



Stowell Farms



Stowell Farms - nutrient neutrality, nutrient management and ammonia screening report

October 2025

ADAS GENERAL NOTES

Project No.: 1011673

Title: Nutrient neutrality, nutrient management plan and ammonia screening, Stowell Farms

Client: Neil Ridgway, Farms Manager
Stowell Farms Estate Office, Stable Cottage, Stowell Park, East Stowell, Marlborough. SN8 4JS

Date: 20th October 2025

Office: RSK ADAS, Yard 66, Portview Road, Bristol BS11 9JE

Status: Draft V1

Authors	Date	Technical Review	Date
Charles Bentley (Technical Director) Brendon Hunter (Principal Consultant) John Gadby (Principal Consultant) Dr John Adams (Consultant)	20.10.2025	Aled Roberts (Principle Consultant)	20.10.2025

RSK ADAS Ltd (ADAS) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and ADAS. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by ADAS for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of ADAS and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK ADAS Ltd.

EXECUTIVE SUMMARY

This report combines the findings of Farmscoper nutrient modelling, SCAIL Agriculture air-quality modelling, and the accompanying Nutrient Management Plan (NMP) to assess the potential environmental effects of the proposed development at Sharcott Pennings Farm. The purpose of the assessment is to determine whether the redevelopment would result in any increase in nutrient loading or atmospheric emissions affecting designated sites within 10 km of the farm.

Whilst Farmscoper shows that the proposed increase in cow numbers will generate additional phosphorus (P), the accompanying nutrient management plan demonstrates that the additional P will be fully utilised within the **Kennet catchment**, where it is required to meet crop nutrient demand. All applications will be undertaken in accordance with the Diffuse Pollution Regulations, informed by soil analyses completed within the past five years and the planned cropping for 2026. These applications will account for all additional P generated by the enterprise. No additional P will be applied to land within the Avon catchment, and the proposal is therefore considered **phosphorus neutral**.

In addition, the holding is currently operating in overall phosphorus deficit. No mineral phosphate fertiliser is applied, and organic manures alone do not meet total crop nutrient requirements. As a result, soil P indices are expected to decline gradually over time, and without additional inputs, a reduction in farm output would eventually be experienced.

SCAIL Agriculture modelling was undertaken to assess potential atmospheric emissions. The results demonstrate a reduction in ammonia, nitrogen-deposition, and acid-deposition levels at all designated sites within 10 km of the farm, reflecting the replacement of the existing uncovered slurry lagoon with a fully enclosed, low-emission housing and slurry-handling system.

Taken together, these findings confirm that the proposed development achieves phosphorus neutrality in water quality terms and will lead to a reduction in atmospheric emissions.

CONTENTS

EXECUTIVE SUMMARY	1
1 INTRODUCTION	1
2 FARMSCOOPER	2
2.1 Methodology:	2
2.2 Farmscoper Assumptions and Limitations	2
2.2.1 Winter Housing Assumptions:	2
2.2.2 Mitigation Measures:.....	3
2.2.3 Parlour Washings Figures:	3
2.2.4 Model Coverage and Catchment Representation:	3
2.3 Farmscoper Results	3
2.3.1 Farmscoper Results – Scenario 1 Baseline	1
2.3.2 Farmscoper Results – Scenario 2 Expanded Herd.....	2
2.3.3 Summary Points and discussion.....	1
2.3.4 Conclusion:	1
3 NUTRIENT MANAGEMENT PLAN	3
3.1 Nutrient Management Background Information	3
3.2 Methodology	3
3.3 Results and Conclusion:	3
3.3.1 Results:	3
3.3.2 Conclusion:	4
4 SCAIL SCREENING	6
4.1 Methodology	6
4.1.1 Scenario 1 (S1) and Scenario 2 (S2):	6
4.1.2 Background emissions adjustment.....	6
4.2 Particulars of emissions sources used when running SCAIL Agriculture Modelling Assessment comparison:	7
4.2.1 S1 lined slurry lagoon assumptions implemented and considered.....	7
4.2.2 S2 new livestock shed assumptions implemented and considered	7
4.3 Designated sites to be considered within this modelling assessment.....	8
4.4 Results	9
4.5 Discussion and Conclusion	10
4.5.1 Discussion:	10

4.5.2	Other points to be considered:	10
4.5.3	SCAIL Assessment Conclusion	12
5	APPENDIX 1: CONTRIBUTERS FOR EACH DELIVERABLE	13
6	APPENDIX 2 NUTRIENT PLAN	15
7	APPENDIX 3: SCAIL INPUT PAGES	16
8	APPENDIX 4: SUMMARY RESULTS FROM THE SCAIL MODELLING	19

1 INTRODUCTION

This report has been prepared by ADAS on behalf of Stowell Farms to provide further information to Wiltshire Local Planning Authority (LPA), in response to matters raised by statutory consultee Natural England in a letter dated 17th July 2025. The purpose of the report is to assess the potential for increased ammonia emissions at site of the development, Sharcott Pennings Farm and to address the requirement for nutrient neutrality in relation to phosphate, which applies as the site is located within the Hampshire Avon catchment.

The proposed development (planning ref. PL/2025/03888/FUL) involves the filling in of an existing lined slurry lagoon, installation of a foul water tank (both completed retrospectively), and construction of an additional cubicle building to house 200 dairy cows. Whilst the development, will lead to an increase in the number of milking cows on the site, this is part of the farms business strategy, in gradually re-developing the farm with modern high welfare standard facilities, which includes robotic slurry washing /scraping robots, to provide the best possible environment for the cows to thrive whilst reducing the farms overall environmental impact.

Stowell Farms operations extend over approximately 1250 ha, split between the catchments of the Hampshire Avon and the Kennet. The main livestock enterprise is a permanently housed dairy herd with the majority of the land area devoted to growing forage crops to feed the cattle. Cropping includes lucerne, maize, temporary and permanent grassland (including downland) and combinable crops. Herd replacements are reared at home, and the farm also runs 2000 ewes.

This report includes the following sections:

- **Farmscoper outputs:** Farmscoper was set up and run for two scenarios, as instructed by Kyle Conroy of Natural England in an e-mail dated 17th July 2025 sent to Neil Ridgway of Stowell Farms.
- **Detailed nutrient management (NMP) plan:** The NMP shows how the organic manures arising from the livestock enterprise will be used across the estate on land in both the Avon and the Kennet catchments, to meet crop need and improve soil health.
- **SCAIL Agriculture comparison assessment:** The SCAIL tool was configured with two scenarios, to compare current farm emissions with those under the proposed development at the nearest sensitive receptors. Full SCAIL input and output files are provided.

2 FARMSCOPER

2.1 Methodology:

The Farmscoper v5 model was run for two scenarios using settings as specified by Kyle Conroy of Natural England, this included:

- **Scenario 1 (S1):** Current Herd
- **Scenario 2 (S2):** +200 cows (proposed).
- The model was configured with all optional on-farm mitigation switches set to *False*, to ensure that results reflected regulatory compliance levels only
- Two regulatory states were then applied: **NVZ/‘With Priors’**, representing the **minimum (light) mitigation** case, and **FRfW/‘Set 1’**, representing the **maximum (heavy) mitigation** case. These internal scenario settings apply the relevant baseline assumptions for each regulatory framework without adding any further mitigation measures.

