breeding Bechstein's bats in the UK. During the breeding season, the colony appears to regularly split and regroup occupying a range of tree roosts and artificial bat boxes within the woodlands. In addition, a number of trees outside the woodland complex have been identified as roosts contrary to previous research which suggested the species was largely confined to woodland, particularly ancient woodland sites. Surveys have now confirmed the presence of several roosts around the periphery of the town including a field hedgerow tree a few hundred metres from the Green Lane Wood complex which has been used by the maternity colony⁷⁶. Surveys also reveal the bats regularly travel considerable distances through the surrounding agricultural landscapes to forage and drink beyond previously assumed Core Areas for this population. Not all of this survey work has been incorporated into the current version of the Wiltshire Bats SAC Guidance.

The Council has received pre-application enquiries for some of the sites which current allocations relate to, some of which have been supported by ecological survey information including bat surveys.

Aerial Photography

Wiltshire was subject to an aerial photography survey in 2014. This has been used to help identify potential Sensitive Features on the proposed allocation sites.

Recent HRAs of Planning Applications

A significant number of planning applications have been subject to HRA in recent years due to potential effects upon the SAC. A broad review of these HRAs has helped to provide a better understanding of the in-combination effects of development on this SAC through habitat loss / deterioration.

In order to gauge the nature and scale of mitigation likely to be required for the proposed allocations, reference has been made to the measures recently secured for similar sites subject to

⁷⁶ Cohen, K. (2016) Castlemead s.106 Ecology Monitoring Report: Green Lane & Biss Woods. A report to Wiltshire Wildlife Trust. Keith Cohen Ecology.

HRA due to potential impacts on the Bath and Bradford on Avon Bats SAC through habitat loss / deterioration.

Effects Alone

Development within the established Core Areas of the SAC has been avoided through the site selection process, however six proposed allocations on the periphery of Trowbridge are potentially sensitive, as set out in Table 6.

Church Lane / Upper Studley/ Southwick Court

Although these allocations are not within one of the established Core Areas in the current version of the Council's Guidance document, a Bechstein's roost has recently been identified in a tree roost on the northern edge of Southwick Country Park, within approximately 100m of all three allocations. It is considered that the bats using this tree roost almost certainly form part of the same population which breeds in the Green Lane Wood complex and use the habitats on this edge of the town for foraging and commuting, a likely significant effect through habitat loss / deterioration has therefore been assumed for the purposes of this assessment.

Sensitive Features include the adjacent property 'Framfield' on Church Lane, the garden of which appears to include a large number of old trees which may form part of an old orchard; this could provide suitable roosting and foraging habitat for Bechstein's and although it would not be directly affected by the development, it could be affected by light pollution and become functionally isolated from the wider network of Bechstein's habitat. Southwick Court includes a complex of old buildings which could support roosting horseshoe bats. Several of the boundary features including strong hedgerows, old lanes, Lambrok Stream and moat at Southwick Court also provide suitable commuting / foraging features and could include mature trees suitable for roosting Bechstein's bats.

Land off A363 at White Horse Business Park / Elm Grove Farm

Radio tracking studies have recorded at least one Bechstein's bat from the Green Lane Wood complex both foraging and night roosting in woodland associated with White Horse Business Park to the rear of Drynham Lane Farm on the southern boundary of the site which could be impacted by development encroaching into this area and associated lighting.

In addition, there are almost certainly strategic commuting routes through these options linking the Green Lane Wood complex and Picket and Clanger Woods with tree roosts to the northwest at Southwick and other Core Roosts west of the town. Much of the landscape south of the town has been significantly fragmented and degraded by urban development at White Horse Business Park, North Bradley, Yarnbrook and Southwick, and these allocations therefore represent two of the few dark areas of semi-natural habitat to provide an east-west link for bats moving through this landscape. Given that these options would cause coalescence of White Horse Business Park with Trowbridge and North Bradley, they have the potential to entirely sever potentially important east-west commuting routes on the southern edge of the town which link breeding roosts with the wider countryside and the SAC underground sites at Bradford on Avon and Bath. Important commuting routes / foraging areas through 'Land off A363 at White Horse Business Park' are likely to include Drynham Lane, the railway line, woodland belts associated with the White Horse Business Park, and

a small tributary to the River Biss, which provide a strong network of local landscape features. There is a risk that Drynham Lane would become part of the site access from the A363 and would require substantial widening and upgrading with attendant vegetation removal and lighting which would significantly affect its use as a commuting route. Buildings at Elm Grove Farm could also support bat roosts. These buildings could be demolished or become isolated by development as part of the site proposals. Boundary features and woodland could also support Bechstein's tree roosts.

Important commuting routes and foraging areas through 'Land off A363 at White Horse Business Park' are likely to include woodland belts associated with the White Horse Business Park, a strong network of hedgerows, and the farmland setting of Willow Grove, the latter of which could include tree roosts for Bechstein's bats.

Elizabeth Way

The southern end of this allocation lies within 1.5 km of Green Lane Wood and radio-tracking of two bats in 2016 identified one bat as flying off in the direction of the Hilperton Gap⁷⁷. This area comprises grazed pasture and arable fields which are delineated by hedgerows, including a stream which drains the northern part of the site toward the Kennet and Avon canal, the Canal Industrial Estate and open farmland beyond. The gap itself represents poor foraging habitat for Bechstein's and bats would need to cross areas of street lighting to access it. While it seems unlikely this species would make regular use of the gap, conceivably it may be used, for example by non-breeding bats, if foraging resources were limited but it seems unlikely that it would comprise a resource critical to the population.

Effects of the Plan as a Whole

Development in the plan will result in the loss / deterioration of substantial areas of open countryside comprising Sensitive Features likely to be used by the SAC qualifying features for roosting, foraging and commuting. It will also lead to coalescence of existing urban areas, which could result in the loss of some strategic links between the ancient woodlands to the southeast of the town and the underground SAC sites to the northwest of the town. It is considered that in the absence of mitigation measures the effects of the plan alone would have an adverse effect on the integrity of the SAC through habitat loss and deterioration, particularly for Bechstein's bats.

In-combination Effects

Several other pending applications and extant permissions at Trowbridge will potentially result in the urbanisation of a significant part of the Core Areas of key roosts to the east of the town. These are likely to contribute to effects on the integrity of the SAC in combination with this plan. In particular, Ashton Park could potentially affect the local Bechstein's population through fragmentation of commuting routes and habitat loss / deterioration. Although the developer aims to ensure these effects are mitigated as far as possible to the extent they would not adversely affect the SAC alone, there may be some residual effects which would need to be considered in combination with this plan.

⁷⁷ Cohen, K. (2016) Castlemead s.106 Ecology Monitoring Report: Green Lane & Biss Woods. A report to Wiltshire Wildlife Trust. Keith Cohen Ecology.

Recent HRAs have identified several developments within the wider Core Areas for the SAC within Wiltshire, however the effects of those developments relate predominately to horseshoe bats, and would therefore not act in combination with the effects of this plan, which relate largely to the Bechstein's population.

Bath and North East Somerset has carried out a HRA of their Core Strategy which concluded that allocations within that plan would not have any likely significant effects the Bath and Bradford Bats SAC on the basis of policy restrictions incorporated into the plan, and this was affirmed by Natural England⁷⁸. It is therefore considered that the Bath and North East Somerset Core Strategy would not have any in-combination effects with this plan.

Mitigation Measures

It is worth noting that two policy options adjacent to Green Lane Wood were removed from the plan at an earlier stage in the site selection process due to concerns about impacts on the Bechstein's population roosting in that wood and using the surrounding landscape.

Aerial photographic interpretation of the land identified in Table 9 reveals that it is dominated by agricultural fields of improved pastures and arable crops. Experience of dealing with residential applications on sites of this nature has shown that they can generally accommodate a degree of residential development without triggering an adverse effect on the integrity of the SAC. However, in the majority of cases it has been necessary to retain and buffer key flight lines (typically hedgerows and riparian habitats) within dark corridors and / or incorporate substantial areas of native landscaping in order to compensate for unavoidable losses of foraging habitat or commuting routes.

Incorporating commuting routes in this manner can have significant implications on the capacity and layout of sites with the proportionate impact of vegetation buffers being greater on smaller sites and those comprising small field systems with a high edge to volume ratio.

In addition, it is important that vegetation which is required for mitigation purposes is not under the control of individual householders whose amenity requirements become increasingly at odds with aging trees and hedgerows demanding of maintenance. It must therefore be incorporated into communally held land with appropriate measures in place to fund and implement in-perpetuity management. The shrinkable clays in Trowbridge considerably increases the distance that must be retained between vegetation and the nearest built development if the Council is to be able to rely on it as mitigation for the lifetime of the scheme. Although in recent mitigation schemes the council has looked for buffer distances of up to 16m from built development, it is becoming apparent that these buffers may need to be increased where development occurs on shrinkable clays as the Council has most recently been forced to remove large numbers of retained and newly planted trees where they have contributed to subsidence on developments which are 15-20 years old in the Trowbridge area.

It is worth noting that further site specific assessments will be available to inform detailed design and project level HRA at the planning application stage; the specific mitigation requirements would need to be fully designed and tested on the basis of detailed survey information and layouts at that

⁷⁸ Bath and North East Somerset (2014) *Habitats Regulations Assessment of the Bath and North East Somerset Core Strategy (Local Plan Part 1)*

stage. This is not uncommon in a multi-stage consent process, and the Advocate General has made clear that *'adverse effects on areas of conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan'*⁷⁹. For the current plan, it is clearly not possible to be any more specific about the final mitigation measures which would allow the Council to be sure these sites would have no effect on the integrity of the SAC. However, in such situations relevant guidance⁸⁰ advises that caveats or restrictions can be acceptable in order to conclude beyond reasonable doubt that the plan or project would not have an adverse effect on the integrity of the site provided these caveats or restrictions were met before the project proceeded. Consequently policy text has been included in the recommendations below for each of the options identified in Table 7, identifying the key habitat features at each site which should be retained and buffered within the development of the site.

