The Wildlife Trusts

The Wildlife Trusts' Greenhouse Gas Inventory

Operations and Grazing

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Financial Year 2024 - 2025

The Wildlife Trusts' Greenhouse Gas Inventory Financial Year 2024 - 2025 – Operations and Grazing

Target	Collectively, The Wildlife Trusts are working to achieve net zero greenhouse gas emissions by 2030
Accounting Year	FY 2024-25
Baseline Year	FY 2019-20

The Wildlife Trusts - working together on climate action

Climate action is embedded right across The Wildlife Trusts' strategic goals to bring nature back (Strategy 2030). A synthesis of The Wildlife Trusts' collective response to climate change, related to both net zero and adaptation, can be found in our collective Position Statement.

Together we are working towards net zero greenhouse gas (GHG) emissions by 2030 across our scope 1, 2 and 3 operational emissions, as well as putting in place robust adaptation measures across all our work areas.

As a grassroots movement working across every part of the UK, on Alderney and the Isle of Man, The Wildlife Trusts are major landowners, habitat managers, energy users, consumers of water, venue and event providers, educators, vehicle fleet operators, and employers (to name just a few). Whilst these elements all contribute to achieving our charitable objectives, we want to minimise their negative environmental impacts and pursue more sustainable alternatives.

About this Report

This mitigation report sits under one of two parts of work on climate change we are undertaking as The Wildlife Trusts federation, the other being our adaptation work programme, stemming from our 2022 'Changing Nature' report.

On our journey to net zero, our priority is to cut GHG emissions right across the work we do, and free ourselves from fossil fuel use and dependencies.

This annual report presents the GHG emissions from our operations in Financial Year (FY) 1 April 2024 to 31 March 2025. Emissions are given as tonnes of carbon dioxide equivalent, or tCO_2e, which is the standard unit used to compare and account for emissions.

We are taking an evidence-led approach to understand, reduce, and report on our GHG emissions across our value chain, and measure progress towards our collective net zero 2030 target. As such, the scope and approach to this has, and will continue to evolve, as we develop more efficient data collection systems and completeness of our activities and align to evolving best practice guidelines.

This report covers GHG emissions associated with our operations and livestock. Emissions from our conservation grazing activities have been collected separately from emissions from operational activities and are included in a separate section in this report.

Estimating the emissions and removals from our habitats is an ongoing area of research and in the future will be accounted and reported separately (see further details in **Appendix 1**).

This report also brings together some of the high-level highlights and challenges of decarbonisation progress across The Wildlife Trusts over the reporting period.

The Wildlife Trusts in 2024-25

The Wildlife Trusts are a federation of 46 Wildlife Trusts across the UK, Isle of Man and Alderney, and a central body, the Royal Society of Wildlife Trusts (RSWT).

In FY2024-25, The Wildlife Trusts collectively[1]:

- Managed more than 2,600 nature reserves, covering an area of 112,231 hectares.
- Responded to 4,907 planning applications supporting a total of 7,867 hectares of land being improved for nature.
- Employed 3,241 full-time equivalent staff.
- Were supported by 35,212 volunteers providing 1,328,540 volunteer hours.
- Were supported by 945,825 members.
- Welcomed 114,377 visitors from schools, colleges, universities, care homes and youth groups, covering 2,901 organisations.
- Arranged 7,912 corporate volunteering days covering 41,073 hours.

The Wildlife Trusts' Operations Greenhouse Gas Emissions FY2024-25

In FY2024-25, The Wildlife Trusts were collectively responsible for **27,903.0 tCO_2e** of GHG emissions across our operational activities (not including livestock). This compares to 26,790.1 tCO_2e in FY2023-24. This short-term increase is largely due to an increase in scope 3 emissions, with most of this attributed to purchased goods and services, and partly due to an increase in fleet and equipment fuel emissions (scope 1).

Our scope 1 emissions accounted for 2,155.1 tCO_2e in the reporting year. We have seen a 4.8% increase since 2023-24. This is due to an increase in fleet and equipment fuel emissions.

Our scope 2 emissions accounted for 478.2 tCO_2e in the reporting year. A decrease has been observed in scope 2 emissions since 2023-24, by 10.8% using market-based totals and 11.9% using location-based totals.

Our scope 3 emissions accounted for 25,269.7 tCO_2e in the reporting year. Emissions have increased by 4.4% compared to 2023-24. Categories which have increased include purchased goods and services, fuel-and energy-related activities, waste generated in operations, casual staff and volunteers travel, and upstream leased assets. Accuracy in scope 3 year-to-year to comparisons is limited due to uncertainty around the methodology used to calculate purchases emissions (see **Appendix 2** for details).

See **Table 1** and **Figure 1** for a breakdown of emissions by scope and activity for FY2024-25. We are unable to compare the overall emissions total to our baseline of 8,575 tCO_2e in FY2019-20. Our baseline year did not include as many emissions categories, such as purchases, which now make up 69% of our total operational emissions. See **Table 2** for baseline comparisons by scope and emissions category.