In total, four model runs were undertaken, as summarised in Table 1 below. Individual model files for each scenario have been supplied.

Table 1: Farmscoper Modelling Runs:

Create file input file	Evaluate file Output file	Evaluate Result Output file
FARMSCOPER5_Create_020825_S1_Baseline	FARMSCOPER5_Evaluate_020825_S1_min	FARMSCOPER_Evaluate_Report_S1_min
	FARMSCOPER5_Evaluate_020825_S1_max	FARMSCOPER_Evaluate_Report_S1_max
FARMSCOPER5_Create_020825_S2_Enhanced	FARMSCOPER5_Evaluate_020825_S2_min	FARMSCOPER_Evaluate_Report_S2_min
	FARMSCOPER5_Evaluate_020825_S2_max	FARMSCOPER_Evaluate_Report_S2_max

2.2 Farmscoper Assumptions and Limitations

The Farmscoper model has a number of limitations including:

2.2.1 Winter Housing Assumptions:

In its current form, the model assumes that all dairy cows are housed during the winter months and at grass grazing outside during the summer. Grassland P losses are thus based on losses from grazing and assume P deposition by cows in the field throughout the grazing season, along with a degree of soil damage and poaching.

As a result, estimated P losses in each model run, are **much higher** than would be expected for a permanently housed herd (**as applies here**), where cows do not graze outside, manures

are applied evenly to fields at rates that match crop requirements, and are timed to optimise nutrient recovery whilst minimising losses. Such systems also tend to result in less soil damage, erosion, and surface runoff compared with grazing-based systems. The Farmscoper results therefore **overestimate P losses**.

2.2.2 Mitigation Measures:

The “With Priors” and “Set 1” model settings used as specified by NE, do not fully reflect the range of mitigation already adopted on the estate, with cover cropping, buffer strips, precision fertiliser and precision / low emissions manure spreading etc., which are all currently practiced by the farm.

2.2.3 Parlour Washings Figures:

Farmscoper assumes a nominal volume of parlour washings and yard run off are handled as slurry, based on conventional practice. These figures exceed the volumes generated at Stowell Farms, as the robotic milking systems use significantly less water than a conventional parlour, and open dirty yard areas have largely been eliminated.

2.2.4 Model Coverage and Catchment Representation:

A single series of runs of the model to reflect current and proposed stocking considers the Estate **as a whole** including the land in the Kennet, as well as that which lies within the Avon.

As a consequence, any modelled increase in losses will not be reflected by increased losses in either catchment, as this is dependent on the land management and use of manures in those respective catchments.

Splitting the operations to model a) a landless dairy unit at Sharcott Pennings, b) the land in the Kennet, and c) the land in the Avon was not practicable as Farmscoper is not able to accommodate the import and export of manures or a landless operation. Hence neutrality can only really be completely demonstrated through the Farms NMPs (see Section 3).

2.3 Farmscoper Results

Summarised results for the baseline and expanded scenarios are provided on the pages below.

2.3.1 Farmscoper Results – Scenario 1 Baseline

Figure 1: Charts from Farmscoper showing the baseline results for Nitrogen *and* Phosphorus

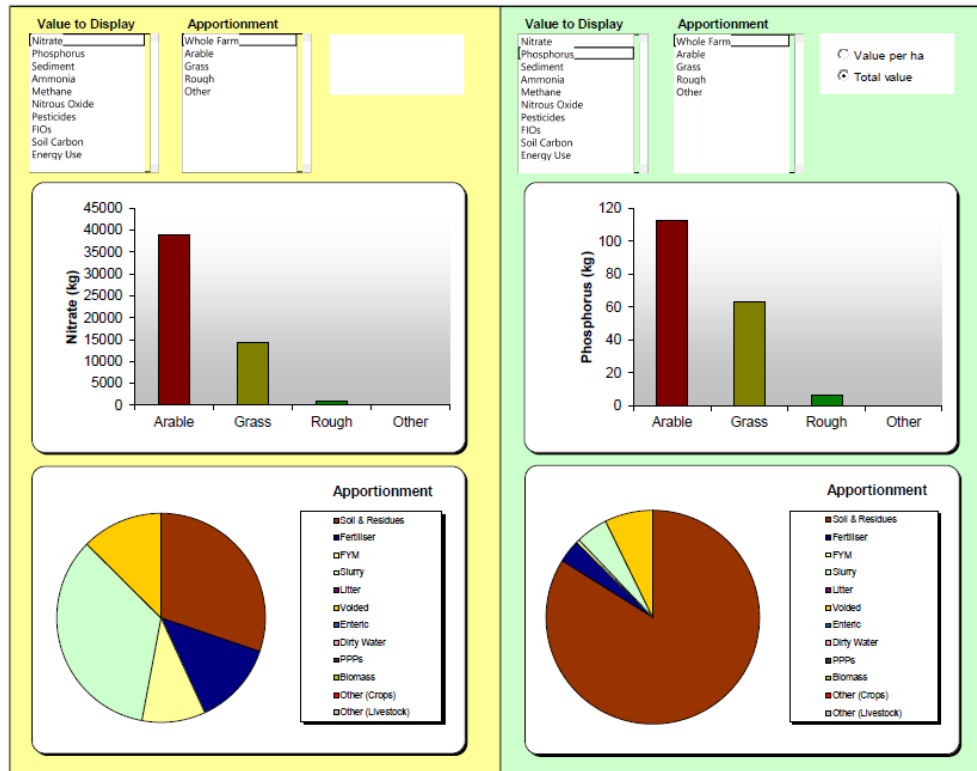


Table 2: Baseline Results Minimum and Maximum

	Baseline	Min		Baseline	Max	
	Nitrate	Phosphorus	Sediment	Nitrate	Phosphorus	Sediment
Values	kg	kg	kg	kg	kg	kg
Baseline	54,146	183	99,802	54,146	183	99,802
With Priors	47,734	152	76,853	47,734	152	76,853
Set 1	46,815	148	76,853	45,899	114	50,697
Impacts (Change relative to Prior)	%	%	%	%	%	%
Set 1	1.9	2.3	0.0	3.8	25.1	34.0

2.3.2 Farmscopers Results – Scenario 2 Expanded Herd

Figure 2: Charts from Farmscopers showing the expanded herd results for Nitrogen and Phosphorus

