

Browser navigation bar showing the URL <http://www.scail.ceh.ac.uk/cgi-bin/agriculture/input.pl>, search bar, and browser tabs. The active tab is titled "SCAIL - Simple Calculation ...".



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We have made a number of improvements to the SCAIL for agriculture tool. We have added cattle as a livestock option to cover their emissions. These are set out for housing, landspreading, manure/slurry storage, grazing and outdoor yards. Users can also add their own emissions. The layout should be simpler to use with larger font and input boxes. If you experience any issues then please [Contact Us](#)

Simple Calculation of Atmospheric Impact Limits from Agricultural Sources (SCAIL-Agriculture) is a screening tool for assessing the impact from pig and poultry farms on human health and on semi-natural areas like SSSIs and SACs. The model provides an estimate of the amount of acidity and nitrogen deposited from a farm as well as predictions of air concentrations of odour and PM10. These values can then be used to assess whether impact limits for human health or habitats are exceeded or not.

Information regarding the use of SCAIL-Agriculture as a screening tool and instructions for completing the assessment form are provided in the SCAIL-Agriculture User Guide. The User Guide also contains background information on regulatory requirements for the use of SCAIL-Agriculture, including instances where further detailed modelling of emissions will be required. **The relevant regulatory authority should be consulted for guidance regarding assessment requirements for planning and permitting purposes.**

LOAD INPUT DATA ?

Project Details	
Project Notes ?	<input type="text" value="Gwynfaes Extension"/>
Project Run Mode ?	<input checked="" type="radio"/> Conservative Met <input type="radio"/> Realistic Met
Location Details	
Select Country ?	<input type="text" value="Wales"/>
Installation Details	
Installation ?	<input type="text" value="1"/>
Installation Name ?	<input type="text" value="Gwynfaes 8k Extension"/>
Installation Location ?	<input type="text" value="277876,241074"/> <input type="radio"/> Landranger <input checked="" type="radio"/> x,y
	<input type="button" value="CHOOSE/VERIFY LOCATION"/>

Source 1

Source Pig Poultry Cattle User defined emissions

New or Existing Source

Source Name

Source Location Provides a link to GoogleMaps to check the location.
 Landranger x,y

Source Type

Type

Details

Livestock Number

Housing Floor Area m²

Naturally Vented

Building Height m

Fan Location

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 :	0	0	(kg)
PM ₁₀ :	0	0	(kg)
Odour:	0	0	(kOu)

Pollutant	Source Emissions	sources	Units
NH ₃ :	0	0	(kg)
PM ₁₀ :	0	0	(kg)
Odour:	0	0	(kOu)

[GET EMISSIONS VALUES](#)

Designated Site details:

Search Radius km [RUN RECEPTOR SEARCH](#)

No. of Designated Sites 13 found [VERIFY RECEPTOR LOCATIONS](#)

Site No.	Name	Distance(km)	Designation	Easting	Northing
1	Cwm Doethie - Mynydd Mallaen	2.719	SSSI	275552	242486
2	Cwm Doethie - Mynydd Mallaen	2.719	SAC	275552	242486
3	Elenydd - Mallaen	2.719	SPA	275552	242486
4	Rhos Dolau-Bran	3.161	SSSI	279398	238304
5	Crychan Forest Tracks	4.916	SSSI	281455	237704
6	Afon Tywi	6.54	SSSI	276161	234763
7	Afon Tywi / River Tywi	6.54	SAC	276161	234762
8	Ydw Valley and Fron Road Geological Exposures	7.759	SSSI	277604	233319
9	River Wye / Afon Gwy	8.719	SAC	285776	244761
10	Afon Irfon	8.719	SSSI	285776	244761
11	Waen Rydd	9.541	SSSI	287004	243848
12	Mynydd Epynt	9.808	SSSI	285662	235109
13	Mynydd Epynt	9.808	SAC	285662	235109

User specified site [Add site](#)

Site Name

Site Location Landranger x,y

[VERIFY LOCATION](#)