Details of the methodology used can be found in **Appendix 1.**

[1] The Wildlife Trusts, Strategy 2030 Impact Measures Report - 2023/2024 Financial Year. Available at: https://www.wildlifetrusts.org/about-us/publications

Table 1. Operational emissions for FY2024-25 by scope and emissions category.

Scope and category		Activity Type	GHG Emissions (tCO_2e)	% of total
Scope 1		**Total**	**2,155.1**	**7.7**
		Building fuel (stationary combustion)	**478.8**	**1.7**
		Fleet and equipment fuel (mobile combustion)	**1,674.9**	**6.0**
		Fugitive emissions (refrigerants)	**1.4**	**0.0**
Scope 2		**Total**	**478.2**	**1.7**
		Purchased electricity (location-based)	**731.4**	
		Purchased electricity (market-based)	**478.2**	
Scope 3		**Total**	**25,269.7**	**90.6**
Category	**1**	Purchased goods	**8,194.9**	**29.4**
	1	Purchased services (excluding water)	**8,481.9**	**30.4**
	1	Water use and wastewater treatment	**23.9**	**0.1**
	2	Capital goods	**2,659.5**	**9.5**
	3	Fuel-and energy-related activities (not included in scope 1 or scope 2)	**798.8**	**2.9**
	4	Upstream transportation and distribution	**0.0**	**0.0**
	5	Waste generated in operations	**255.0**	**0.9**
	6	Business travel (employees)	**822.1**	**2.9**
	6	Casual staff and volunteers travel	**512.8**	**1.8**
	7	Employee commuting	**2,800.1**	**10.0**
	7	Employees working from home	**713.4**	**2.6**
	8	Upstream leased assets	**7.3**	**0.0**
	9	Downstream transportation and distribution	excluded	n/a
	10	Processing of sold products	excluded	n/a
	11	Use of sold products	excluded	n/a
	12	End-of-life treatment of sold products	excluded	n/a
	13	Downstream leased assets	excluded	n/a
	14	Franchises	excluded	n/a
	15	Investments	excluded	n/a
Total reportable emissions (scopes 1 – 3)			**27,903.0**	**100%**
Out of scope		Biogenic emissions (scope 1)	**599.6**	