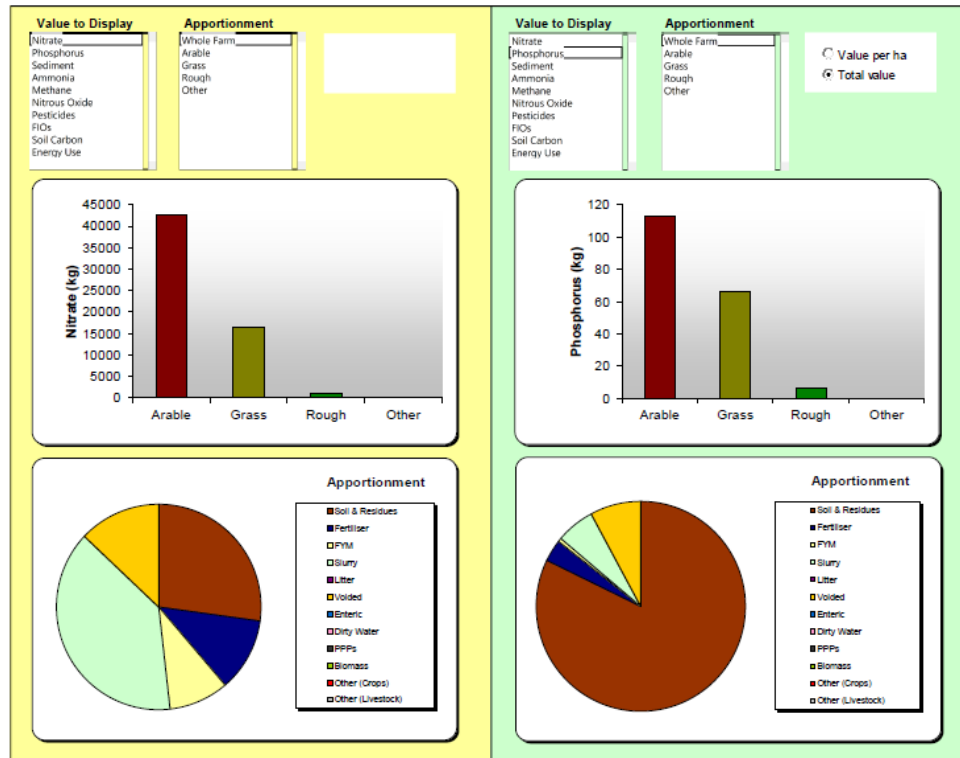


Table 3: Expanded Herd Results Minimum and Maximum

	Extended Min			Extended Max		
	Nitrate	Phosphorus	Sediment	Nitrate	Phosphorus	Sediment
Values	kg	kg	kg	kg	kg	kg
Baseline	60,163	186	99,802	60,163	186	99,802
With Priors	54,545	152	81,622	54,545	152	81,622
Set 1	53,420	151	81,257	50,915	119	53,040
Impacts (Change relative to Prior)	%	%	%	%	%	%
Set 1	2.1	0.8	0.4	6.7	21.8	35.0

2.3.3 Summary Points and discussion

The Farmscoper modelling does highlight a number of interesting elements:

- What can be said with some confidence is that increasing the animal numbers and therefore the output of manures **does not** necessarily result in a linear increase in the amount of phosphate losses from the holding.
- From the baseline (S1) results, an increase of 200 cows (S2) leads to only a small increase in modelled phosphorus losses, rising by approximately **3 kg P (183 → 186 kg; ≈ 2%)**. In comparison, modelled nitrate-N losses increase by **approximately 6,000 kg N (54,146 → 60,163 kg; ≈ 11%)**.
- When FRfW ("Set 1") compliance is applied to the model, predicted nutrient losses fall below the existing baseline for both N and P
 - Phosphorus reduces from **183 kg** (S1 baseline) to **119 kg** (S2 FRfW; ≈ **35% reduction**).
 - **Nitrate-N** reduces from 54,146 kg to **50,915 kg** (≈ **6% reduction**).

This outcome reflects the more stringent management assumptions embedded within FRfW, which include tighter controls on nutrient planning, nutrient application timing, rate and placement.

- As shown in the Appointment Charts (see Figures 1 and 2), the main loss pathway for phosphorus in Farmscoper is dominated by soil/residues, particulate-bound pathways that depend on poaching, runoff and surface mobilisation rather than total P produced.

The permanently housed system in the proposed development removes grazing deposition entirely, eliminates soil damage which could result from grazing practices, and allows precise, crop-matched manure applications.

Consequently, even though in the current (S2) expanded scenario without following NVZ/FRfW rules (without priors/Set 1), there is a modelled marginal increase in P, the proportion of P vulnerable to runoff is unlikely to increase as a result of the development. Similarly, nitrogen losses are also likely to be lower than modelled, as the fully housed system eliminates losses from grazing and allows more efficient nutrient recovery from stored slurry and solid manure, which is applied at the right rate /timing.

2.3.4 Conclusion:

In the worst-case modelling scenario, Farmscoper predicts only a minimal increase in phosphorus losses (approximately 3%) and a moderate increase in nitrate-N losses (around 11%) following herd expansion. In practice, actual losses are **not expected** to increase.

This is because:

- The dairy herd will be permanently housed as opposed to out grazing for part of the year, which is not reflected in the Farmcoper model assumptions, resulting in conservatively **high modelled losses**.
- In reality, manures are handled and applied under controlled conditions rather than being deposited during grazing, with efficient storage, transfer, and field application of manures, in accordance with crop need/best practice. With the farm now

following the requirements of the Farming Rules for Water (FRfW) the changes resulting from the development should lead to a reduction in losses.

As the herd will be fully housed, there will be no additional deposition of phosphorus (P) in excreta on grazing land. The risk of surface runoff carrying P attached to soil particles will also be greatly reduced, since poaching and soil damage associated with grazing are eliminated. Accordingly, no increase in P losses is anticipated as a result of the development

- The farm also implements a range of additional best-practice measures, including precision nutrient application e.g. trailing hose applicator, buffer strips and cover crops etc. These are not accounted for in the Farmscoper model runs but will significantly reduce the risk of nitrate leaching and the potential for P losses via soil erosion, from the grassland/arable ground.

While Farmscoper provides a useful indication of potential change, it is not an appropriate tool to demonstrate nutrient neutrality directly. The model cannot be used to allocate manure between the Kennet and Avon catchments, nor used to accurately reflect applications of manures illustrated in the nutrient management plan (see section 3).

The accompanying nutrient management plan (see section 3) provides a more accurate and site-specific assessment, indicating that, as a result of the development, nutrient losses are not predicted to increase and, in fact, a deficit is expected when nutrient applications are balanced against crop requirements.

3 NUTRIENT MANAGEMENT PLAN

3.1 Nutrient Management Background Information

Stowell Farms has a comprehensive approach to soil sampling and analysis, with all land under management in 2023 sampled, (with the exception of chalk downland which receives no inputs) and additional blocks taken into management subsequently due for sampling. 3 of the 117 fields are known to be phosphorus (P) index 5, 6 at index 1. Where soil analysis was not available indices of 2 were assumed, representing the target steady state. No manufactured P or Potash (K) fertiliser is currently used, with all P & K derived from manures produced on the holding.