Site Information											
Cwm Doethie-Mynydd Mallaen											
Region:	Wales										
Site Name:	Cwm Doethie-Mynydd Mallaen										
Site Code:	N/A										
Designation Status:	User defined										
Distance from Installation (m):	2719										
Receptor Type:	Broadleaved, Mixed and Yew Woodland										
Grid Reference:	275552,242486										
Met Site:	SENN										
Run Mode:	Conservative										
PM ₁₀ 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	Gwynfaes 8k Extension	1	1	-	1.6	-	0.1	0.5	0.033	-	-
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		0.10	0.78	0.053	-	-					
Background concentration at receptor edge		0.86	20.44	1.75 (N:1.46 S:0.29)	-	-					
Predicted Environmental Concentration/Deposition (PEC)		0.96	21.22	1.8	-	-					
Environmental Assessment Level or Critical Load / Level		Lower: 1 Upper: 3	10.0 Broadleaved, Mixed and Yew Woodland	maxN: 1.60 maxS: 1.31 minN: 0.28 Broadleaved, Mixed and Yew Woodland	-	-					
		ALTERNATIVE CRITICAL LOAD INFO									
USE OWN THRESHOLDS?											
% of relevant standard PC		Lower: 10% Upper: 3%	8%	3%	-	-					
% of relevant standard PEC		Lower: 96% Upper: 32%	212%	112%	-	-					
EXCEEDANCE		Lower: No exceedance Upper: No exceedance	11.22	0.20	-	-					



Site Information Cwm Doethie-Mynydd Mallaen

Region: Wales
 Site Name: Cwm Doethie-Mynydd Mallaen
 Site Code: N/A
 Designation Status: User defined
 Distance from Installation (m): 2719
 Receptor Type: Broadleaved, Mixed and Yew Woodland
 Grid Reference: 275552,242486
 Met Site: SENN
 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 (kO _u /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 (O _u /m ³)
1	Gwynfaes 8k Extension	1	1	-	1.6	-	0.1	0.5	0.033	-	-

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 (O _u /m ³)
Process Contribution (PC) at receptor edge	0.10	0.78	0.053	-	-
Background concentration at receptor edge	0.86	20.44	1.75 (N:1.46 S:0.29)	-	-
Predicted Environmental Concentration/Deposition (PEC)	0.96	21.22	1.8	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	10.0 Broadleaved, Mixed and Yew Woodland	maxN: 1.60 maxS: 1.31 minN: 0.28 Broadleaved, Mixed and Yew Woodland	-	-
ALTERNATIVE CRITICAL LOAD INFO					
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 10% Upper: 3%	8%	3%	-	-
% of relevant standard PEC	Lower: 96% Upper: 32%	212%	112%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	11.22	0.20	-	-

Site Information Elenydd-Mallaen

Region: Wales
 Site Name: Elenydd-Mallaen
 Site Code: N/A
 Designation Status: User defined
 Distance from Installation (m): 2719
 Receptor Type: Dwarf Shrub Heath
 Grid Reference: 275552,242486
 Met Site: SENN
 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 (kO _u /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 (O _u /m ³)
1	Gwynfaes 8k Extension	1	-	1.6	-	0.1	0.5	0.033	-	-	

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 (O _u /m ³)
Process Contribution (PC) at receptor edge	0.10	0.52	0.035	-	-
Background concentration at receptor edge	0.86	13.58	1.21 (N:0.97 S:0.24)	-	-
Predicted Environmental Concentration/Deposition (PEC)	0.96	14.1	1.24	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	10.0 Dwarf Shrub Heath	maxN: 1.84 maxS: 0.45 minN: 1.39 Dwarf Shrub Heath	-	-
ALTERNATIVE CRITICAL LOAD INFO					
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 10% Upper: 3%	5%	0%	-	-
% of relevant standard PEC	Lower: 96% Upper: 32%	141%	53%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	4.10	-0.60	-	-

Project Notes

Site Information Rhos Dolau-Bran

Region: Wales
 Site Name: Rhos Dolau-Bran
 Site Code: N/A
 Designation Status: User defined
 Distance from Installation (m): 3161
 Receptor Type: Broadleaved, Mixed and Yew Woodland
 Grid Reference: 279398,238304
 Met Site: SENN
 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	Gwynfaes 8k Extension	1	1	-	1.6	-	0.07	0.39	0.026	-	-