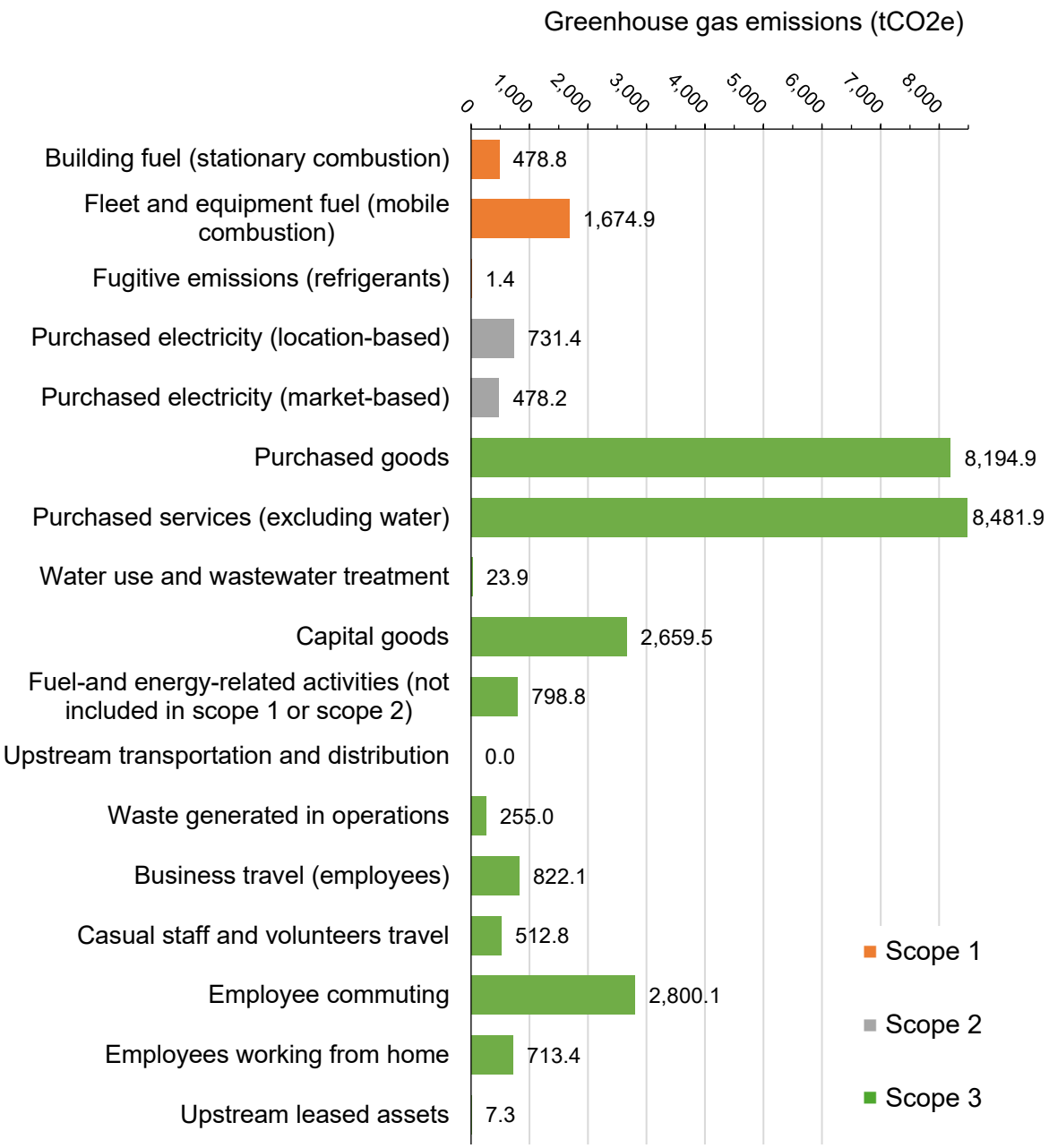


Figure 1. Operational emissions in FY2024-25 from all Wildlife Trusts* by scope and category.

*Note:

FY2023-24 data was carried forward for all categories for one Trust that was unable to report on emissions in the current reporting period.

Accounts were estimated for two Trusts, based on emissions from similar-sized Trusts, where data could not be carried forward from previous years.

Figures were estimated for certain scope 3 categories in the accounts for five Trusts where they were unable to collect data for those categories in the current reporting period.

Progress against carbon reduction trajectory

The Wildlife Trusts first undertook a collective GHG account in FY2019-20, which serves as our baseline year against which to compare progress towards our net zero target.

Since FY2019-20, the scope of our GHG account has expanded to include fugitive emissions, working from home, waste, purchased goods and services (previously reported in a limited way as material use), purchased capital goods, upstream leases, upstream transportation and distribution, and fuel-and energy-related activities. Iterative improvements have also been made to data collection and accuracy.

Table 2 sets out our GHG emissions for the most recent reporting years for each activity type. This is presented alongside our 2019-20 baseline for the activities previously included in our reporting.

Table 2 provides updated FY2023-24 figures to those presented in our previous inventory report[2]. These updates are due to corrections to some accounts.

Scope 1 emissions have fallen by 8.1% compared to the baseline. A decrease in emissions from fleet and equipment fuel contributes most significantly, with a small decrease in building fuel emissions.

Scope 2 emissions have fallen by 60.3% compared to the baseline, using the market-based total for FY2024-25. Based on location-based totals, we have seen a decrease of 39.3% since the baseline.

We are unable to compare overall scope 3 emissions to the baseline due to the reporting coverage expanding over time. In terms of the categories consistently reported, emissions from water use and water treatment, casual staff and volunteers travel, and employee commuting have decreased since the baseline. Emissions from fuel-and energy-related activities and business travel have increased since the baseline.

[2] The Wildlife Trusts' Greenhouse Gas Inventory - Operations and Grazing. Financial Year 2023-2024. Available at: The Wildlife Trusts' Greenhouse Gas Inventory 2023-24_0.pdf

Table 2. Operational emissions for recent reporting years and our 2019-20 baseline.

Scope	Activity Type	GHG Emissions (tCO_2e)		
		2019-20	2023-24	2024-25
Scope 1 Total		**2,344.7**	**2,056.3**	**2,155.1**
1	Building fuel (stationary combustion)	**497.9**	**497.9**	**478.8**
1	Fleet and equipment fuel (mobile combustion)	**1,846.9**	**1,557.0**	**1,674.9**
1	Fugitive emissions (refrigerants)	excluded	**1.4**	**1.4**
Scope 2 Total		**1,204.8**	**535.8**	**478.2**
2	Purchased electricity (location-based)	**1,204.8**	**830.7**	**731.4**
2	Purchased electricity (market-based)	excluded	**535.8**	**478.2**
Scope 3 Total		**5,025.8**	**24,197.9**	**25,269.7**
3	Purchased goods	excluded	**6,787.2**	**8,194.9**
3	Purchased services (excluding water)	excluded	**7,874.2**	**8,481.9**
3	Water use and wastewater treatment	**111.3**	**24.8**	**23.9**
3	Capital goods	excluded	**3,659.5**	**2,659.5**
3	Fuel-and energy-related activities (not included in scope 1 or scope 2)	**96.4**	**778.4**	**798.8**
3	Upstream transportation and distribution	excluded	**0.1**	**0.0**
3	Waste generated in operations	excluded	**230.1**	**255.0**
3	Business travel (employees)	**752.5**	**824.6**	**822.1**
3	Casual staff and volunteers travel	**608.1**	**431.9**	**512.8**
3	Employee commuting	**3,457.2**	**2,838.8**	**2,800.1**
3	Employees working from home	excluded	**741.5**	**713.4**
3	Upstream leased assets	excluded	**6.9**	**7.3**
Total reportable emissions (scopes 1 – 3)		**8,575.3**	**26,790.0**	**27,903.0**
Out of scope	Biogenic emissions (scope 1)	**33.5**	**527.9**	**599.6**

Decarbonisation highlights and challenges, FY2024-25

To support decarbonisation across operational activities, we have been encouraging the development of **net zero pathways** across The Wildlife Trusts. Net zero pathways involve the following:

- Reporting on emissions each year and plotting this over time.
- Setting target totals for each emissions category.
- Agreeing actions needed to reach the targets.
- Reviewing the pathway regularly to ensure the targets and actions are the most suitable and aligned with the latest advice and technology.