All slurry from the dairy enterprise and the youngstock is transferred to the estate's anaerobic digester, along with any waste feed. Digestate is mechanically separated, so the business produces three organic manures of differing dry matter and nutrient contents – separated digestate solids, separated digestate liquid and farmyard manure (arising from the youngstock housing).

3.2 Methodology

Baseline nutrient use across the estate has been determined based on the 2025 nutrient recommendations provided by Mole Valley Farmers, this was broken down by crop and field and then aggregated by catchment to allow P use in the Avon and the Kennet to be identified. Quantities of manures produced were derived from the nutrients supplied and the analysis of the materials involved, and cross referenced with figures from the AHDB Slurry Wizard and Farmscoper. Application rates have been planned based on analysis of the manures to meet the soil and crop need for each field in accordance with the approach taken in the Farming Rules for Water.

2026 organic manure production was estimated based on the 2025 baseline adjusted to allow for the proposed increase in cow numbers. Separated solids tonnage therefore rises from 3,840t to 4,800t, and separated liquid from 15,000 to 18,750 cubic metres. As youngstock numbers remain unchanged, farmyard manure production is also unchanged at 1500t.

Proposed applications of organic manures to meet P & K requirements are shown in the summary Table 4 overleaf by both crop and catchment, together with equivalent figures for 2025. A full NMP spreadsheet is also provided separately.

3.3 Results and Conclusion:

3.3.1 Results:

P applications within the Avon catchment total 24,210 kg in 2025 and 24,149 kg in 2026. In the 2026 cropping year, this equates to a P deficit of approximately 6,740 kg, based on a crop requirement of 30,889 kg P and planned applications of 24,149 kg P.

3.3.2 Conclusion:

Neutrality is demonstrated by the NMP mass balance and it can be concluded that:

- Based on the relevant crop rotations and soil tests (≤ 5 years old), additional P generated by the 200 cows is fully allocated to crops in the Kennet catchment within the NMP.
- No additional P is applied to land in the Avon catchment.
- On a whole-farm basis, the farm holding is in P deficit with no mineral P fertiliser being used; and organic P supplied by the organic manures (slurry/solid manure) produced by the farm providing less than the crop offtake, which will lead to a **decline in soil P indices**.
- The planned increase in cow numbers can therefore be accommodated without increasing P supply in the Avon catchment – **demonstrating nutrient neutrality**.

Table 4: Summary of Nutrient and manure management planning

Summary of nutrient requirements and organic manure applications by crop and catchment for Stowell Farms						
2026 Harvest Year						
Organic Manure Balance				Soild Digestate (t)	Liquid Digestate (m3)	FYM (t)
Production volumes				4800	18750	1500
Planned use				4797	18771	1502
Balance				3	-21	-2
Crop Requirements				Soild Digestate (t)	Liquid Digestate (m3)	FYM (t)
Maize				4692	1161	154
Winter Wheat					1681	
Grass					12668	
Rye					654	
Pernament Pasture				105	2608	
Lucerne						1348
Total				4797	18771	1502
Nutrient Applied by catchment				N	P	K
Kennett				10640	12908	27602
Avon				15834	24149	49966
Total				26474	37058	77567
Crop Requirement by Catchment				N	P	K
Kennett				42788	13230	33861
Avon				129143	30889	81051
Total				171931	44119	114911
Deficit				N	P	K
Kennett				32148	321	6259
Avon				113309	6740	31085
Total				145457	7061	37344
Nutrient Applied - 2025				N	P	K
Kennett				2001	4074	4723
Avon				12934	24210	34108
Total				14936	28285	38830

4 SCAIL SCREENING

4.1 Methodology

4.1.1 Scenario 1 (S1) and Scenario 2 (S2):

A standard approach to running a SCAIL screening assessment is to compare the Process Contribution (PC) from a new emissions source at each designated receptor against the relevant Critical Level (CL) for gaseous ammonia and Critical Load (CLo) for nitrogen and acid deposition. If $PC \leq 1\%$ of the lower CL/CLo, potential impacts can usually be screen out, whereas If the $PC > 1\%$, further assessment/justification is normally required before planning can be granted.

As this application involves replacing one emissions source (e.g. existing slurry store) with another (high welfare livestock housing designed to reduce emissions), the key question is whether the proposal improves or worsens the predicted ammonia/ nitrogen deposition at designated sites. Therefore as suggested in the Natural England letter dated 17th July 2025, two SCAIL Agriculture modelling assessments were run to compare the before and after scenarios as follows:

- S1, to model the current predicted ammonia emissions/nitrogen deposition from the slurry lagoon (which as part of this planning application would be removed).
- S2, to model the predicted ammonia emissions from the proposed new livestock building which would be constructed on the footprint of the slurry lagoon modelled in scenario one.
- The new foul water tank, which also forms part of this planning application, is designed to collect rainwater runoff from the silage clamps; this material is classified as foul water rather than slurry and is not expected to contribute any additional ammonia emissions, hence it has not been included in the modelling run scenarios.
- It was decided that the SCAIL modelling should focus on the livestock housing and slurry storage elements rather than the entire farm operation. Modelling the whole farm would have introduced additional complexity without affecting the comparative outcome, as the before-and-after change in total emissions would remain the same. The assessment therefore isolates the elements directly affected by the proposed development, namely the replacement of the existing slurry lagoon with enclosed livestock housing — ensuring that the relative change in emissions is represented accurately and proportionately.

The exact SCAIL inputs are shown in Table 5, see also Appendix 3 for SCAIL input pages. The input and output files for each modelling scenario are also provided along with this report

4.1.2 Background emissions adjustment

To avoid double counting existing emissions sources, when a SCAIL model run includes existing sources, the SCAIL Agriculture screening tool re-calculates the background emissions values (e.g. ammonia concentration - $\text{NH}_3 \mu\text{g}/\text{m}^3$) at the receptor edge, to exclude some of the existing source's contribution to the background levels. With the proposed development the lined slurry lagoon will be removed and no longer used for storing slurry. As the APIS background emissions data is currently set to the 2021 three-year average (2020-2022) at 1km grid square resolution, the emissions from the lagoon will already be accounted for in these background levels.

Therefore, in S2 to avoid double counting and remove the slurry lagoon's contribution to the background levels, at each closest receptor point to the new emissions source (e.g. the new livestock shed), the Predicted Environmental Concentration (PEC), was recalculated using the background emissions data from S1. For example, at the closest receptor site, the River Avon System SSSI/SAC, in S1, the Background Concentration at the Receptor Edge was given to be 1.43 NH₃ (µg/m³), 26.05 N Dep. (kg N/ha/yr), 2.208 Acid Dep.(kEq H⁺/ha/yr).

The outputs from S2 for each site assessed were corrected using this methodology to allow a comparison with S1 to be undertaken.

4.2 Particulars of emissions sources used when running SCAIL Agriculture Modelling Assessment comparison:

Table 5 below summarises the particulars of the emissions sources that were entered into the SCAIL Agriculture tool when undertaking a comparison of the before and after scenarios. The input pages can also be found in Appendix 3. Some explanatory text on the assumptions made is provided below, which is based on figures entered into SCAIL, and information provided by the applicant on livestock type, housing period, slurry storage/housing use, and design.