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	0.07	0.55	0.037	-	-
Background concentration at receptor edge	1.09	21.42	1.78 (N:1.53 S:0.25)	-	-
Predicted Environmental Concentration/Deposition (PEC)	1.16	21.97	1.82	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	10.0 Broadleaved, Mixed and Yew Woodland	maxN: 1.43 maxS: 1.14 minN: 0.28 Broadleaved, Mixed and Yew Woodland	-	-
ALTERNATIVE CRITICAL LOAD INFO					
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 7% Upper: 2%	6%	3%	-	-
% of relevant standard PEC	Lower: 116% Upper: 39%	220%	127%	-	-
EXCEEDANCE	Lower: 0.16 Upper: No exceedance	11.97	0.39	-	-

Region: Wales
 Site Name: Crychan Forest Tracks
 Site Code: N/A
 Designation Status: User defined
 Distance from Installation (m): 4916
 Receptor Type: Inland Rock & Scree
 Grid Reference: 281455,237704
 Met Site: SENN
 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 (kO _u /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 (O _u /m ³)
1	Gwynfaes 8k Extension	1	1	-	1.6	-	0.04	0.19	0.013	-	-

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 (O _u /m ³)
Process Contribution (PC) at receptor edge	0.04	0.21	0.014	-	-
Background concentration at receptor edge	0.87	13.72	1.21 (N:0.98 S:0.23)	-	-
Predicted Environmental Concentration/Deposition (PEC)	0.91	13.93	1.22	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	5.0 Inland Rock & Scree	maxN: 4.72 maxS: 3.86 minN: 0.85 Inland Rock & Scree	-	-
ALTERNATIVE CRITICAL LOAD INFO					
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 4% Upper: 1%	4%	0%	-	-
% of relevant standard PEC	Lower: 91% Upper: 30%	279%	26%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	8.93	-3.50	-	-

Project Notes

Gwynfaes Extension

Site Information Afon Tywi

Region: Wales
 Site Name: Afon Tywi
 Site Code: N/A
 Designation Status: User defined
 Distance from Installation (m): 6541
 Receptor Type: Neutral Grassland
 Grid Reference: 276161,234762
 Met Site: SENN
 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	Gwynfaes 8k Extension	1	1	-	1.6	-	0.02	0.12	0.008	-	-

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	0.02	0.10	0.007	-	-
Background concentration at receptor edge	1.20	15.96	1.38 (N:1.14 S:0.24)	-	-
Predicted Environmental Concentration/Deposition (PEC)	1.22	16.06	1.39	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	10.0 Neutral Grassland	maxN: 4.73 maxS: 3.87 minN: 0.85 Neutral Grassland	-	-
ALTERNATIVE CRITICAL LOAD INFO					
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 2% Upper: 1%	1%	0%	-	-
% of relevant standard PEC	Lower: 122% Upper: 41%	161%	29%	-	-
EXCEEDANCE	Lower: 0.22 Upper: No exceedance	6.06	-3.34	-	-

Project Notes

Site Information Afon Gwy

Region: Wales
 Site Name: Afon Gwy
 Site Code: N/A
 Designation Status: User defined
 Distance from Installation (m): 8718
 Receptor Type: Neutral Grassland
 Grid Reference: 285776,244761
 Met Site: SENN
 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	Gwynfaes 8k Extension	1	1	-	1.6	-	0.01	0.07	0.005	-	-

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	0.01	0.05	0.004	-	-
Background concentration at receptor edge	0.79	13.58	1.20 (N:0.97 S:0.23)	-	-
Predicted Environmental Concentration/Deposition (PEC)	0.8	13.63	1.2	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	10.0 Neutral Grassland	maxN: 4.73 maxS: 3.67 minN: 0.85 Neutral Grassland	-	-
ALTERNATIVE CRITICAL LOAD INFO					
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 1% Upper: 0%	1%	0%	-	-
% of relevant standard PEC	Lower: 80% Upper: 27%	136%	25%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	3.63	-3.53	-	-

Project Notes

Gwynfaes Extension