Some examples of decarbonisation actions from across The Wildlife Trusts in FY2024-25 include:

- **Switching to electric heating** in some buildings through installation of air-source heat pumps, electric boilers and infrared heating panels.

- **Reducing energy consumption** by using thermostats and timers to avoid unnecessary heating, installing radiator valves, switching off equipment, switching to LED lighting, switching to energy efficient equipment, and building upgrades.

- **Energy surveys and decarbonisation strategies** to inform reduction of scope 1 and 2 emissions.

- **Installation of solar panels** by some Trusts, with others considering options to do so, including evaluation of roof and ground-mounting suitability.

- **Switching purchased electricity to renewable suppliers** and **improving usage data**.

- **Switching to electric or battery powered tools and equipment.**

- **Switching to electric and hybrid fleet vehicles**, and the **installation of electric vehicle (EV) chargers**. Where electric options are not currently feasible (for example for offroad vehicles), some are being replaced with more economical vehicles.

- **Promoting use of public transport, walking, cycling and car sharing.** Encouraging the use of cycle to work schemes and e-bikes where available.

- **Continued promotion of the EV salary sacrifice scheme**. Through the scheme, staff can lease a zero-emission EV, helping to reduce emissions from staff travel. The Royal Society of Wildlife Trusts partnered with Octopus Energy to provide this scheme, which is also available for individual Wildlife Trusts to administer.

- **Hybrid working and use of online meetings** to reduce emissions from travel.

- **Procurement policy and guidance updates** such as emissions consideration, sustainability checklists, reusing materials, minimal plastic use, recommended suppliers for purchased goods and services and digital circulation of routine communications to reduce printing.

- **Actions to reduce emissions from waste**. For example, through improved oversight and policy around waste and recycling, better segregation of waste, corporate clothing/PPE recycling schemes, material recovery from electronics, and composting or repurposing green waste.

- **Water saving measures** such as turning off water supplies to livestock troughs when not in use, electronic taps with timers, toilet flush savers and use of sustainable natural water supplies where possible, for example through rainwater harvesting systems.

- **Actions to reduce digital carbon** impact through reducing email quantity and size, as well as staff guidance. Resources now available to the federation include Reducing Digital Emissions Top Tips and a Digital and Carbon Wiki. We are largely unable to calculate these emissions at present, due to lack of data specific to our usage of digital and IT services.

- **Actions to improve awareness of decarbonisation** through team meetings, sustainability tips, climate literacy training and updates to Trustees.

Current challenges facing The Wildlife Trusts in our decarbonisation journey include:

- **Buildings** – Upgrades to buildings to support decarbonisation are expensive and often complex, particularly for old and listed buildings.

- **Offroad fleet vehicles** – Affordable electric vehicles with the required specifications for access to rural sites and habitat management are not currently available.

- **Travel** – Public transport often doesn't meet the needs of staff, particularly to remote reserves, and electric fleet vehicles aren't available for all travel. In terms of commuting, we can only support and incentivise personal travel choices.

- **Purchases reporting** – The spend-based method to calculate emissions from purchases has significant limitations. We don't have accurate emissions data for the specific goods and services we purchase, and our sustainable procurement decisions are not represented in the numbers.

The Wildlife Trusts' Livestock Greenhouse Gas Emissions FY2024-25

During 2024-25, The Wildlife Trusts continued to consolidate their approach to estimating and reducing GHG emissions arising from their conservation grazing operations. The bespoke Wildlife Trusts' Conservation Grazing GHG Emissions Calculator, developed over previous years, was used to estimate the federation's collective livestock emissions again in 2024-25 (see the background explanation of how and why this was developed, in The Wildlife Trusts' GHG Inventory report for 2022-23[3]). This year, the underlying principles, assumptions and emission factors used in the calculator have remained the same as in 2023-24. The headline results of the application of this calculator to Wildlife Trusts' grazing livestock data since April 2020 (including 2024-25) are given in **Table 3**.