Table 5: Ammonia emissions Scenarios and Sources

Scenario/Ammonia Source	New or existing source	Type of housing System or slurry storage	Livestock number/type, and/or surface area of slurry store	Housing occupancy or number of days in Use
S1: lined Slurry Lagoon	Existing	Earth lagoon with plastic liner	1750m ²	365
S2:	New	New Cubicle Shed	200	365

4.2.1 S1 lined slurry lagoon assumptions implemented and considered

- The existing lined slurry store, based on measurements taken from satellite imagery has wetted surface area generating ammonia emissions of around 1750m² and would be used all year round.

4.2.2 S2 new livestock shed assumptions implemented and considered

- The new dairy cow housing/accommodation proposed will be built on the footprint of the lined lagoon, which will be filled in and no longer used.
- 200 milking cows will be housed/fed for 365 days per year and milked using milking robots.
- In line with the Code of Practice for Reducing Ammonia Emissions from Agriculture ([AMMONIA COGAP](#)) it has been confirmed the new proposed housing in S2 will be

designed in line with best practice to reduce ammonia (NH₃) emissions. This will include the installation and use of autonomous Lely Discovery slurry cleaning robots designed to wash/clean floor surfaces and suck up slurry every few hours. This is a vast improvement on the previous practice at the farm where the flooring in the older housing was scraped/cleaned manually twice per day.

- The SCAIL Agriculture tool does not have an option for use of low emissions flooring and robotic slurry cleaners. Therefore a “User Defined” emissions source was entered into the SCAIL tool when modelling ammonia emissions from the proposed new housing in S2, which allows a known ammonia emissions value to be entered.
- To account for the reduction in ammonia emissions provided by the use of robotic slurry cleaners, the expected emissions from the new housing with cubicles were quantified using the SCAIL tool by first calculating the total predicted ammonia emissions produced from **200 cows housed for 365 days per year**.
- Taking a conservative approach, the resultant total ammonia emissions were then reduced by an **abatement percentage of 54%** to account for the floors being cleaned by robotic scraper/washers, at intervals of no less than every three hours.
- The ammonia emissions reduction value for the cow accommodation with robotic **slurry cleaners/washers of 54%** was derived from published research completed by Burchill et al ([Burchill et al 2019](#)) and was the most conservative result from this study.
- In the study, pressure washing the floor after excreta and urine were applied, at one- and three-hour intervals were shown to reduce ammonia emissions by **91% and 80%** respectively from the control, while in another experiment scraping the floor at one and three-hour intervals reduced emissions by **78% and 54%** respectively.
- In this case, the new housing proposed in S2 under this planning application will be scraped and cleaned with water by the robotic slurry cleaners more often than every three hours (**>8 times in a 24-hour period**), hence using a reduction value of **54%** would seem to be a reasonable or conservative assumption to make.
- SCAIL calculated the total predicted annual ammonia emissions from 200 cows housed for 365 days to be **5183 kg NH₃/year** (see Appendix 3, S2 first image). This figure was then reduced by **54%** giving a total annual ammonia emissions figure for the new cow accommodation of **2384 kg NH₃/year**.
- As is required when undertaking SCAIL modelling assessments to provide an absolute worst-case scenario, each Scenario was modelled using SCAILs “Conservative Met Mode”, which rotates the protected site so that for the purpose of the model run it is downwind of the emissions source.

4.3 Designated sites to be considered within this modelling assessment

A total of eleven sensitive designated sites (including some with more than one designation) were considered as part of this modelling assessment, these are detailed in Table 6 and Map

1 further on in the report. This includes Sites of Special Scientific Interest (SSSIs). It also includes internationally designated Special Areas of Conservation (SACs), and RAMSAR sites, formally known as Natura 2000 sites, now listed on the UK National Site Network, following changes to the Habitats and Species Regulations 2017 in the 2019 amendment following Brexit.

Table 6: Designated sites assessed as part of this modelling assessment

Name	Habitat Type	Distance (m)	Easting	Northing
River Avon System	SSSI	1175	415487	159381
River Avon	SAC	1175	415487	159381
Jones`s Mill	SSSI	1529	416512	161007
Pewsey Downs	SSSI	3161	415502	163613
Pewsey Downs	SAC	4144	412227	163491
Salisbury Plain	SSSI	5568	416437	155083
Salisbury Plain	SPA	5568	416437	155083
Salisbury Plain	SAC	5568	416437	155083
Savernake Forest	SSSI	7886	421857	164507
Fyfield Down	SSSI	9302	414121	168581
Silbury Hill	SSSI	9429	415010	169783

The Piggledene SSSI was excluded from the assessment because it did not have any features sensitive to ammonia or nitrogen.

4.4 Results

Results of the SCAIL modelling at the closest receptor sites (River Avon System SSSI, and River Avon SAC) for ammonia (NH₃) under current S1 and future S2 are summarised in **Table 7 below**, with a full comparison assessment for ammonia, nitrogen deposition, and acid deposition for all sites, provided in **Appendix 4**. A separate spreadsheet showing the summary calculations has also been provided.

There are several definitions to be aware of when interpreting the results in Table 7 and those found in Appendix 4 as follows:

- **Total Source Emissions:** This is the predicted sum of ammonia (NH₃) emissions from S1 and S2 in kg NH₃ per year based on the assumptions set out Section 2.3.
- **Background (BG) Concentration of NH₃, N Dep, or Acid Dep at the Receptor Edge:** This is the background concentration of ammonia emissions (NH₃ µg/m³), Nitrogen Deposition (Kg N/ha/yr), or Acid Deposition (keq/ha/yr), at the closest receptor point to the emissions source. As mentioned, for S2 to avoid double counting the existing emissions from the lagoon to be removed which is already in the background data, the BG concentration for S1 was used to re-calculate the PEC of S2 for each site (See Tables in Appendix 4 for full details).
- **Process Contribution (PC):** Based on SCAIL modelling this is the predicted concentration of ammonia emissions as NH₃ µg/m³, at the closest receptor point for each protected site assessed, which would result from the emissions sources detailed within each scenario (see Table 5).

- **Predicted Environmental Concentration (PEC):** The PEC is total air concentration, or Nitrogen/Acid Deposition at the closest receptor point for each site and is the sum of the background concentration/deposition, plus the PC arising from emissions sources in each scenarios model run.

Table 7: Summary of SCAIL modelling comparison for S1 versus S2 for Ammonia at the River Avon System SSSI and Rive Avon SAC.

