



Simple Calculation of Atmospheric Limits (SCAL) Report – Pear Tree Hill Road, near Whaplode Drove, Spalding in Lincolnshire

AS Modelling & Data Ltd.

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1. Introduction and background details

AS Modelling & Data Ltd. has been instructed by Mr. James Whilding of Acorus Rural Property Services Ltd., on behalf of Mr. Stuart Adams of Holbeach Poultry Ltd/Bowler Adams LLP, to use SCAIL to assess the impact of ammonia, nitrogen and acid deposition from the proposed broiler chicken rearing houses at Pear Tree Hill Road, Whaplode Drove, Spalding, Lincolnshire. PE12 0SL.


A search of statutory sites within 10 km (the normal screening distance for statutory sites) has been conducted within SCAIL. The search found one Special Site of Scientific Interest (SSSIs), Cow Bit Wash SSSI, which is designated for geological features. There are no internationally designated sites within 10 km. A search for non-statutory sites within 2 km (the normal screening distance for non-statutory sites) has also been conducted by AS Modelling & Data Ltd, none have been identified.


The receptor search from SCAIL can be seen below.

Designated Site details:


Search Radius 

km

RUN RECEPTOR SEARCH 

No. of Designated Sites 

1 found

VERIFY RECEPTOR LOCATIONS 

Site No.	Name	Distance(km)	Designation	Country	Easting	Northing
1	Cowbit Wash	8.426	SSSI	ENGLAND	524175	319129

The source details input into SCAIL can be seen below.

Source Details

Source ?

1

✕

Source ?

☐ Pig
☒ Poultry
☐ Cattle
☐ User defined emissions

New or Existing Source ?

New

Source Name ?

Pear Tree Hill Road - Broile

Source Location ?

Provides a link to GoogleMaps to check the location.

532400,317300

☐ Landranger
☒ x,y

VERIFY LOCATION ?

Source Type ?

Housing

Type ?

please select...

Livestock Number ?

552120

Housing Floor Area ?

2786.9

m²

Naturally Vented

☐

Building Height

6

m

Fan Location ?

Roof

No. of Fans (optional) ?

Fan Diameter ?

0.8

m

Fan Flowrate ?

11

m³/s

Total emissions :?

Pollutant	Source Emissions	Running total of all emission sources	Units
NH ₃ :	13251	0	(kg)
PM ₁₀ :	0	0	(kg)
Odour:	0	0	(kOu)

GET EMISSIONS VALUES ?

2. Results

The SCAIL modelling confirms that Cow Bit Wash SSSI has no sensitive habitat or species (as it is a geological designation) and therefore permits the Local Authority to proceed to the determination stage without the necessity for any further assessment. The results can be seen below.

Site Information

Cowbit Wash (SSSI)

?

Country:

ENGLAND

Site Name:

Cowbit Wash

Site Code: ?

2000265

Designation Status: ?

SSSI

Distance from Installation (m): ?

8426

Receptor Type:

Habitat

Grid Reference:

524175,319129

Met Site: ?

PETE

Run Mode: ?

Conservative

PM₁₀ Percentile: ?

Average

Installation Information ?

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H ⁺ /ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Broilers	1	1	-	13.3	-	0.03	0.17	0.011	-	-

Total Depositions/Concentrations and Exceedances ?

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H ⁺ /ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.03193	0.17	0.012	-	-
Background concentration at receptor edge ?	2.06	16.71	1.304 (N: 1.194 S: 0.110)	-	-
Predicted Environmental Concentration/Deposition (PEC) ?	2.09	16.88	1.32	-	-
Environmental Assessment Level or Critical Load / Level ?	Lower: 1 Upper: 3 ?	No sensitive habitat or species at this site	No sensitive habitat or species at this site	-	-
			ALTERNATIVE CRITICAL LOAD INFO		