On the basis of the data available and this year's analysis, we have concluded that:

- Total combined GHG emissions from the grazing animals that contributed to the management of Wildlife Trust landholdings in FY2024-25 were approximately **16,200 tCO_2e** (using GWP_{100}, see **Table 3** for more details), of which 92% were in the form of methane (545 tonnes; 14,833 tCO_2e) and 8% nitrous oxide (5 tonnes; 1,365 tCO_2e).
- This constitutes a **13.3%** increase in total livestock-related greenhouse gas emissions since the previous year. After three years of emission reductions, this increase reverses a substantial proportion of the reductions achieved previously, bringing total annual emissions to a level only 0.34% lower than they were in FY2020-21.
- For comparison, using an alternative measure of global warming potential, GWP*, total combined GHG emissions from the grazing animals that contributed to the management of Wildlife Trust landholdings in FY2024-25 resulted in an overall global warming impact of **5,554 tCO_2we** – an increase of **13.8%** on the previous year and an increase of 0.9% since FY2020-21.
- The principal driver of these increased emissions was a substantial increase in the number of grazing animals (and/or the length of time spent grazing) on The Wildlife Trusts' landholdings. In FY2024-25, the time spent grazing by individual animals increased by **23.2%** compared to FY2023-24 – from 16,764 animal years to **20,645 animal years**. This year's increase in grazing activity more than reverses reductions in previous years, leaving total grazing activity 8.6% higher in FY2024-25 than it was in FY2020-21.
- In terms of the amount of conservation grazing impact being delivered by these animals, this also increased substantially in FY2024-25 (by **12%** compared to FY2023-24), from 5,163 Livestock Unit years (LUy) to **5,784 LUy**. This level of conservation grazing impact is still 2.23% lower than the level reported for FY2020-21. The slower growth in grazing impact (LUy), than in headage (animal years) points to a shift in the composition of The Wildlife Trusts' collective grazing herd to include a greater proportion of small animals (such as sheep) compared to large ones (such as cattle).
- A very significant part of the increased grazing in FY2024-25 (about 73% of the increase in grazing animal numbers and 40% of the increase in associated grazing impact) is accounted for by the acquisition of the **Rothbury Estate**, which brought with it a herd of 51 cattle with additional calves and a flock of 1,775 sheep with additional lambs.
- Excluding the Rothbury Estate, across the rest of The Wildlife Trusts' landholdings, livestock (animal years) increased by about 7% between FY2023-24 and FY2024-25, representing an increase in grazing pressure (LUy) of about 9%. This indicates that in

[3] The Wildlife Trusts' Greenhouse Gas Inventory - Operations and Grazing. Financial Year 2022-2023. Available at: The Wildlife Trusts' Greenhouse Gas Inventory – Operations and Grazing

general, individual Wildlife Trusts have been both increasing livestock numbers and moving from smaller animals (such as sheep) to larger ones (like cattle), which is the opposite to the overall trend observed when Rothbury is included.

- A secondary contributor to the reported increase in livestock-related GHG emissions in FY2024-25 is an increase in the time animals spend housed indoors. This increased by **31.4%**, to **311** animal years. Some of this increase reflects improved reporting of this aspect of The Wildlife Trusts' conservation grazing operations, but another significant factor was an extended period of hot, dry weather during the summer. This led to a reduction in grass productivity in many parts of the country, forcing livestock managers to bring their animals off pasture, where they could be fed adequate alternative feeds.
- Ultimately, the increases in livestock numbers, grazing pressure and associated GHG emissions reported for FY2024-25 are a consequence of The Wildlife Trusts greatly increasing the area of land on which conservation grazing takes place. In FY2024-25, this went up by **22.8%** from the previous year, from 27,105 ha to **33,281 ha**. This increase follows a similar increase (22.2%) between FY2022-23 and FY2023-24, so the overall area of land to which conservation grazing is being applied has increased by 50% since FY2022-23. Even excluding the acquisition of the Rothbury Estate (2,936 ha), the amount of land being grazed within The Wildlife Trusts increased by nearly 3,000 ha in FY2024-25 (an increase of 10.8% from the previous year).
- Combining an understanding of the changes in land area being grazed and changes in the number and type of animals delivering the grazing, the carbon intensity of Wildlife Trust conservation grazing operations has remained fairly stable (but fluctuating) since FY2020-21. In FY2024-25, GHG emissions per Livestock Unit of grazing impact went up by 1.1% using GWP_{100} (from 2.77 $tCO_2e\ LUy^{-1}$ to 2.80 $tCO_2e\ LUy^{-1}$). This reflects an overall slight move away from relatively less emitting types of livestock (such as small non-dairy cattle, sheep and ponies) and towards relatively more emitting types (such as dairy cattle and larger breeds of non-dairy cattle), despite the increase in sheep numbers associated with the Rothbury Estate acquisition. See **Table 4**.
- In contrast, GHG emissions per area of land managed decreased for the second year in a row – by 7.7% (from 0.53 $tCO_2e\ ha^{-1}$ to 0.49 $tCO_2e\ ha^{-1}$), reflecting a relatively smaller increase in livestock numbers and related GHG emissions than the increase in the area of land grazed.
- For comparison, changes in global warming intensity (estimated using GWP* rather than GWP_{100}), showed a slightly different pattern, reflecting GWP*'s greater sensitivity to increases and decreases in CH_4 emissions. In FY2024-25, global warming impact per Livestock Unit of grazing went up by 1.5% using GWP* (from 0.95 $tCO_2we\ LUy^{-1}$ to 0.96 $tCO_2we\ LUy^{-1}$). There are some technical challenges in applying the GWP* measure to annually fluctuating emissions relative to an unknown historical baseline that is assumed to have been constant, so we haven't calculated changes in global warming intensity using GWP* in relation to global warming impact per hectare, in FY 2024-25.