Description	Unit	Current S1	Proposed future S2	S1-S2
Total Source emissions	NH ₃ Kg /year	2555	2384	-170.82
PC	NH ₃ (µg/m ³)	0.3108	0.2638	-0.047
BG	NH ₃ (µg/m ³)	1.43	1.43	N/A
PEC	NH₃ (µg/m³)	1.74	1.69	-0.047

4.5 Discussion and Conclusion

4.5.1 Discussion:

The SCAIL Agriculture modelling assessment in which the ammonia emissions, Nitrogen Deposition and Acid Deposition, from current S1 were compared with future S2 predicted that as a result of the proposed development:

- Overall, there would be a reduction in total source emissions from Sharcott Pennings farm of **171 kg. NH₃/year (0.171 tonnes).**
- The highest predicted process contribution (PC) for ammonia occurs at the River Avon System SSSI/SAC (**0.3108 µg/m³ under S1**), reducing to **0.2638 µg/m³** under S2. As shown in Table 7, there would be a predicted reduction in the PC and the overall PEC at the closest receptor points of around **0.047 NH₃(µg/m³).**
- The modelling shows a consistent reduction in both PC and predicted environmental concentration (PEC) values at all designated sites (see Appendix 4 summary table).
- Overall, this improvement reflects the replacement of the existing uncovered slurry lagoon with a modern, fully enclosed livestock housing system designed to minimise emissions. Comparable proportional reductions are observed for nitrogen and acid deposition (see Appendix 4), confirming that the proposed development results in a net decrease in atmospheric emissions across all assessed receptor sites.

4.5.2 Other points to be considered:

In addition to the reductions in ammonia emissions predicted in this report as a result of the redevelopment at Sharcott Pennings Farm, the farm is implementing a range of best practice measures consistent with the Code of Good Agricultural Practice for Reducing Ammonia Emissions (COGAP Ammonia). These measures extend well beyond those represented in the

model background data and mean that actual emissions from the site are expected to be lower than those predicted. Measures include:

- All slurry is contained within an enclosed below-ground channel system and pumped directly to the anaerobic digestion (AD) plant, where it is held in a fully covered primary digestion tank. The digestate is then either transferred via underground pipeline to a covered digestate lagoon several kilometres away or stored temporarily within a sealed, covered digestate tank, eliminating emissions when slurry is stored, and when it is stirred up before being spread.
- The remaining livestock buildings on site have been fitted with Lely Discovery robots, ensuring continuous scraping/washing of all contaminated surfaces — a recognised best-practice measure for reducing emissions within livestock housing. This has not been accounted for in the modelling and will have had a significant impact in reducing emissions from the farm since it was recently implemented.
- In consultation with the farm's nutritionist and veterinary advisor, dietary protein levels in the milking herd ration have been reduced, lowering nitrogen inputs to the slurry system and consequently reducing potential ammonia losses.
- The ammonia abatement value applied to emissions from housing in the modelling undertaken for S2 assumes the flooring will be scraped every 3 hours. In reality the slurry cleaning robots will be scraping and washing the floors within the housing more frequently than every 3 hours and therefore the emissions from the new buildings should be less than predicted.
- Using a trailing hose application system instead of using splash plate when applying slurry to land, which will reduce ammonia emissions in the locality of the farm from spreading slurry in the growing season by **30-35%** (see Table 8 below), as slurry is placed in bands on the ground, limiting exposure to air.

Table 8: Comparison of slurry distribution techniques (Source Ammonia COGAP)

	Inverted splash plate	Trailing hose (low emission)	Trailing shoe (low emission)	Shallow injector (low emission)	Deep injector (low emission)
Typical range of dry matter	Up to 12%	Up to 9%	Up to 6%	Up to 6%	Up to 6%
Requires separation or chopping	No	Yes (if over 6% DM)	Yes	Yes	Yes
Relative work rate	→→→→	→→→	→→→	→→	→
Uniformity across spread width	✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
Ease of bout matching	✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
Crop damage	Moderate	Low	Low	Moderate	High
Relative odour	High	Moderate	Low	Low	Very low
Relative ammonia reduction	0%	30-35%	30-60%	70-80%	90%
Capital cost	£	££	£££	£££	££££

- All manures and digestate are applied in accordance with a nutrient management plan, ensuring that applications are timed and targeted to crop demand, further minimising ammonia losses during land spreading (see Section 3 and associated spreadsheet).

4.5.3 SCAIL Assessment Conclusion

Two SCAIL Agriculture modelling assessments have been undertaken to compare predicted changes in emissions between the current baseline (S1) and the proposed redevelopment at Sharcott Pennings Farm (S2). The assessment quantifies the change in ammonia (NH₃), nitrogen deposition, and acid deposition at designated ecological receptors within 10 km of the farm, based on predicted Process Contributions (PC) and Predicted Environmental Concentrations (PEC) for each scenario.

The modelling was completed using Conservative Met Mode, representing a precautionary, worst-case assumption in which each receptor is modelled downwind of the source. The results demonstrate that should the development be permitted to go ahead, there would be a clear reduction in both total emissions and predicted concentrations at all sites assessed.

Based on the outcomes of this assessment, which include both conservative and realistic, it is concluded that the proposed development:

- Will deliver measurable environmental betterment compared with the current situation, with total ammonia emissions and predicted concentrations at all designated sites reduced from the baseline.
- Will not give rise to a likely significant effect on any internationally designated site or site forming part of the UK National Site Network within 10 km of Sharcott Pennings Farm; and;
- Will not cause an adverse effect on the integrity of the protected sites within 10km of Sharcott Pennings Farm, in terms of causing damage, destruction, or significant negative impacts on the qualifying features of each site.

5 APPENDIX 1: CONTRIBUTORS FOR EACH DELIVERABLE

Nutrient Planning:

Charles Bentley – Technical Director: MIAgrE, CEnv, MBPR, FACTS Certificate FE 926

Charles is Technical Director in ADAS' Agriculture and Land Management team and is a highly respected industry expert in farm infrastructure and pollution control. He is FACTS- and BASIS-registered and brings a wealth of practical experience in advising on the design of agricultural infrastructure, including livestock housing, slurry/manure storage facilities, constructed wetlands as well as utilisation of nutrients and manures. Charles is seen as a key expert advisor to DEFRA, the Environment Agency and Welsh Government, being regularly consulted on legislative matters relating to farming practices, for example Charles is currently involved in a review of particular aspects of the Welsh Control of Agricultural Pollution Regulations. Charles provides industry-leading guidance on sites across the UK, drawing on his extensive background to offer tailored, robust solutions for farm-scale manure, nutrient management, and environmental protection.

John Gadsby – Principal Consultant: MIAgrE, MBPR, FACTS Certificate FE 5010

John is a Principal Agricultural Consultant and Team Leader with over 17 years' experience in farm consultancy and practical farm management. Based in East Anglia, he delivers advice on soils, nutrient management, farm infrastructure, irrigation, and business planning across a wide range of farm enterprises. His expertise covers nutrient planning and compliance with environmental legislation, including NVZ and Farming Rules for Water, as well as whole farm business reviews and the design of soil and water management strategies.

He has extensive experience supporting farmers under Defra's Future Farming Resilience Fund and advising Natural England and water companies on catchment management, natural flood management, and soil health. John has also worked internationally, managing combinable and irrigated root crops in Eastern Europe. He is a FACTS Qualified Advisor and holds multiple BASIS accreditations, including Soil and Water, Potatoes, and Conservation Management.