Residual Effects of Habitat Loss / Deterioration

In addition to the site specific effects of habitat loss / deterioration which should be largely avoided through the design approach secured by the recommended changes to policy wording, there is likely to be an unavoidable, residual cumulative effect of ongoing urbanisation at a landscape scale around Trowbridge. This is difficult to quantify as relatively little is known about the effects of landscape scale urbanisation on Bechstein's bats, and such effects are also likely to take place gradually, over the long term. In order to address this, the Council is developing a mitigation strategy for Trowbridge, the "Trowbridge Recreation Management Mitigation Strategy", which will address the effects of both residual habitat loss / deterioration and those of recreational pressure (see below). In relation to habitat loss / deterioration, the emerging strategy aims to enhance undeveloped areas of land in the landscape surrounding the key roost sites and the peripheral landscape of Trowbridge.

In order to improve the quality of the wider landscape for foraging Bechstein's bats, and therefore the resilience of the population, it would be necessary to improve the quality of currently sub-optimal farmland habitats. This could include creating new foraging resources as well as improving habitat connectivity to make existing resources more accessible to bats. These improvements would have greatest impact where they can be delivered within the expected home range of the Bechstein's population, which is typically considered to be within a 1.5km radius of existing roosts (as shown in the Council's guidance document). However this may be extended to accommodate strategic commuting routes as recent radio-tracking shows the range of the Trowbridge population may be much greater. The priorities would be to extend and join the existing woodlands as far as possible and to improve / create woodland habitats along strategic flight routes such as watercourses. However opportunities to enhance the landscape generally for bats would also be pursued.

Delivery of this option is likely to involve 3rd party land owners in the local area, which might include private estates, public providers and NGOs. Areas of woodland creation could be funded through S106 payments, and it may also be possible to draw down payments from Woodland Grant Schemes while NGO's may be able to demonstrate that planting costs can be reduced by using volunteers.

⁷⁹ UK v Commission (C-6/04) - Advocate General's Opinion

⁸⁰ DTA Publications. Essential guidance for the assessment of plans and projects under the UK Habitats Regulations (published online)?

Developers may be able to contribute woodland planting within development sites towards the strategy where it is within the expected home range of the population and can be expected to be accessible and suitable for Bechstein's bats. There is also scope for 3rd parties to plant up land in advance to provide biodiversity offsetting credits for future purchase by developers.

Delivery of these measures will prove more challenging and take longer to deliver than other measures and can therefore be given only limited weight for the purposes of this assessment at the current time. Nonetheless, Natural England has initially shown support for this approach, and their approval of the strategy will be secured before adopting this plan.

It is therefore recommended that all policies include a commitment to contribute towards the delivery of the Trowbridge Recreation Management Mitigation Strategy. Contributions could either be through a financial contribution or direct provision of equivalent new infrastructure over and above normal Council requirements to deliver new habitat and recreational opportunities in line with criteria in the strategy. The following property text is recommended for inclusion with each of these above options:

Conclusions on Integrity Test

The allocations proposed in the plan are likely to have significant effects on the local Bechstein's population associated with the Bath and Bradford on Avon Bats SAC, particularly when the effects of the plan as a whole are considered, as this cluster of sites will coalesce the urban landscape south of Trowbridge, which could sever strategic flight routes between the key roosts to the east of the town and the underground sites west of the town. Sensitive design parameters are to be embedded within the policies, which set out a clear, established approach to retaining commuting routes for this species and should avoid the most acute and direct fragmentation of routes within each site, particularly as these are further refined through detailed assessment and design at the planning application stages.

Some residual effects of habitat loss / deterioration are likely to be unavoidable in the long term due to landscape scale urbanisation from the projects in combination and uncertainty about the sensitivities of Bechstein's bats to such changes. This residual uncertainty will be addressed through the Council's emerging Trowbridge Recreation Management Mitigation Strategy, which will aim to restore habitats surrounding the key roost sites for Bechstein's thereby increasing foraging resources and landscape connectivity and thus secure the favourable conservation status of the population as result. It is therefore concluded that the plan would not have an adverse effect on the integrity of the Bath and Bradford Bats SAC alone or in combination with other plans or projects, subject to the policy recommendations made in this assessment, and the completion and delivery of the emerging Trowbridge Recreation Management Mitigation Strategy.

Recommendations – Bath and Bradford on Avon Bats SAC Habitat Loss / Deterioration

It is recommended that the following is included in the policy wording for policies H2.1 – H2.6

H2.1 – Elm Grove Farm

The site is in an area likely to be used by Bechstein's bats associated with the Bradford and Bath Bats SAC. Sensitive habitat features on / adjacent to the site include:

- *Drynham Lane / Road*
- *The railway line*
- *Woodland belts associated with the White Horse Business Park*
- *The small tributary to the River Biss*
- *hedgerows*

These features should be retained and / or buffered from development (including residential gardens) by wide (10-16m), dark (<1 lux), continuous corridors of native landscaping which will allow for their long-term protection and favourable management in order to secure continued or future use by Bechstein's bats.

Development will also be required to contribute towards the delivery of the Trowbridge Recreation Management Mitigation Strategy through a financial contribution or direct provision of equivalent new infrastructure over and above normal Council requirements to deliver new habitat and recreational opportunities in line with criteria in the Strategy.

H2.2 - Land off the A363 at White Horse Business Park

The site is in an area likely to be used by Bechstein's bats associated with the Bradford and Bath Bats SAC. Sensitive habitat features on / adjacent to the site include:

- *Woodland belts associated with the White Horse Business Park*
- *Network of hedgerows*
- *Grounds of Willow Grove*

These features should be retained and / or buffered from development (including residential gardens) by wide (10-16m), dark (<1 lux), continuous corridors of native landscaping which will allow for their long-term protection and favourable management in order to secure continued or future use by Bechstein's bats.

Development will also be required to contribute towards the delivery of the Trowbridge Recreation Management Mitigation Strategy through a financial contribution or direct provision of equivalent new infrastructure over and above normal Council requirements to deliver new habitat and recreational opportunities in line with criteria in the Strategy.

Recommendations (continued) – Bath and Bradford on Avon Bats SAC Habitat Loss / Deterioration

H2.3 – Elizabeth Way

This site is potentially used by Bechstein's bats associated with the Bradford and Bath Bats SAC. Potentially sensitive habitat features on / adjacent to the site include:

- *Mature trees*
- *Hedgerows*
- *Stream at the northern end of the site*

These features should be retained and / or buffered from development (including residential gardens) by wide (10-16m), dark (<1 lux), continuous corridors of native landscaping which will allow for their long-term protection and favourable management in order to secure continued or future use by Bechstein's bats.

Development will also be required to contribute towards the delivery of the Trowbridge Recreation Management Mitigation Strategy through a financial contribution or direct provision of equivalent new infrastructure over and above normal Council requirements to deliver new habitat and recreational opportunities in line with criteria in the Strategy.

H2.4 - Church Lane

The site is in an area likely to be used by Bechstein's bats associated with the Bradford and Bath Bats SAC. Sensitive habitat features on / adjacent to the site include:

- *Boundary with 'Framfield' on Church Lane*
- *Boundary hedgerows*
- *Lambrok Stream*

These features should be retained and / or buffered from development (including residential gardens) by wide (10-16m), dark (<1 lux), continuous corridors of native landscaping which will allow for their long-term protection and favourable management in order to secure continued or future use by Bechstein's bats.

Development will also be required to contribute towards the delivery of the Trowbridge Recreation Management Mitigation Strategy through a financial contribution or direct provision of equivalent new infrastructure over and above normal Council requirements to deliver new habitat and recreational opportunities in line with criteria in the Strategy.

Recommendations (continued) – Bath and Bradford on Avon Bats SAC Habitat Loss / Deterioration

H2.5 – Upper Studley

The site is in an area likely to be used by Bechstein's bats associated with the Bradford and Bath Bats SAC. Sensitive habitat features on / adjacent to the site include:

- *Boundary hedgerows / tree lines*
- *Lambrok Stream*

These features should be retained and / or buffered from development (including residential gardens) by wide (10-16m), dark (<1 lux), continuous corridors of native landscaping which will allow for their long-term protection and favourable management in order to secure continued or future use by Bechstein's bats.

Development will also be required to contribute towards the delivery of the Trowbridge Recreation Management Mitigation Strategy through a financial contribution or direct provision of equivalent new infrastructure over and above normal Council requirements to deliver new habitat and recreational opportunities in line with criteria in the Strategy.

H2.6 – Southwick Court

The site is in an area likely to be used by Bechstein's bats associated with the Bradford and Bath Bats SAC. Sensitive habitat features on / adjacent to the site include:

- *Boundary hedgerows*
- *Axe and Cleaver Lane*
- *Lambrok Stream and issues*
- *Moat and grounds at Southwick Court*

These features should be retained and / or buffered from development (including residential gardens) by wide (10-16m), dark (<1 lux), continuous corridors of native landscaping which will allow for their long-term protection and favourable management in order to secure continued or future use by Bechstein's bats.

Development will also be required to contribute towards the delivery of the Trowbridge Recreation Management Mitigation Strategy through a financial contribution or direct provision of equivalent new infrastructure over and above normal Council requirements to deliver new habitat and recreational opportunities in line with criteria in the Strategy.

Bath and Bradford on Avon Bats SAC – Recreational Pressure

In addition to the conservation objectives, SSSI condition monitoring and site improvement plan, the following additional sources of information were used to inform the appropriate assessment.