Table 3. A summary of the estimated GHG emissions from The Wildlife Trusts' conservation grazing operations from April 2020 to March 2025 inclusive.

	Year	Conservation grazing operation			GHG emissions (tCO_2e)						Long Term Global Warming Impact using GWP* (tCO_2we) Calculated using GWP* for CH_4 and GWP_{100} for N_2O
		Annual grazing pressure			Long-term (using GWP_{100} for methane)			Short-term (using GWP_{20} for methane)			
		Grazed Area (ha)	Headage (animal years)	Livestock Units (LU years)	Methane (CH_4)	Nitrous oxide (N_2O)	Combined CH_4 & N_2O	Methane (CH_4)	Nitrous oxide (N_2O)	Combined CH_4 & N_2O	
Values (units)	2020-21	N/A	19,012	5,916	14,932	1,322	**16,254**	44,357	1,322	**45,679**	**5,503**
	2021-22	N/A	18,977	5,734	14,413	1,245	**15,658**	42,815	1,245	**44,060**	**5,281**
	2022-23	22,181	16,254	5,065	13,208	1,272	**14,481**	39,237	1,272	**40,509**	**4,971**
	2023-24	27,105	16,764	5,163	13,110	1,186	**14,297**	38,945	1,186	**40,132**	**4,882**
	2024-25	33,281	20,645	5,784	14,833	1,365	**16,198**	44,062	1,365	**45,427**	**5,554**
Annual Changes (%)	2020-21 to 2021-22	*N/A*	*-0.2%*	*-3.1%*	*-3.5%*	*-5.8%*	***-3.7%***	*-3.5%*	*-5.8%*	***-3.5%***	***-4.0%***
	2021-22 to 2022-23	*N/A*	*-14.3%*	*-11.7%*	*-8.4%*	*2.2%*	***-7.5%***	*-8.4%*	*2.2%*	***-8.1%***	***-5.9%***
	2022-23 to 2023-24	*22.2%*	*3.1%*	*1.9%*	*-0.7%*	*-6.7%*	***-1.3%***	*-0.7%*	*-6.7%*	***-0.9%***	***-1.8%***
	2023-24 to 2024-25	*22.8%*	*23.2%*	*12.0%*	*13.1%*	*15.0%*	***13.3%***	*13.1%*	*15.0%*	***13.2%***	***13.8%***
Multi-Year Changes (%)	2020-21 to 2024-25	***N/A***	***8.6%***	***-2.2%***	***-0.7%***	***3.3%***	***-0.3%***	***-0.7%***	***3.3%***	***-0.6%***	***0.9%***
	2022-23 to 2024-25	***50.0%***	***27.0%***	***14.2%***	***12.3%***	***7.3%***	***11.9%***	***12.3%***	***7.3%***	***12.1%***	***11.7%***

Table 4. A summary of the estimated GHG emission Carbon Intensity and Global Warming Intensity measures for The Wildlife Trusts' conservation grazing operations from April 2020 to March 2025 inclusive.

	Year	Conservation grazing operation			Carbon intensity (using GWP_{100} for CH_4)		Global Warming Intensity, using GWP*
		Annual grazing pressure					
		Grazed Area (ha)	Headage (animal years)	Livestock Units (LU years)	(tCO_2e per LU year)	(tCO_2e per hectare)	(tCO_2we per LU year)
Values (units)	2020-21	N/A	19,012	5,916	2.75	N/A	0.93
	2021-22	N/A	18,977	5,734	2.73	N/A	0.92
	2022-23	22,181	16,254	5,065	2.86	0.65	0.98
	2023-24	27,105	16,764	5,163	2.77	0.53	0.95
	2024-25	33,281	20,645	5,784	2.80	0.49	0.96
Annual Changes (%)	2020-21 to 2021-22	*N/A*	*-0.2%*	*-3.1%*	*-0.6%*	*N/A*	*-1.0%*
	2021-22 to 2022-23	*N/A*	*-14.3%*	*-11.7%*	*4.7%*	*N/A*	*6.6%*
	2022-23 to 2023-24	*22.2%*	*3.1%*	*1.9%*	*-3.2%*	*-19.2%*	*-3.6%*
	2023-24 to 2024-25	*22.8%*	*23.2%*	*12.0%*	*1.1%*	*-7.7%*	*1.5%*
Multi-Year Changes (%)	2020-21 to 2024-25	***N/A***	***8.6%***	***-2.2%***	***1.9%***	***N/A***	***3.2%***
	2022-23 to 2024-25	***50.0%***	***27.0%***	***14.2%***	***-2.1%***	***-25.5%***	***-2.2%***

We are continuing to develop our approach to estimating and reducing the GHG emissions associated with our conservation land management. We have concluded work carried out with the *Wild Business* consultancy, to produce a series of case studies looking at the relationship between delivery of biodiversity outcomes, conservation grazing practices and GHG emissions at a varied selection of English nature conservation sites. These case studies model the likely implications of changing conservation grazing regimes for their associated GHG emissions. They were published in 2024[4], together with a revised presentation of the research carried out by *Wild Business* between 2022 and 2023, which underpins both The Wildlife Trusts' approach to livestock-related GHG emission accounting and the approach used in developing and assessing alternative scenarios for future management at the case study sites[5].