John is an experienced presenter and knowledge exchange specialist, delivering training, farmer engagement sessions, and technical talks on nutrient planning, irrigation, IPM, and sustainable rotations. His work combines technical rigour with strong communication and management skills, helping farmers adapt to changing policy, improve resilience, and enhance both environmental and business performance.

Farm Scoper:

Dr John Adams – Consultant, ADAS

John is a Consultant with ADAS and a FACTS Qualified Adviser, specialising in nutrient management, waste utilisation, and agricultural systems modelling. He has particular expertise in the use of the Farmscoper decision support tool to assess diffuse pollution risks, nutrient losses, and mitigation strategies at farm and catchment scale. He regularly applies Farmscoper to provide robust evidence in support of planning applications, nutrient neutrality assessments, and environmental compliance.

John holds a PhD and has published extensively on soil science, nutrient cycling, and the environmental impacts of farm waste and fertiliser use. His research background provides a strong foundation for his consultancy work, allowing him to combine data analysis and modelling with a deep understanding of nutrient flows in agricultural systems.

Alongside his modelling expertise, John has significant experience in advising on the sustainable management of organic manures, slurries, and waste-derived materials, ensuring that they deliver agronomic benefit while meeting environmental and legislative requirements. His ability to translate scientific evidence into practical recommendations makes him a valuable contributor to farm decision-making.

SCAIL Modelling:

Brendon Hunter – Principal Consultant:

Brendon is a Principal Consultant and Team Manager at ADAS, with extensive experience in farm infrastructure, nutrient management, and diffuse pollution mitigation. He is a FACTS Qualified Adviser and BASIS Soil & Water qualified.

He has developed particular expertise in ammonia emissions assessment and mitigation, producing protocols for the use of the SCAIL Agriculture tool and completing numerous screening assessments to evaluate the impacts of new livestock housing and slurry storage on sensitive sites. Brendon regularly advises farmers, land managers, and regulators on mitigation options, including low-emission flooring, covered slurry stores, and improved yard and drainage systems, to ensure compliance with environmental legislation and best practice.

In addition to his ammonia work, Brendon supports nutrient neutrality assessments and provides technical advice on nutrient planning, soil management, and the design of farm infrastructure. His work brings together a strong practical understanding of agricultural systems with detailed environmental assessment, enabling robust evidence to support planning applications and regulatory submissions.

6 APPENDIX 2 NUTRIENT PLAN

Nutrient plan spreadsheet attached.

7 APPENDIX 3: SCAIL INPUT PAGES

Scenario 1: Baseline including lined slurry lagoon

Project Details

Project Notes ⓘ

Scenario 1 - Stowell Park Farms Baseline Scenario - Lined slurry Lagoon

Project Run Mode ⓘ

☐ Hybrid Met
☒ Conservative Met
☐ Realistic Met

Location Details

Select Country ⓘ

England

Installation Details

Installation ⓘ

1

Installation Name ⓘ

Stowell Park Farms

Installation Location ⓘ

415070,160477

☐ Landranger
☒ x,y

CHOOSE/VERIFY LOCATION ⓘ

Source Details

Source ⓘ

1

Source ⓘ

☐ Pig
☐ Poultry
☒ Cattle
☐ User defined emissions

New or Existing Source ⓘ

Existing

Source Name ⓘ

Lined Slurry Lagoon

Source Location ⓘ

Provides a link to GoogleMaps to check the location.

415070,160477

☐ Landranger
☒ x,y

VERIFY LOCATION ⓘ

Source Type ⓘ

Litter / Manure storage

Type ⓘ

Slurry storage

Details ⓘ

Tank (uncovered)

Tonnes Fresh Manure (t) ⓘ

4000

Area of Storage (m2) ⓘ

1750

Number of storage days/year ⓘ

365

Total emissions ⓘ

Pollutant	Source Emissions	Running total of all emission sources	Units
NH ₃ :	2555	2555	(kg)
PM ₁₀ :	0	0	(kg)
Odour:	0	0	(kOu)

GET EMISSIONS VALUES ⓘ

Designated Site details:

Project: 1011673

Stowell Farms Ltd, Estate Office, Stable Cottage, Stowell Park, East Stowell, Marlborough SN8 4JS

Nutrient neutrality, nutrient management and ammonia screening report

Scenario 2: Original New Shed No Ammonia Reduction Accounted for

Project Notes ⓘ Scenario 2: Stowell Park Farms New livestock shed - existing lined lagoon removed.

Project Run Mode ⓘ ☐ Hybrid Met ☒ Conservative Met ☐ Realistic Met

Location Details

Select Country ⓘ England ▼

Installation Details

Installation ⓘ 1 ▼

Installation Name ⓘ Stowell Farm New Livestoc

Installation Location ⓘ 415070,160477 ☐ Landranger ☒ x,y
[CHOOSE/VERIFY LOCATION](#) ⓘ

Source Details

Source ⓘ 1 ▼ ⓘ

Source ⓘ ☐ Pig ☐ Poultry ☒ Cattle ☐ User defined emissions

New or Existing Source ⓘ New ▼

Source Name ⓘ Livestock Shed to Replace

Source Location ⓘ Provides a link to GoogleMaps to check the location.
415070,160477 ☐ Landranger ☒ x,y
[VERIFY LOCATION](#) ⓘ

Source Type ⓘ Housing ▼

Type ⓘ Dairy cows ▼

Details ⓘ Slurry based cubicle housing ▼

Livestock Number ⓘ 200

Housing Floor Area ⓘ 2899 m²

Number of days ⓘ 365 days

Naturally Vented ☒

Building Height ⓘ 5 m

Fan Location ⓘ please select... ▼

No. of Fans (optional) ⓘ

Fan Diameter ⓘ m

Fan Flowrate ⓘ m³/s

Total emissions : ⓘ

Pollutant	Source Emissions	Running total of all emission sources	Units
NH ₃ :	5183	5183	(kg)
PM ₁₀ :	14527	14527	(kg)
Odour:	59855328000	59855328000	(kOu)

[GET EMISSIONS VALUES](#) ⓘ

Project: 1011673

Stowell Farms Ltd, Estate Office, Stable Cottage, Stowell Park, East Stowell, Marlborough SN8 4JS

Nutrient neutrality, nutrient management and ammonia screening report

Scenario 2: New livestock shed including ammonia reduction due to robotic slurry scrapers

Project Notes ⓘ

Scenario 2: Stowell Park Farms New livestock shed - existing lined lagoon removed. 54% reduction in ammonia emissions applied to the original figure as

Project Run Mode ⓘ
☐ Hybrid Met
☒ Conservative Met
☐ Realistic Met

Location Details

Select Country ⓘ

England

Installation Details

Installation ⓘ

1

Installation Name ⓘ

Stowell Farm New Livestoc

Installation Location ⓘ

415070,160477

☐ Landranger
☒ x,y

CHOOSE/VERIFY LOCATION ⓘ

Source Details

Source ⓘ

1

Source ⓘ
☐ Pig
☐ Poultry
☐ Cattle
☒ User defined emissions

New or Existing Source ⓘ

New

Source Name ⓘ

Livestock shed to replace I

Source Location ⓘ

Provides a link to GoogleMaps to check the location.