Information Used in Making the Assessment

Wiltshire Core Strategy

During the course of the examination process, it became necessary to significantly increase the proposed housing numbers for Trowbridge by an additional 950 dwellings. This proposed modification was subject to HRA, which identified that these additional dwellings would increase recreational pressure on the woods to the south east of the town. The HRA concluded:

At the current time it is not possible to accurately assess the effects of the additional 950 houses at Trowbridge upon the Bechstein's populations, as this will be dependent upon the location, size and nature of the relevant development sites. Nonetheless, the general quantum of proposed development at Trowbridge does have the potential to affect the Bechstein's populations, particularly if this is delivered to the south east of the town. Nonetheless, it is considered that the additional housing could feasibly be delivered without the need to develop any further to the south east by resolving transport issues to the north east, releasing Greenbelt land to the west of the town or adopting a dispersed option involving multiple smaller sites around the town. It is also worth noting that the housing figures for each community area have now been relaxed from 'at least' to 'approximately', therefore if the 950 houses cannot be sustainably delivered at the town there is the option to deliver some of this requirement in surrounding community areas within the wider HMA. Nonetheless it is important that potential effects upon the Bechstein's populations are given due regard and attention throughout the site selection process. While CP29 only sets a strategic target for housing at Trowbridge rather than a specific location, it also now includes a clear requirement for the protection of bats and their habitats to be a key determinant in the allocation of sites through the forthcoming Site Allocations DPD.

CP29 of the Wiltshire Core Strategy was also amended to reflect the recommendations and conclusions of the HRA by the inclusion of the following text:

An additional 950 dwellings will then be developed at the town once improved secondary school provision is in place towards the end of the plan period and there has been a further assessment of the effects on protected bat species and their habitats to ensure that they are properly safeguarded.

The assessment clearly highlighted the location of development (specifically proximity to the woods) as a key determinative factor in the likely significance of any effects, and advocated avoiding development close to the woods in favour of other locations at a greater distance, or even at other towns if necessary. The final distribution of sites was therefore to be determined through the current plan in line with this recommendation following a fuller assessment of the potential site options.

Ashton Park Appropriate Assessment

The Council is undertaking an appropriate assessment of the Ashton Park outline planning application, which comprises 2,500 homes, employment land, school provision, a local centre and country park in close proximity to Biss Wood and Green Lane Wood. Extensive baseline surveys have been carried out to inform the assessment which show that Bechstein's bats also use the wider landscape surrounding the woods including hedgerows, isolated mature trees, small woodlands and the River Biss and its tributaries. A review of previous bat monitoring surveys and recent emergence surveys in the woods has also been used to provide a provisional population estimate of 350-700 individuals, which would make this one of the largest known Bechstein's breeding colonies in the UK, and could represent 23-47% of the reported UK population.

A key consideration in the Ashton Park assessment has been the potential effects of increased recreational pressure on the woods resulting from the residential development. Potential effects include:

- damage to and loss of foraging habitats such as ground flora and understorey as a result of trampling and fires
- damage and destruction of roosting features as a result of fires and vandalism
- disturbance, killing and injury of roosting bats as a result of vandalism, particularly maternity colonies using bat boxes
- general disturbance from walkers, dogs, fires etc.

The anticipated risk of these effects actually occurring as a result of the Ashton Park development has been exacerbated by a recent review of impacts and mitigation measures associated with the recently built Castlemead development (see below).

As a result of the issues highlighted by the appropriate assessment and concerns raised by Natural England, housing has been avoided in close proximity to the woods (replaced by employment land) and the site has been designed in a manner that will prevent new residents readily accessing Biss Woods on foot. A bespoke package of access management and wardening has been agreed with the Wiltshire Wildlife Trust (WWT) sufficient for the Council to conclude that recreational pressure from this development will not have an adverse effect on the integrity of the SAC. However some residual effects are anticipated and these will need to be considered in combination with the effects of the current plan.

Castlemead

This is a development of 650 dwellings located approximately 100m from Green Lane Woods which commenced construction in 2011, with approximately 550 dwellings having been constructed when the site was inspected by Council Ecologists in summer 2016. The presence of Bechstein's bats was known when permission was granted but the size and significance of the population was not fully understood at that time. A Habitat Creation Mitigation and Monitoring Plan (HCMMP) was subsequently drawn up and secured by S106 with the developer. The plan was considered to be exceptionally rigorous at the time and relied on the developer creating new habitats prior to first

occupation of the development which would be managed in-perpetuity by Wiltshire Wildlife Trust. The aim of the new habitats was to distract residents away from Green Lane Wood.

The inspection found that habitat creation and planting did not take place until at least three years after first occupation, some mitigation measures had still not yet been implemented and the agreement with WWT had not been signed to allow the trust to take over management of nature conservation land. An inspection of Green Lane Wood accompanied by WWT confirmed that visitor access to the wood had increased significantly since construction commenced at both Castlemead and another nearby residential development site North of Green Lane. Damage to ground flora was already apparent and WWT also reported increasing problems with fires, rubbish and vandalism of bat boxes, including some known to be used by the Bechstein's maternity colony. The site has been a Trust reserve for many years without problems, and while WWT are not opposed to the principle of increased visitors to their site, they consider that more resources will be needed to manage this pressure in the future, particularly the more damaging effects of vandalism and fires, which have only emerged since development commenced at Castlemead and North of Green Lane.

The inspection also revealed that Biss Wood, identified within the HCMMP as an area from which the public would be excluded, had since been bequeathed to WWT and was now being promoted for public access with gates, interpretation boards and way-markers.

It was evident from the site inspection that the S106 agreement had been insufficient to secure the requirements of the HCMMP and that recreational pressure from new developments close to the woods was already having a tangible effect on the foraging and roosting habitat of the Bechstein's population in Green Lane Wood. As those developments are largely complete they would normally not be included in any in-combination assessment as part of this HRA, however the negative effects of those developments are clearly ongoing and likely to be permanent, and will therefore be taken into account as part of the baseline for the purposes of the current assessment.

With reference to the case of Bagmoor Wind, it is also appropriate for the Council to take account of difficulties in the delivery of similar mitigation measures at other sites. The uncertainties in the success of the agreed mitigation measures at the nearby Castlemead development will therefore be a relevant consideration in assessing the efficacy of potential mitigation measures at other sites in this area which might give rise to similar effects, particularly in relation to recreational pressure.

Population Monitoring

Counts have been made of Bechstein's bats using bat boxes in Green Lane Wood since 1999⁸¹ ⁸². These show that the maternity colony regularly stood at 17 to 71 bats between 2004 (average 44 bats). Numbers fell dramatically in 2012 to 2014 to an average of two bats which coincided with the peak period of construction and occupation for the two nearby development sites. In 2015 the maximum maternity colony size returned to 39. In 2016 the maternity colony (108 bats), was at one point found to have left Green Lane Wood in order to roost in a field hedgerow tree several hundred metres away.

Bechstein's are notoriously difficult to monitor with any reliable degree of certainty due to their roosting ecology which involves regular switching between roosts mainly within the same wood and sometimes between woods, of which there are several in the vicinity of Green Lane Wood. In the absence of data for all woods, it is therefore difficult to draw clear conclusions on the status of the colony from the above results. However, the monitoring results clearly do not provide any confidence that the population is stable or currently at a favourable conservation status and this seems likely to be related to increasing recreational pressure on the woods.

Response from Natural England

In their response to the emerging plan, NE expressed concerns about the proposed options to the south east of the town and their potential effects on the woods and associated bat populations, including the ability to mitigate those effects:

Trowbridge North and South – bat impact

Allocations 292 and 256 in the North and 613 and 3418 in the South all have the potential to impact upon bat habitat. Recent surveys have discovered high numbers of Bechstein's bats within the woods to the South of Trowbridge – these sites are particularly close to Green Lane Wood which is also a Local Nature Reserve and Biss Wood, where many were counted. Therefore further allocations in these areas will require substantial surveys and impacts on bats could prove difficult to mitigate.

NE has also raised specific concerns about the scale and proximity of development to the woods in relation to the Ashton Park planning application. As a result, two of the options closest to Green Lane Woods, options 292 and 256, were removed from the plan at an earlier stage in the site selection process.

Effects Alone

The breeding population of Bechstein's bats in Green Lane Woods is known to be linked to the Bath and Bradford on Avon Bats SAC sites⁸³. Little is known about the tolerance of this species to difference forms of human disturbance, however NE has raised concerns that it is likely to be

⁸¹ Ecological Monitoring at Green Lane Wood, Trowbridge: Survey Results 2014, prepared by Dani Linton for Wiltshire Wildlife Trust

⁸² Ecological Monitoring at Green Lane and Biss Wood, Trowbridge: Survey Results 2015, prepared by Elizabeth Weidt for Wiltshire Wildlife Trust

⁸³ Bats ringed in Green Lane Woods have been trapped while swarming at Box Mine SSSI

sensitive to lighting, noise, habitat fragmentation/degradation and severance of commuting routes and impacts are more likely to occur where the effects are cumulative. Indeed individual and small groups of Bechstein's bats are likely to be particularly vulnerable to disturbance given that natural roost features often tend to include features such as flaking bark and rotten limbs of old trees, which are inherently vulnerable to damage and disturbance. Bats are known to be sensitive to many forms of anthropogenic disturbance, although the exact causal mechanism is currently unknown due to a lack of scientific evidence. Bechstein's are thought to be particularly sensitive as they are very rarely recorded in urban locations.

Larger groups of bats are frequently recorded occupying the wooden bat boxes erected on trees in the woods. These are particularly vulnerable to vandalism, with seven out of 18 boxes having been damaged / destroyed in the past few years since nearby developments have become occupied and, probably as a consequence, numbers in the remaining boxes dropped markedly between 2012 and 2014. In 2016 the maternity colony was also found to have left Green Lane Wood in order to roost in a hedgerow tree in open farmland. This is the first time the colony has been recorded roosting outside the woods in any significant numbers, and although it may have happened in the past, it is considered to be atypical behaviour for this species based on the literature, and raises questions as to whether disturbance might be causing them to alter their behaviour.