There has been considerable debate concerning the relative merits of using different timeframes and calculation methods when estimating and reporting the climate implications of methane (CH_4) emissions from grazing animals. As a short-lived but extremely potent greenhouse gas, CH_4 exerts most of its warming influence within 20 years of release, before being oxidised. Over a 100-year period, a tonne of CH_4 emitted causes about 27 times as much global warming as a tonne of CO_2, over a 100-year period. But, over the first 20 years of this, a tonne of CH_4 causes nearly 81 times as much global warming as a tonne of CO_2 released at the same time. Consequently, both the short-term impacts of CH_4 emissions and the short-term benefits from reducing them are much greater than these impacts and benefits in the long term.

For many livestock farmers and nature conservation land managers, there is a concern that estimates that treat CH_4 emissions from livestock as one-off single releases don't accurately reflect the reality of these emissions. It is often argued that if livestock numbers and grazing regimes are kept constant on a particular piece of land over a period of many years (more than 20), the resulting CH_4 emissions will be similarly constant. So will the rate of (relatively rapid) decay of the CH_4 already released by previous generations of grazing animals, resulting in far lower overall global warming impact from that livestock operation. Consequently, many have argued that using the established estimation approach, using global warming potentials (GWP) to convert quantities of CH_4 into 100-year CO_2 equivalents (using a GWP_{100} of 27), or 20-year equivalents (using a GWP_{20} of 81), don't do what's needed.

As in 2023-24 we have also estimated The Wildlife Trusts' direct livestock-related emissions using the alternative GWP* methodology, which takes explicit account of the short-lived nature of CH_4 molecules in the air and the steady-state pipeline nature of CH_4 emissions from a herd or flock of grazing animals maintained at an approximately constant size over a period of 20 years or more on the same land. Methods using GWP_{20} and GWP_{100} emphasise the direct CO_2 equivalence of the CH_4 produced and highlight CH_4's greater potency as a

[4] Ramsay, J. & C.J. Sandom. (2024) Reducing Greenhouse Gas Emissions from Conservation Grazing: Exploring alternative grazing scenarios to reduce GHG emissions while maintaining nature conservation goals for six case study nature reserves in England. *Research & Evidence Paper* ***No 2***. Wild Business research report to the Royal Society of Wildlife Trusts. The Wildlife Trusts, Newark. Available at: https://www.wildlifetrusts.org/sites/default/files/2025-09/Evidence_Paper_2_Ramsey_et_a.pdf

[5] Ramsay, J., Wheeler, H. & C.J. Sandom (2023) Reducing Greenhouse Gas Emissions from Conservation Grazing: a literature review and exploration of options. *Research & Evidence Paper* ***No 1***. Wild Business research report to the Royal Society of Wildlife Trusts. The Wildlife Trusts, Newark. Available at: https://www.wildlifetrusts.org/sites/default/files/2025-11/Evidence_Paper_1_Grazing_and_GHG_update.pdf