415070,160477

☐ Landranger
☒ x,y

VERIFY LOCATION ⓘ

Source Type ⓘ

Housing

Housing Floor Area ⓘ

2899

m²

NH₃ emission (kg) ⓘ

2384

(comment)

54% reduction in ammonia emissions a

PM₁₀ emission (kg) ⓘ

14527

(comment)

Odour emission (kOu) ⓘ

59855328000

(comment)

Naturally Vented
☒

Building Height

5

m

Fan Location ⓘ

please select...

No. of Fans (optional) ⓘ

Fan Diameter ⓘ
m

Fan Flowrate ⓘ
m³/s

Total emissions ⓘ

Pollutant	Source Emissions	Running total of all emission sources	Units
NH ₃ :	2384	2384	(kg)
PM ₁₀ :	14527	14527	(kg)
Odour:	59855328000	59855328000	(kOu)

GET EMISSIONS VALUES ⓘ

Project: 1011673

Stowell Farms Ltd, Estate Office, Stable Cottage, Stowell Park, East Stowell, Marlborough SN8 4JS

Nutrient neutrality, nutrient management and ammonia screening report

8 APPENDIX 4: SUMMARY RESULTS FROM THE SCAIL MODELLING

Ammonia (NH ₃) – Process Contributions and Predicted Environmental Concentrations Scenario Comparison									
Site Name	Designation	Distance	PC S1	PC S2	PC (S2-S1)	Background Concentration (BG)	PEC S1 (PC +BG)	PEC S2 (PC +BG)	PEC Difference (S2-S1)
	SSSI, SPA, SAC	(m)	NH3 ug m3						
River Avon System	SSSI	1175	0.3108	0.2638	-0.0470	1.43	1.74	1.69	-0.047
River Avon	SAC	1175	0.3108	0.2638	-0.0470	1.43	1.74	1.69	-0.047
Jones' s Mill	SSSI	1529	0.1984	0.1694	-0.0290	1.45	1.65	1.62	-0.029
Pewsey Downs	SSSI	3161	0.0606	0.0516	-0.0090	1.48	1.54	1.53	-0.009
Pewsey Downs	SAC	4144	0.0392	0.0331	-0.0061	1.56	1.60	1.59	-0.006
Salisbury Plain	SSSI	5568	0.0244	0.0203	-0.0040	1.21	1.23	1.23	-0.004
Salisbury Plain	SPA	5568	0.0244	0.0203	-0.0040	1.21	1.23	1.23	-0.004
Salisbury Plain	SAC	5568	0.0244	0.0203	-0.0040	1.21	1.23	1.23	-0.004
Savernake Forest	SSSI	7886	0.0140	0.0114	-0.0025	1.31	1.32	1.32	-0.003
Fyfield Down	SSSI	9302	0.0108	0.0087	-0.0020	1.37	1.38	1.38	-0.002
Silbury Hill	SSSI	9429	0.0105	0.0085	-0.0020	1.37	1.38	1.38	-0.002

Nitrogen Deposition (kg N/ha/yr) Process Contributions and Predicted Environmental Concentration Scenario									
Site Name	Designation	Distance	PC S1	PC S2	PC (S2-S1)	Background Concentration (BG)	PEC S1 (PC +BG)	PEC S2 (PC +BG)	PEC Difference (S2-S1)
	SSSI, SPA, SAC	(m)	Kg N/ha/yr						
River Avon System	SSSI	1175	2.40	2.100	-0.300	26.05	28.45	28.15	-0.300
River Avon	SAC	1175	1.60	1.400	-0.200	14.39	15.99	15.79	-0.200
Jones' s Mill	SSSI	1529	1.00	0.880	-0.120	14.68	15.68	15.56	-0.120
Pewsey Downs	SSSI	3161	0.31	0.270	-0.040	14.90	15.21	15.17	-0.040
Pewsey Downs	SAC	4144	0.20	0.170	-0.030	15.26	15.46	15.43	-0.030
Salisbury Plain	SSSI	5568	0.13	0.110	-0.020	13.71	13.84	13.82	-0.020
Salisbury Plain	SPA	5568	0.13	0.110	-0.020	13.71	13.84	13.82	-0.020
Salisbury Plain	SAC	5568	0.13	0.110	-0.020	13.71	13.84	13.82	-0.020
Savernake Forest	SSSI	7886	0.07	0.060	-0.010	14.53	14.60	14.59	-0.010
Fyfield Down	SSSI	9302	0.06	0.040	-0.020	14.52	14.58	14.56	-0.020
Silbury Hill	SSSI	9429	0.06	0.04	-0.020	14.6	14.66	14.64	-0.020

Project: 1011673

Stowell Farms Ltd, Estate Office, Stable Cottage, Stowell Park, East Stowell, Marlborough SN8 4JS

Nutrient neutrality, nutrient management and ammonia screening report

Acid Deposition (Keg/ha/yr) Process Contributions and Predicted Environmental Concentration Scenario Comparison									
Site Name	Designation	Distance	PC S1	PC S2	PC (S2-S1)	Background Concentration (BG)	PEC S1 (PC +BG)	PEC S2 (PC +BG)	PEC Difference (S2-S1)
	SSSI, SPA, SAC	(m)	Keg N/ha/yr						
River Avon System	SSSI	1175	0.170	0.15	-0.020	2.208	2.378	2.358	-0.020
River Avon	SAC	1175	0.110	0.1	-0.010	1.242	1.352	1.342	-0.010
Jones`s Mill	SSSI	1529	0.071	0.063	-0.008	1.268	1.339	1.331	-0.008
Pewsey Downs	SSSI	3161	0.022	0.019	-0.003	2.280	2.302	2.299	-0.003
Pewsey Downs	SAC	4144	0.014	0.012	-0.002	1.314	1.328	1.326	-0.002
Salisbury Plain	SSSI	5568	0.009	0.008	-0.001	1.184	1.193	1.192	-0.001
Salisbury Plain	SPA	5568	0.009	0.008	-0.001	1.184	1.193	1.192	-0.001
Salisbury Plain	SAC	5568	0.009	0.008	-0.001	1.184	1.193	1.192	-0.001
Savernake Forest	SSSI	7886	0.005	0.004	-0.001	2.223	2.228	2.227	-0.001
Fyfield Down	SSSI	9302	0.004	0.003	-0.001	1.260	1.264	1.263	-0.001
Silbury Hill	SSSI	9429	0.004	0.003	-0.001	1.260	1.264	1.263	-0.001

Project: 1011673

Stowell Farms Ltd, Estate Office, Stable Cottage, Stowell Park, East Stowell, Marlborough SN8 4JS

Nutrient neutrality, nutrient management and ammonia screening report