Maternity colonies of Bechstein's tend to be focussed around blocks of high quality ancient woodland. There tends to be a high degree of resource partitioning and competition between the females; the most dominant females defend the best foraging resources in the woodland core while sub-dominant females, juveniles and males forage within lower quality habitats, often outside of the main woodlands. It is therefore likely that the carrying capacity of Green Lane Wood is dependent upon the quality of its sensitive ancient woodland habitats and the resulting biomass of invertebrate prey items which it can support. Research has shown that increased disturbance can damage such habitats through trampling of vegetation, soil compaction and vandalism⁸⁴. Urbanisation is also known to have negative effects on invertebrate populations, with complex causal factors ranging from small scale vegetation structure and management within habitat patches, to larger scale effects including changes in surrounding land uses^{85,86}. It is therefore feasible that loss of ground flora and understory in the woods through recreational pressure and urbanisation of the surrounding landscape might result in a reduction in the diversity and abundance of invertebrate prey for the Bechstein's population and a reduction in the carrying capacity of the woods as a consequence. This could increase the population's reliance on the surrounding sub-optimal farmland habitats. Trapping and radio-tracking studies of the population have already shown that a proportion of adult female Bechstein's bats currently forage in farmland surrounding the woods, indicating that the woods might already be at their carrying capacity. A reduction in the quantity and quality of farmland habitats close to the woodlands due to further development could force bats to forage yet further afield with unknown consequences for the population's status in south Trowbridge.

⁸⁴ Corney *et al* (2008) *Impacts of nearby development on the ecology of ancient woodland*

⁸⁵ Lintott, P.R. *et al* (2014) *Moth species richness, abundance and diversity in fragmented urban woodlands: implications for conservation and management strategies*

⁸⁶ Jones, E.L. and Leather, S.L. (2012) *Invertebrates in urban areas: A review*

It is a generally accepted that recreational pressure from residential development tends to decrease with distance. In Wiltshire, approximately 91% of visits to woods are made for the purpose of walking (with or without a dog) rather than other activities⁸⁷. The majority of visitors also appear to fall into one of two categories of either a daily visitor (37% visiting 6-7 times per week), or a weekly visitor (43% visiting 1-2 times per week). It is therefore considered that any developments located within easy walking distance of the woods have the potential to give rise to recreational impacts in their own right before cumulative effects are considered. This is firstly because a high proportion of the residents of such developments can be expected to use the woodlands frequently e.g. for daily dog-walking visits. Secondly the proportion of people who go on to cause direct harm either deliberately or unwittingly especially at night may be expected to be higher the closer the development is to the woodland. This is supported by observations at Green Lane Wood, where damaging activities have only started to occur since the most recent two permissions were completed each coming to within 500m of the Green lane Wood.

Through discussions with Natural England, it was agreed that development in close proximity to the woods would be higher risk and more difficult to mitigate than development further away. Risks would be greatest where development would be built out prior to or concurrently with Ashton Park, before mitigation measures for that scheme have been fully implemented and shown to be effective which is likely to be after the end of the currently plan period. Avoidance of development in this zone is therefore likely to be a key principle of the Trowbridge Recreation Management Mitigation Strategy and on this basis policy options closest to the woodlands have been removed from the plan.

The Zone of Influence

DfT statistics⁸⁸ show that 51% of adults in Wiltshire will walk for recreation at least once a week, while 23% will walk at least five times a week. Of those who walk recreationally, 59% of trips are for up to an hour in length, with 29% lasting 1-2 hours and 11% lasting over 2 hours. The average walking speed is 4km/hour.

NE research⁸⁹ showed that 77% of people visiting woodlands in Wiltshire came from locations within 2 miles of the wood during the period March 2009 and February 2014. During the same period, 77% of people visiting woodlands in Wiltshire reported they walked to the woods while 19% reported to have travelled by car or van.

The visitor catchment will vary considerably from site to site and the Council has therefore commissioned a visitor survey to establish the catchment for woodlands in the Trowbridge area. Until that study is completed, the zone of influence has been assumed to be approximately 2 miles/3.2km based on the above NE research. This would appear to capture the 75th percentile of visits which is the visitor threshold use for other similar studies and appropriate assessments e.g. the zone of influence for the Thames Basins is set at 5km, which is intended to capture 75% of visits.

⁸⁷ Natural England - Monitoring of Engagement with the Natural Environment survey

<https://www.gov.uk/government/collections/monitor-of-engagement-with-the-natural-environment-survey-purpose-and-results>

⁸⁸ DfT Walking and Cycling Statistics Table CW0105 Proportion of how often and how long adults walk for (at least 10 minutes) by local authority, 2014/15

⁸⁹ Natural England - Monitoring of Engagement with the Natural Environment survey

<https://www.gov.uk/government/collections/monitor-of-engagement-with-the-natural-environment-survey-purpose-and-results>

Development within the Zone of Influence

All six of the proposed allocations for Trowbridge (as set out in Table 5) fall within the currently assumed zone of influence of the woods. These allocations would introduce an additional 1,816 additional residents into the assumed zone of influence of the woods (800 dwellings x occupancy of 2.27 people per dwelling), which would contribute to recreational pressures on the woods. This figure indicates that although individual options within the zone of influence are likely to have variable, and in some cases fairly minimal effects upon visitor pressure at the woods, the effects of the plan as a whole would be significant. It is therefore not possible to conclude that the plan would not have an adverse effect on the integrity of the SAC when considered alone through increased disturbance and a reduction in the ecological carrying capacity of the woods as a result of further habitat degradation. These effects could impact on the following conservation objectives for the site:

- The extent and distribution of the habitats of qualifying species
- The structure and function of the habitats of qualifying species
- The supporting processes on which the habitats of qualifying species rely
- The populations of qualifying species

In-combination Effects

Other relevant plans and projects in the zone of influence include the following currently pending or approved planning applications:

- 16/00672/OUT - Land West of Elizabeth Way, Southwest of Hilpertons Marsh, Trowbridge – 180 dwellings (2.2 km from Green Lane Wood)⁹⁰
- 13/06879/OUT Land South of Devizes Road, Hilpertons - 15 dwellings (2.1 km from Green Lane Wood)
- 15/11267/FUL Parcels P8 and P9b Castlemead - 26 dwellings (300m from Green Lane Wood)
- 16/04468 (2 parcels) Land South West of Ashton Road - 250 dwellings (60m from Green Lane Wood)
- 15/04736/OUT - Land south east of Trowbridge – 2,500 dwellings (750m from Biss Wood)
- 16/00547/FUL - Land to the West of Drynham Lane and to the East of Eagle Park, Southview Farm Drynham Lane – 91 dwellings (1.8 km from Biss Wood)

On this basis, other plans and projects would result in an additional 3,062 dwellings in the zone of influence of the woods, equivalent to 6,951 additional residents. The total in-combination effects of growth currently proposed at Trowbridge is therefore 3,862 additional dwellings, equivalent to 8,767 additional residents potentially visiting the woods.

These figures demonstrate that the in-combination effects of growth at Trowbridge would have a very significant effect on visitor pressure at the woods, and therefore in the absence of mitigation it is not possible to conclude that the plan would not have an adverse effect upon the integrity of the SAC when considered in combination with other plans and projects.

⁹⁰ This relates to the same land as the policy H2.3 – Elizabeth Way

Mitigation Measures

The Trowbridge Recreation Management Mitigation Strategy is being prepared to offset the effects of this Plan arising from habitat loss / deterioration and recreational pressure is in progress. The following principles have emerged during ongoing discussions with Natural England which are relevant to the strategy and the objective of managing recreational pressure.

Avoid Development within Easy Walking Distance to the Woods

Measure

As explained above, development closest to the woods will generate the highest proportion of frequent visitors, as well as the highest proportion of visits which lead to direct harm either deliberately or unwittingly through fires, vandalism etc. Measures to distract those people living within an easy walking distance of the woods are unlikely to be effective due to their proximity, accessibility and attractiveness. Similar conclusions have been drawn in attempting to mitigate the effects of recreational pressure on other Natura 2000 sites e.g. Thames Basin Heaths and Dorset Heaths. The Council therefore proposes not to allocate land for housing development within easy walking distance of the woods. For the time-being this distance is based on evidence arising as a result of the Castlemead development but the visitor survey commissioned by the Council will provide further evidence on which to base this judgement. Avoiding development within this zone will make a significant contribution to reducing the most damaging sources of recreational pressure.

Delivery

This would be delivered by the Council through its plan making function and administration of planning applications. An example of where this approach has already been effective is at Ashton Park where relocation of a substantial number of residential dwellings has been necessary in order to avoid any dwellings being within easy walking distance of the woods.

Woodland Wardening and Country Park Management

Measure

Best practice for managing urban woodlands demonstrates that communication and engagement with local residents is vital to managing recreational pressure and minimising antisocial behaviour.^{91,92} The use of wardens is known to have a positive effect on the use of urban woods by reinforcing security, recording and reporting incidents, managing access, ensuring prompt management, as well as promoting understanding and encouraging engagement with the community. An evaluation of wardening schemes has shown they are effective at addressing antisocial behaviour⁹³, and case studies have demonstrated the significant positive effects that an onsite presence can have on urban greenspaces⁹⁴.

WWT own Green Lane and Biss Woods and woodland management is overseen by their Reserves Management Team which is also responsible for a large number of other Trust owned sites. The

⁹¹ Urban Woodland Design: Minimising Anti-social Behaviour Through Design (Forestry Commission)

⁹² Woods in and Around Towns (Scottish Natural Heritage)

⁹³ Neighbourhood Wardens Scheme Evaluation (ODPM, 2004)

⁹⁴ Decent Park, Decent Behaviour (CABE)

team has highlighted that visitor numbers have increased significantly since the closest housing sites have been built out and this is having a visible effect on the woods. The Trust has advised that a greater onsite presence is required to manage pressures on the woods adequately.

The developers for Ashton Park have therefore worked with the Council and the Trust to identify a package of measures which would be adequate to allow the HRA for that development to conclude no adverse effect on the integrity of the Bath and Bradford on Avon Bats SAC. If that application is approved, a dedicated warden would be provided and the woods and associated country park land would be managed in accordance with a management plan approved through the planning process. The effectiveness of the plan would be reviewed annually by a body comprising the Trust, Natural England and community and Council representatives. The body would review relevant site management including access in light of the latest monitoring information (see below) and feedback / observation from the stakeholders, and would agree measures to address emerging issues. Such oversight would ensure that standards continue to be maintained in the long-term, issues are addressed in a timely manner, provide confidence to the statutory bodies, and ensure that the local community are informed and have a role in how the woods are managed.

While the warden and governance arrangements would not aim to deter visitors, they would enable recreational pressure to be managed more effectively and increase resilience. On site presence of the trust will allow responsible behaviours to be promoted, harmful behaviour to be challenged, offer the opportunity for residents to engage with woodland management and provide a point of contact for residents to share concerns. The resulting sense of shared ownership is likely to be the most effective means of minimising inappropriate behaviours. While it is not possible to quantify these, the evidence of similar schemes elsewhere indicates that benefits would include effective control of woodland access points, reduced off path trampling and elimination of damaging activities such as informal fires and vandalism of bat boxes.

Delivery

It is currently anticipated that the developers for Ashton Park would fund the preparation of an overarching Ecological Management Plan for the area and provide a warden's office / volunteers meeting point as well as a full time warden from first occupation of the development. While funding for the warden and the creation of new habitats and their management would initially come from the developer, in the long term these would be funded through contributions from the annual management fee paid by Ashton Park's residents. Payment of contributions and representation on the oversight body would create a sense of ownership stewardship which will help to incentivise sensitive and sustainable use of the area into the future.

Suitable Alternative Natural Greenspace to offset recreational visits from within the zone of influence

Measure

A tried and tested approach to reducing recreational pressure on sensitive sites is through the provision of Suitable Alternative Natural Greenspaces (SANGs), which attract users to alternative sites away from sensitive areas. This approach has been implemented for many years at some sites

and a recent evaluation of this approach in the Thames Basin Heaths demonstrates that it has suppressed visitor pressure at heathland SPA (Special Protection Areas) sites over an eight year period despite an increase in residential properties within the zone of influence of 7.2%⁹⁵.

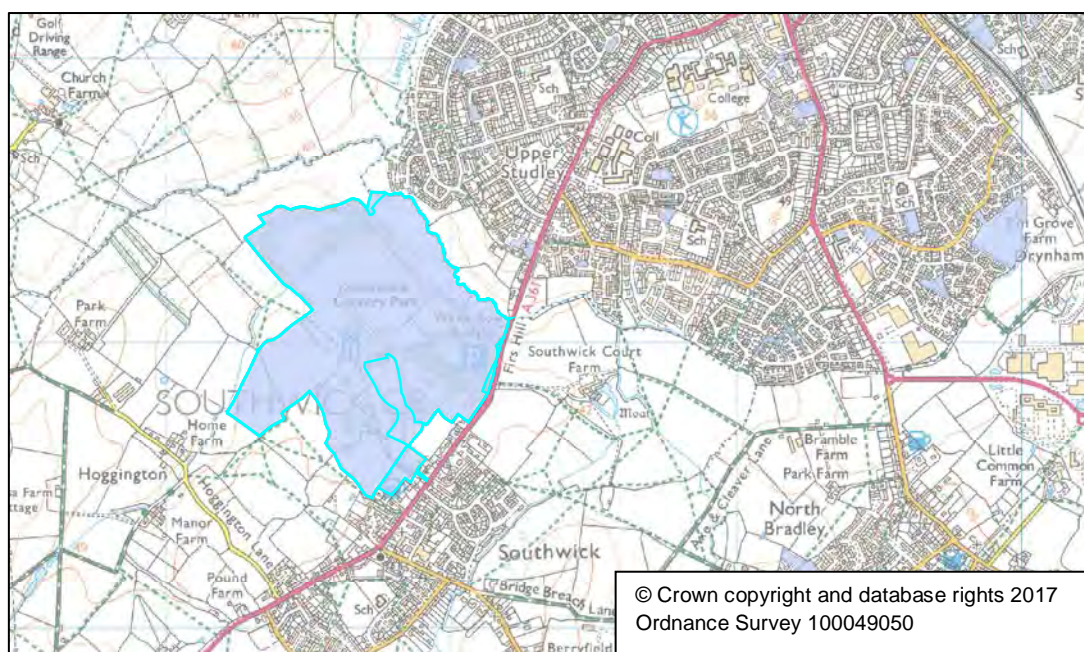
SANGs can comprise:

- existing open space of SANGs quality which currently has no or limited public access, but which would be suitable for making fully accessible to the public;
- existing open space which is already accessible but which could be changed in character to make it more attractive to the specific group of visitors who might otherwise visit the sensitive area; or
- land in other uses which could be converted into SANGs

At the Thames Basin Heaths, SANGs must meet the following threshold criteria:

- be at least 4ha in size
- have adequate car parking, which should be clearly signposted and accessible
- incorporate circular routes of 2.3-2.5km in length
- have paths which are well maintained
- include interpretation and way marking
- have a semi-natural appearance including woodlands, waterbodies etc., and avoid artificial structures and urbanising elements.
- have areas where dogs can be let off their leads

The Council has identified three sites in the local area which broadly meet the minimum requirements for SANGs suggested above, but could be improved to increase their attractiveness to users.



⁹⁵ Natural England (2014) Results of the 2012/13 visitor survey on the Thames Basin Heaths Special Protection Area (SPA)

Figure 5 - Location and Extent of Southwick Country Park (highlighted in light blue outline)

Southwick Country Park is a 50ha site located on the southern edge of Trowbridge. It includes areas of open grassland, hedgerows and woodland, a 60 space car park, and includes the Hope Nature Centre and cafe. The site is open access and users can take a number of routes through the site including a 1.8km surfaced path which provides a circular route to and from the car park. A visitor survey carried out in 2013 showed that the site is generally used by walkers (particularly dog walkers) and runners. Most people (approximately 75%) arrive by car and travel up to 15 minutes to reach the site. That survey supports Natural England survey data which also suggests that Country Parks in Wiltshire have relatively large visitor catchments and the majority of people arrive by car, with 49% of visits originating within 2 miles, 67% within five miles, and 85% within 10 miles; it is therefore expected that the entire town of Trowbridge would fall within the 75th percentile visitor catchment for the park. Southwick Country Park currently has no budget for management or upkeep of facilities at the site, and recent discussions with the staff responsible for management has identified an increasing need for replacement and maintenance of the site infrastructure including (cost estimates provided where available):

- Resurfacing of existing circular path (currently in poor condition) - £74,350 – 113,079 depending on surface treatment
- A new 98m surfaced path linking the Hope Nature Centre to the existing circular route (improved accessibility) - £26,348
- 50 space overflow car park (the existing car park has been over capacity for several years) - £18,853
- Resurfacing existing car park (currently in poor condition) – no quote available yet

Staff have also suggested the creation of a natural play area would help to increase the attractiveness of the site, with basic log play structures costing around £75 each and roped elements costing around £1,400 each. A yearly inspection would initially cost £250, further inspections annually after that cost around £60. A survey of users also identified potential improvements including seating, toilets and dog bins which could be explored. Other potential options could include improved signage, promotion of the site and bike stands.

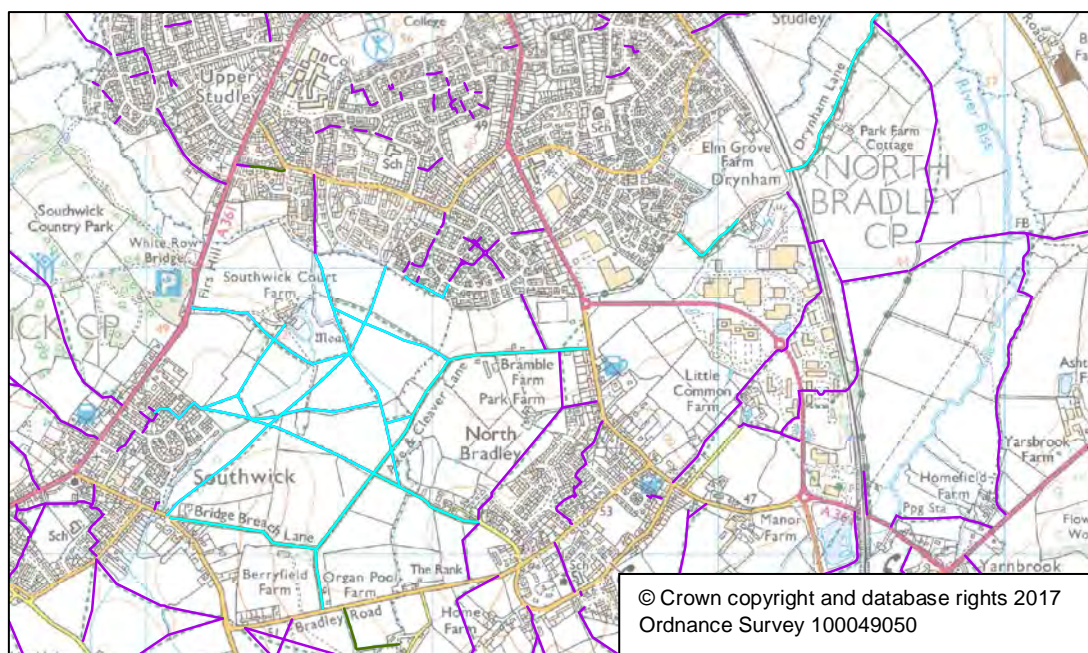


Figure 6 – Rights of Way Network with potential for improvement linking Southwick Country Park with Ashton Park Urban Extension (highlighted in light blue outline)

New development provides the opportunity to improve pedestrian and cycle routes to connect the country park with existing and proposed development in the south and western parts of the town. An orbital route linking Southwick and Biss Meadows Country parks would be a particularly attractive option especially if it included open spaces where dogs could be let off the lead.

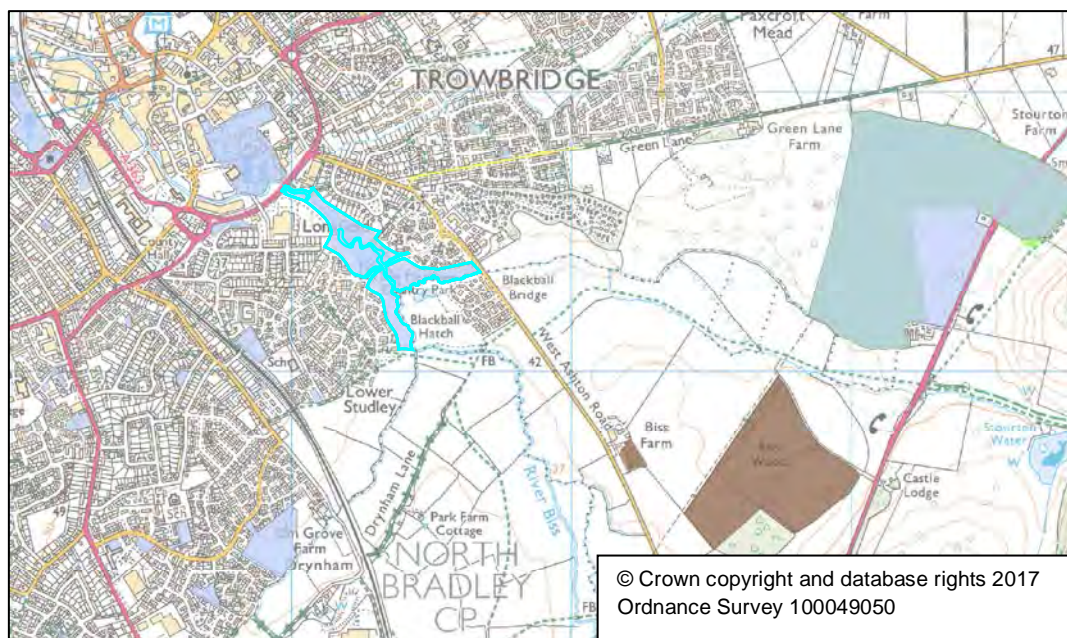


Figure 7 - Location and Extent of Biss Meadows Country Park (highlighted in light blue outline)

Biss Meadows Country Park is a 10ha site on the eastern edge of Trowbridge, linked to the town centre by footpaths. It is a linear park which runs along the River Biss which includes neutral meadows and ponds. The River Biss Public Realm Design Guide Supplementary Planning

Document⁹⁶ identified a number of potential enhancements to this area including a new waterbody with boardwalks and interpretation boards, improved pedestrian/cycle access and furniture to help make the area more attractive and accessible. Although maintenance works are undertaken by the Council and volunteers, currently capital works are needed to restore existing habitats which are becoming unmanageable. Ashton Park will provide a significant extension to the Biss Meadows Country Park as far as Yarnbrook and there is also potential to provide a further 600m link along the Lambrook Stream between the Country Park and Drynham Lane as part of the development proposals for Ashton Park and Land West of Drynham Lane.

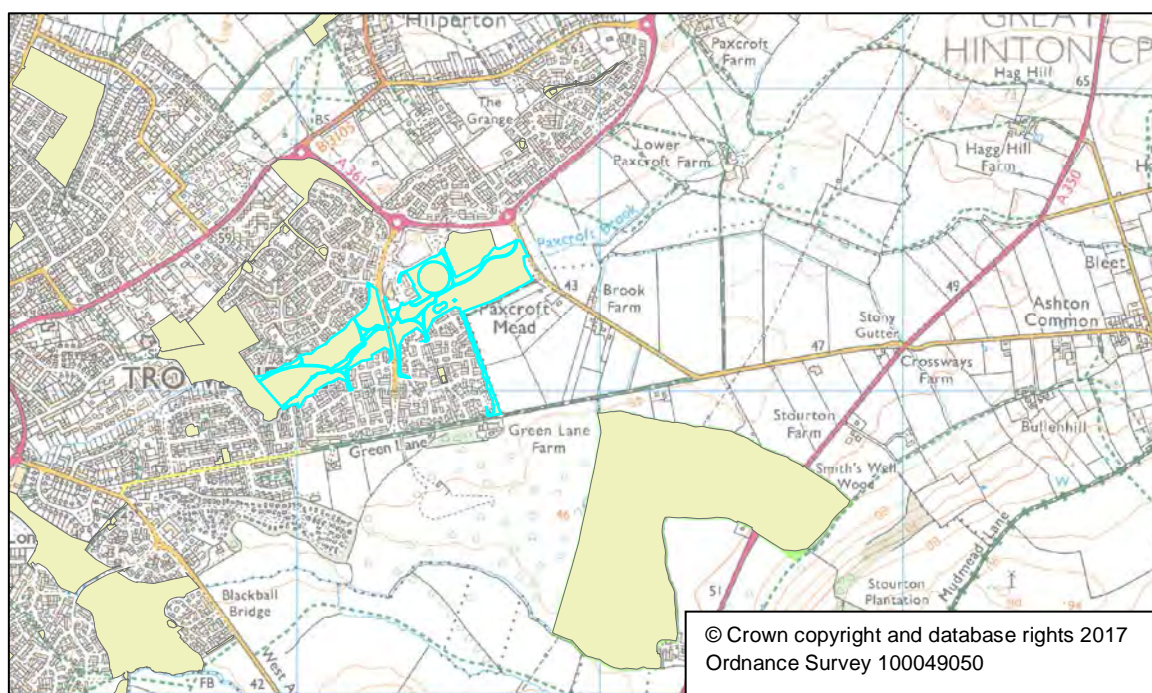


Figure 8 - Location and Extent of Paxcroft Brook Public Open Space (highlighted in light blue outline)

A 9ha area of public open space along the Paxcroft Brook was created as part of the Paxcroft Mead development, on the eastern edge of the town. This area is managed by Trowbridge Town Council and mainly comprises amenity grassland. It may be possible to improve the attractiveness of this area by diversifying the habitat structure with tree and shrub planting and providing amenity facilities such as play facilities, fitness equipment and a skate board park.

Further work has been commissioned to identify the catchment area of potential SANGs and the scope for improvements to increase their use by residents who might otherwise visit Green Lane and Biss Woods. The Trowbridge Recreation Management Mitigation Strategy will identify costed projects and give some indication of the scale of housing development that these measures might help to offset. Developments will be required to contribute to the strategy in proportion to the contribution they make to growth in the town, thereby offsetting their reasonably foreseeable impacts

Delivery

⁹⁶ <http://www.wiltshire.gov.uk/planninganddevelopment/planningpolicy/westwiltshirelocalplan.htm>

In the short to medium term, this option would primarily include improvements to Council owned sites and the rights of way network to improve capacity and facilities for local residents; the Council is therefore confident that it would be able to deliver these measures, subject to the availability of resources which would be funded through S106 payments or unilateral agreements from development within the zone of influence. Longer-term opportunities would also be explored by working in partnership with other relevant organisations such as Trowbridge Town Council and Wiltshire Wildlife Trust; details of those options are not currently available and are given limited weight at the current time, but would be developed further as part of the Trowbridge Recreation Management Mitigation Strategy.

Monitoring

A programme of monitoring would be required as part of the Trowbridge Recreation Management Mitigation Strategy to demonstrate that measures are being delivered as proposed, assess the effects of recent growth and inform future assessment work at the town. It is envisaged that the monitoring programme would comprise the following elements:

- Resources available – S106 contributions pending and received
- Capital works – money spent, infrastructure delivered, woodland planted etc
- Visitor surveys – at woodland sites and SANGs
- Habitats / invertebrate monitoring – early indicators of foraging resources
- Bat surveys – colony numbers / locations, targeted radio-tracking

The Strategy

Development of the Trowbridge Recreation Management Mitigation Strategy is being led by the Council and will require significant involvement from partners such as landowners, developers, NGOs and Natural England. The strategy will be informed by visitor survey information gathered at the woods during summer 2017 which may lead to refinement of the easy walking zone and zone of influence described above. It is anticipated that the strategy will be published by the time the current plan is adopted by the Council.

Conclusions on Integrity Test

The plan could have an adverse effect on the integrity of the SAC both alone in-combination with other planned development through increased recreational disturbance. It is considered that the effects of these options could be mitigated, subject to the implementation of the emerging Trowbridge Recreation Management Mitigation Strategy. While it is accepted the strategy is not yet complete or adopted, it is considered that it is sufficiently advanced and has sufficient support from Natural England for the Council to be confident that it will be effective and reliable. The Council is also clear on the steps required to complete and implement the strategy in advance of adoption of this plan, and that the measures can be secured for the long term through continued Council ownership of the SANGs. On that basis it can be confident that the mitigation strategy is achievable, deliverable and timely. Richards LJ confirmed in *No Adastral New Town Limited v Suffolk Coastal District Council and SSCLG* [2014] that at the plan making level of HRA, the competent authority need not have all details of mitigation that would be required before final consent of the project is issued, however it must be satisfied that the mitigation is achievable and deliverable, and

that it would prevent an adverse effect on the integrity of the Natura 2000 site⁹⁷. The recommended policy caveats below will ensure that the mitigation strategy is adopted and implemented before development at the sites identified in the Plan can be approved. It is worth noting that the planning applications for these options would be subject to a more detailed project level HRA and would be refused by the Council if the appropriate assessment stage was not passed.

In this basis, it is considered that the Council may rely on the emerging Trowbridge Recreation Management Mitigation Strategy for the purposes of this appropriate assessment, and as such it can be concluded that the plan would not have an adverse effect on the integrity of the Bath and Bradford Bats SAC either alone or in combination with other plans or projects, subject to:

- Inclusion of proposed policy text
- Implementation of the Trowbridge Recreation Management Mitigation Strategy

Recommendations – Bath and Bradford on Avon Bats SAC Recreational Pressure

Policy text recommendations under the heading “Recommendations – Bath and Bradford on Avon Bats SAC Habitat Loss / Deterioration” above, include wording to ensure that the site allocations will be required to contribute proportionately to the Trowbridge Recreation Management Mitigation Strategy.

Conclusions of Appropriate Assessment

The appropriate assessment has fully considered all likely significant effects upon the Natura 2000 network as a result of the plan, both alone and in combination with other plans and projects, as summarised in Table 14 below.

Site	LSE	Conclusion
Salisbury Plain SPA	Salisbury Plain SPA – Recreational Pressure	No adverse effect on integrity subject to the ongoing implementation of the Salisbury Plain Mitigation Strategy.
River Avon SAC	River Avon SAC - Phosphate	No adverse effect on integrity subject to the continued implementation of the River Avon Nutrient Management Plan, including Annex 2.
	River Avon SAC - Abstraction	No adverse effect on integrity, subject to review of abstractions on the Upper Avon through PR19 and implementation of any necessary infrastructure improvements required under AMP7.
Bath and Bradford Bats SAC	Bath and Bradford on Avon Bats SAC - Habitat Loss /	No adverse effect on integrity subject to policy recommendations in relation to site specific constraints and implementation of the emerging Trowbridge Recreation Management Mitigation Strategy.

⁹⁷ *No Adastral New Town Limited v Suffolk Coastal District Council and SSCLG* [2014] EWHC 223 (Admin)

	Deterioration	
	Bath and Bradford on Avon Bats SAC – Recreational Pressure	No adverse effect on integrity subject to policy recommendations requiring adoption of the emerging Trowbridge Recreation Management Mitigation Strategy.

Table 14 – Summary of the Conclusions of the Appropriate Assessment

Appendix 1 – Outputs from the Settlement Level Screening Assessment (Stage 3)

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
Market Lavington	<p>LSE triggered:</p> <ul style="list-style-type: none"> Salisbury Plain SPA – recreation <p>Further assessment required if options at this settlement are to be taken forward to Stage 4</p> <p>A mitigation strategy for recreational pressure on Salisbury Plain SPA has been agreed with Natural England</p>	The HRA screening assessment has identified that development at the settlement could contribute towards recreational impacts on the Salisbury Plain SPA through increased recreational pressure.	The site falls within the visitor catchment of Salisbury Plain SPA. Further assessment of the potential effects of recreational disturbance is required.	Not applicable – the site does not fall within one of the Council’s current guidance areas.	Not applicable – the site does not fall within the Hampshire Avon or River Kennet catchments.	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.
Ludgershall	<p>LSE triggered:</p> <ul style="list-style-type: none"> Salisbury Plain SPA – recreational disturbance River Avon SAC – Water Abstraction <p>Further assessment required if options at</p>	The HRA screening assessment has identified that development at the settlement could contribute towards the Salisbury Plain SPA through increased	The site falls within the visitor catchment of Salisbury Plain SPA. Further assessment of the potential effects of recreational disturbance is	Not applicable – the site does not fall within one of the Council’s current guidance areas.	The site falls within the catchment of the Hampshire Avon. Potential impacts of increased water abstraction will need to be	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	<p>this settlement are to be taken forward to Stage 4</p> <p>In-combination effects of the army basing programme could make mitigation of these effects problematic</p>	recreational disturbance. It has also identified potential for impacts on the River Avon SAC through increased water abstraction.	required.		considered further	sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.
Hullavington	No LSE triggered	The HRA screening assessment has not identified any likely significant effects triggered by development at the settlement	Not applicable – the town does not fall within the visitor catchments of the New Forest or Salisbury Plain SPAs.	Not applicable – the site does not fall within one of the Council’s current guidance areas.	Not applicable – the site does not fall within the Hampshire Avon or River Kennet catchments.	While development of the site may to lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
						impacts.
Kington St Michael	No LSE triggered	The HRA screening assessment has not identified any likely significant effects triggered by development at the settlement	Not applicable – the town does not fall within the visitor catchments of the New Forest or Salisbury Plain SPAs.	Not applicable – the site does not fall within one of the Council’s current guidance areas.	Not applicable – the site does not fall within the Hampshire Avon or River Kennet catchments.	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.
Yatton Keynell	No LSE triggered	The HRA screening assessment has not identified any likely significant effects triggered by development at the settlement	Not applicable – the town does not fall within the visitor catchments of the New Forest or Salisbury Plain SPAs.	Not applicable – the site does not fall within one of the Council’s current guidance areas.	Not applicable – the site does not fall within the Hampshire Avon or River Kennet catchments.	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
						impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.
Crudwell	No LSE triggered	The HRA screening assessment has not identified any likely significant effects triggered by development at the settlement	Not applicable – the town does not fall within the visitor catchments of the New Forest or Salisbury Plain SPAs.	Not applicable – the site does not fall within one of the Council’s current guidance areas.	Not applicable – the site does not fall within the Hampshire Avon or River Kennet catchments.	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
						impacts.
Oaksey	No LSE triggered	The HRA screening assessment has not identified any likely significant effects triggered by development at the settlement	Not applicable – the town does not fall within the visitor catchments of the New Forest or Salisbury Plain SPAs.	Not applicable – the site does not fall within one of the Council’s current guidance areas.	Not applicable – the site does not fall within the Hampshire Avon or River Kennet catchments.	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.
Trowbridge	LSE triggered: <ul style="list-style-type: none"> • Bath and Bradford on Avon Bats SAC– recreational disturbance • Bath and Bradford on Avon Bats SAC– 	The HRA screening assessment has identified that development at the settlement could contribute towards impacts	Not applicable – the town does not fall within the visitor catchments of the New Forest or Salisbury Plain SPAs.	Sites at this settlement fall within core areas identified in the Council’s guidance on bat related SACs.	Not applicable – the site does not fall within the Hampshire Avon or River Kennet catchments.	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	<p>habitat loss / deterioration</p> <p>Sites closest to Green Lane and Biss Woods core roosting area are particularly likely to result in an increased risk of disturbance which cannot be readily avoided or mitigated. Early discussions with Natural England indicate that growth at the town should be directed further from the woods where possible. Experience has also shown that development within easy walking distance of the woods is at highest risk of failing an appropriate assessment on this</p>	<p>upon the Bath and Bradford Bats SAC through habitat loss and disturbance. The HRA advises that development within easy walking distance of the Biss / Green Lane Woods core roosting area is at high risk of failing an appropriate assessment, and consideration should be given to removing these options from the plan at this stage. Options further from the woods are lower risk, but will require some mitigation. All options at the</p>		<p>Development should be designed in accordance with that guidance, which may constrain the development capacity of the site.</p>		<p>impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.</p>

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	<p>issue. Development within approximately 500m of the woods is most likely to fall into this higher risk category and consideration should be given to removing those options from the plan at this stage.</p> <p>Development within the wider Trowbridge area, may also make a small contributions to recreational pressure at the woods, however early discussions with Natural England indicate that these lower impacts might be addressed through an emerging mitigation strategy for</p>	<p>town to be taken forward to Stage 4 will require further assessment.</p>				

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	<p>the town.</p> <p>Further assessment required if any options at this settlement are to be taken forward to Stage 4.</p>					
Warminster	<p>LSE triggered:</p> <ul style="list-style-type: none"> • River Avon SAC – habitat loss • River Avon SAC – phosphate • River Avon SAC – water abstraction • Salisbury Plain SPA – recreational disturbance <p>Further assessment required if options at this settlement are to be taken forward to Stage 4</p>	<p>The HRA screening assessment has identified that development at the settlement could contribute towards impacts upon the Salisbury Plain SPA through increased recreational disturbance. It has also identified potential for impacts on the River Avon SAC through increased</p>	<p>The site falls within the visitor catchment of Salisbury Plain SPA. Further assessment of the potential effects of recreational disturbance is required.</p>	<p>Not applicable – the site does not fall within one of the Council’s current guidance areas.</p>	<p>The site falls within the catchment of the Hampshire Avon. Potential impacts of increased water abstraction and discharge will need to be considered further</p>	<p>While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.</p>

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	Phosphate loading from Warminster STW is known to have an adverse effect on the integrity of the River Avon SAC.	water abstraction and increased discharges of sewage to the river.				
Chapmanslade	No LSE triggered	The HRA screening assessment has not identified any likely significant effects triggered by development at the settlement	Not applicable – the town does not fall within the visitor catchments of the New Forest or Salisbury Plain SPAs.	Not applicable – the site does not fall within one of the Council’s current guidance areas.	Not applicable – the site does not fall within the Hampshire Avon or River Kennet catchments.	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.
Codford	LSE triggered: <ul style="list-style-type: none"> River Avon SAC – 	The HRA screening assessment has	The site falls within the visitor	Not applicable – the site does not	The site is within the Hampshire	While development of the site may lead to

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	<p>phosphate</p> <ul style="list-style-type: none"> • River Avon SAC – water abstraction • Salisbury Plain SPA – recreational disturbance <p>There is no mains sewage infrastructure at the settlement. Discharges are likely to require onsite treatment through a package plant and EA consent. The effects on P loading cannot be assessed on the basis of available information and may be a major barrier to delivery. It is recommended that options at the settlement are removed from the</p>	<p>identified that development at the settlement could contribute towards impacts upon the River Avon SAC through phosphate loading as is not currently served by mains sewage infrastructure. The potential to impact upon the integrity of the SAC cannot be discounted, and the issue could be a significant risk to delivery of options at this settlement. The HRA therefore recommends that options for this settlement are removed from the process at this</p>	<p>catchment of Salisbury Plain SPA. Further assessment of the potential effects of recreational disturbance is required (if options are taken forward).</p>	<p>fall within one of the Council’s current guidance areas.</p>	<p>Avon which is particularly vulnerable to phosphate loading and is not served by mains sewerage systems. Package treatment would be required, which is a less sustainable solution (than connections to a mains STW) and would require EA consent.</p>	<p>an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.</p>

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	process at this stage.	stage.				
Heytesbury	<p>LSE triggered:</p> <ul style="list-style-type: none"> • River Avon SAC – habitat loss • River Avon SAC – phosphate • River Avon SAC – water abstraction • Salisbury Plain SPA – recreational disturbance <p>There is no mains sewage infrastructure at the settlement. Discharges are likely to require onsite treatment through a package plant requiring EA consent. The effects on P loading cannot be assessed on the basis of available information and may</p>	<p>The HRA screening assessment has identified that development at the settlement could contribute towards impacts upon the River Avon SAC through phosphate loading as it is not currently served by mains sewage infrastructure. The potential to impact upon the integrity of the SAC cannot be discounted, and the issue could be a significant risk to delivery of options at this settlement. The HRA therefore recommends that</p>	<p>The site falls within the visitor catchment of Salisbury Plain SPA. Further assessment of the potential effects of recreational disturbance is required (if options are taken forward).</p>	<p>Not applicable – the site does not fall within one of the Council’s current guidance areas.</p>	<p>The site is within the Hampshire Avon which is particularly vulnerable to phosphate loading and is not served by mains sewerage systems. Package treatment would be required, which is a less sustainable solution (than connections to a mains STW) and would require EA consent.</p>	<p>While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.</p>

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	be a major barrier to delivery. It is recommended that options at the settlement are removed from the process at this stage.	options for this settlement are removed from the process at this stage.				
Bratton	<p>LSE triggered:</p> <ul style="list-style-type: none"> Salisbury Plain SPA– recreation <p>Further assessment required if options at this settlement are to be taken forward to Stage 4</p> <p>A mitigation strategy for recreational pressure on Salisbury Plain SPA has been agreed with Natural England</p>	The HRA screening assessment has identified that development at the settlement could contribute towards recreational impacts on the Salisbury Plain SPA through increased recreational pressure.	The site falls within the visitor catchment of Salisbury Plain SPA. Further assessment of the potential effects of recreational disturbance is required.	Not applicable – the site does not fall within one of the Council’s current guidance areas.	Not applicable – the site does not fall within the Hampshire Avon or River Kennet catchments.	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.
Amesbury	LSE triggered:	The HRA screening	The site falls within	Not applicable –	The site falls within	While development of

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	<ul style="list-style-type: none"> • Salisbury Plain SPA – recreational disturbance • Salisbury Plain SPA – visual disturbance • River Avon SAC – Water Abstraction • River Avon SAC – Habitat loss / deterioration <p>Further assessment required if options at this settlement are to be taken forward to Stage 4</p> <p>In-combination effects of the army basing programme could make mitigation of these effects problematic</p>	<p>assessment has identified that development at the settlement could contribute towards impacts upon the Salisbury Plain SPA through increased recreational disturbance and displacement of stone curlew from known nesting sites near the settlement. It has also identified potential for impacts on the River Avon SAC through increased water abstraction and habitat loss / damage.</p>	<p>the visitor catchment of Salisbury Plain SPA. Further assessment of the potential effects of recreational disturbance is required.</p>	<p>the site does not fall within one of the Council's current guidance areas.</p>	<p>the Upper Avon sub-catchment of the Hampshire Avon. Potential impacts of increased water abstraction will need to be considered further</p>	<p>the site may to lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.</p>

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
Durrington	<p>LSE triggered:</p> <ul style="list-style-type: none"> Salisbury Plain SPA – recreational disturbance River Avon SAC – Water Abstraction River Avon SAC – Habitat loss / deterioration <p>Further assessment required if options at this settlement are to be taken forward to Stage 4</p> <p>In-combination effects of the army basing programme could make mitigation of these effects problematic</p>	<p>The HRA screening assessment has identified that development at the settlement could contribute towards impacts upon the Salisbury Plain SPA through increased recreational disturbance. It has also identified potential for impacts on the River Avon SAC through increased water abstraction and habitat loss / damage.</p>	<p>The site falls within the visitor catchment of Salisbury Plain SPA. Further assessment of the potential effects of recreational disturbance is required.</p>	<p>Not applicable – the site does not fall within one of the Council’s current guidance areas.</p>	<p>The site falls within the Upper Avon sub-catchment of the Hampshire Avon. Potential impacts of increased water abstraction will need to be considered further</p>	<p>While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.</p>
Shrewton	<p>LSE triggered:</p> <ul style="list-style-type: none"> Salisbury Plain SPA 	<p>The HRA screening assessment has identified that</p>	<p>The site falls within the visitor catchment of</p>	<p>Not applicable – the site does not fall within one of</p>	<p>The site falls within the catchment of the Hampshire</p>	<p>While development of the site may lead to an increase in vehicular</p>

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	<p>– recreational disturbance</p> <ul style="list-style-type: none"> • River Avon SAC – Water Abstraction • River Avon SAC – Habitat loss / deterioration <p>Impacts through existing public water abstractions are known to have a significant effect on flows in the Till. Impacts of further abstraction at Shrewton cannot be modelled at the current time, therefore it will not be possible to rule out an adverse effect on site integrity through the HRA process. It is therefore recommended that</p>	<p>development at the settlement would contribute towards impacts upon the River Avon SAC through increased water abstraction. It will not be possible to exclude the potential for an adverse effect upon the integrity of the SAC through the HRA process, therefore it is recommended that options at the town are removed from the plan at this stage of the process.</p>	<p>Salisbury Plain SPA. Further assessment of the potential effects of recreational disturbance is required.</p>	<p>the Council's current guidance areas.</p>	<p>Avon. Current public water abstraction at Shrewton is known to impact on flows in the River Till.</p>	<p>movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.</p>

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	options at the settlement are removed from the plan at this stage of the process.					
The Winterbournes	<p>LSE triggered:</p> <ul style="list-style-type: none"> • River Avon SAC – Water Abstraction • River Avon SAC – Habitat loss / deterioration <p>Further assessment required if options at this settlement are to be taken forward to Stage 4</p>	The HRA screening assessment has identified that development at the settlement could contribute towards impacts upon the River Avon SAC through abstraction and habitat loss / damage.	Not applicable – the town does not fall within the visitor catchments of the New Forest or Salisbury Plain SPAs.	Not applicable – the site does not fall within one of the Council’s current guidance areas.	The site falls within the catchment of the Hampshire Avon. Potential impacts of increased water abstraction will need to be considered further	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.
Salisbury	<p>LSE triggered:</p> <ul style="list-style-type: none"> • River Avon SAC – Habitat loss / 	The HRA screening assessment has identified that	Not applicable – the town does not fall within the	Not applicable – the site does not fall within one of	The site falls within the catchment of the Hampshire	While development of the site may lead to an increase in vehicular

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	<p>deterioration</p> <ul style="list-style-type: none"> • River Avon SAC – phosphate <p>Further assessment required if options at this settlement are to be taken forward to Stage 4</p> <p>Significant in-combination effects may make mitigation for phosphate challenging at this location</p>	development at the settlement could contribute towards impacts upon the River Avon SAC through increased phosphate loading, and habitat loss / damage.	visitor catchments of the New Forest or Salisbury Plain SPAs.	the Council's current guidance areas.	<p>Avon and in a high risk catchment for phosphate loading which will need to be considered further.</p> <p>The Lower Avon sub-catchment is not understood to be at risk of low-flows from abstraction</p>	movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.
Wilton	<p>LSE triggered:</p> <ul style="list-style-type: none"> • River Avon SAC – Habitat loss / deterioration • River Avon SAC – phosphate <p>Further assessment required if options at</p>	The HRA screening assessment has identified that development at the settlement could contribute towards impacts upon the River Avon SAC through increased	Not applicable – the town does not fall within the visitor catchments of the New Forest or Salisbury Plain SPAs.	Not applicable – the site does not fall within one of the Council's current guidance areas.	The site falls within the catchment of the Hampshire Avon and in a high risk catchment for phosphate loading. The Lower Avon sub-catchment is not understood to be at risk of low-	While development of the site may lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary,

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	<p>this settlement are to be taken forward to Stage 4</p> <p>Significant in-combination effects may make mitigation for phosphate challenging at this location</p>	phosphate loading, and habitat loss / damage.			flows from abstraction	air quality strategies will be developed and implemented in accordance with CP55 to address environmental impacts.
Fovant	<p>LSE triggered:</p> <ul style="list-style-type: none"> Chilmark Quarries SAC – habitat loss / deterioration <p>Further assessment required if options at this settlement are to be taken forward to Stage 4</p> <p>Potential habitat loss / deterioration associated with the Chilmark Quarries SAC</p>	The HRA screening assessment has identified that development at the settlement could contribute towards impacts upon the Chilmark Quarries SAC through habitat loss / damage.	Not applicable – the town does not fall within the visitor catchments of the New Forest or Salisbury Plain SPAs.	Sites at this settlement fall within core areas identified in the Council’s guidance on bat related SACs. Development should be designed in accordance with that guidance, which may constrain the development capacity of the	The Nadder sub-catchment is not understood to be at risk of low-flows from abstraction	While development of the site may to lead to an increase in vehicular movements, these are unlikely to denigrate local air quality to the extent that this would impact on local biodiversity sites. Where necessary, air quality strategies will be developed and implemented in accordance with CP55 to address environmental

Settlement	HRA Screening Result	Objective 1 – Q7	Objective 1 – Q9	Objective 1 – Q10	Objective 3 – Q6	Objective 4 – Q5
	may be avoided through masterplanning			site.		impacts.

Appendix 2 – Policies Considered in the Policy Level Screening Assessment and Appropriate Assessment

Settlement	Policy	Site Name	Proposed nos
Ludgershall	H1.1	Empress Way	270
Market Lavington	H1.2	Underhill Nursery	50
	H1.3	Southcliffe	15
	H1.4	East of Lavington School	15
Trowbridge	H2.1	Elm Grove Farm	200
	H2.2	Land off A363 at White Horse Business Park	150
	H2.3	Elizabeth Way	205
	H2.4	Church Lane	45
	H2.5	Upper Studley	20
	H2.6	Southwick Court	180
Warminster	H2.7	East of the Dene	100
	H2.8	Bore Hill Farm	70
	H2.9	Boreham Road	30
Chapmanslade	H2.10	Barters Farm Nurseries	35
Hullavington	H2.11	The Street	50
Yatton Keynell	H2.12	East of Farrells Field	30
Crudwell	H2.13	Ridgeway Farm	50
Bratton	H2.14	Court Orchard / Cassways	40
Salisbury	H3.1	Netherhampton Road	640
	H3.2	Hilltop Way	10
	H3.3	North of Netherhampton Road	100
	H3.4	Land at Rowbarrow	100
Durrington	H3.5	Clover Lane, Durrington	30
	H3.6	Larkhill Road	15

This document was published by the Spatial Planning team, Wiltshire Council, Economic Development and Planning Services.

For further information please visit the following website:

<http://www.wiltshire.gov.uk/wiltshsgsiteallocationsplan.htm>