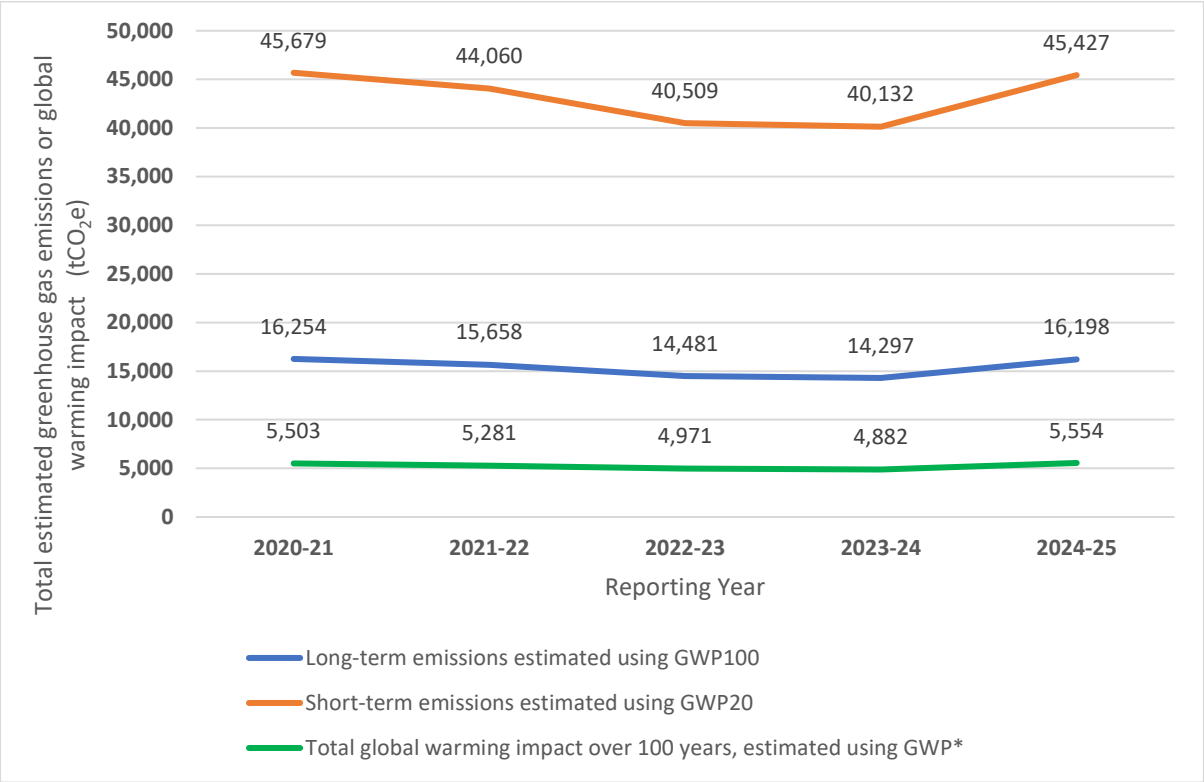
greenhouse gas (especially in the short term, using GWP_{20}). The method using GWP* indicates a ‘warming impact’ equivalency with comparable emissions of CO_2 and it can help to clarify the relative contribution of steady-state CH_4 emissions from livestock, compared to other (non-livestock) sources of CO_2.

This approach seems to be particularly applicable on sites of high nature conservation value, where a habitat or mosaic of habitats has been maintained in a state of dynamic equilibrium for several decades using a constant number and mix of grazing animals to continuously sustain desirable communities of wild plants and animals for a long time.

In FY2024-25, our GHG emission estimates have enabled us to compare the implications of using these different approaches to GWP.

Figure 2 illustrates the livestock emission reductions achieved across The Wildlife Trusts' conservation grazing operations from 2020-21 to 2024-25, using three different estimation methods. There are still some issues to be resolved in the application of GWP* to the annual reporting of grazing emissions in this way (such as how to estimate historical (steady state, 'benchmark') grazing levels and regimes when these are not known and current grazing practice changes from year to year). Bearing this in mind, this second annual comparison suggests that while the use of different global warming potentials and different estimation methods clearly produces different numbers, the trends and patterns they reveal are still very similar across all three sets of estimates.

Figure 2. The Wildlife Trusts' changing annual GHG emissions directly from grazing livestock, 2020 to 2025.



For the purposes of tracking and illustrating annual changes in emissions and informing strategy intended to reduce these, all three approaches paint the same general picture (a steadily declining trend with slight annual variations, with a marked increase in FY2024-25, driven by increasing livestock numbers, increasing grazing intensity and increasing time spent off pasture (in buildings or yards) by some livestock. Some of these increases will have been moderated by changes in composition of the conservation grazing herd away from dairy cattle, large breeds and young animals, and towards ponies, sheep, older animals and cattle breeds that mature at a relatively small size.

Further detail on the methods used and the continuing development of our approach to livestock-related emissions are given in **Appendix 3.**

Appendix

1. Description of methodologies and data used

The Wildlife Trusts are aligning our GHG Inventory so far as practically possible with best practice set out by the Greenhouse Gas Protocol. In 2022, an external audit of our accounting method was undertaken, and this report reflects how we are now acting on its recommendations to meet best practice.

All Wildlife Trusts and RSWT use a consistent operational control boundary and tool to do this. Our operational boundary includes both Wildlife Trust activities and those of our subsidiaries such as our consultancies.

We expanded the boundary of our GHG inventory in FY2022-23, to increase the coverage of scope 3 activities and include fugitive emissions from refrigerants. Efforts to improve the accuracy and efficiency of data collection methods were also made across several areas, including introducing a market-based method for calculating purchased electricity emissions which will reflect the reduction in emissions as Trusts switch to renewable energy suppliers.

The categories included within the scope of The Wildlife Trusts' GHG Inventory for FY2024-25, and indicative data sources can be found in **Tables 5** to **7**, exclusions are listed in **Table 8**. Where primary data was not available to calculate emissions, sensible estimates were employed.

Table 5. Descriptive information about our GHG Inventory approach.

Information	Response
Chosen consolidation approach (equity share, operational control or financial control)	Operational control
Description of the businesses and operations included in the company's organisational boundary	Material activities of the main charities and their subsidiaries, including trading arms.
The reporting period covered	Financial year 2024-25
A list of scope 3 activities included in the report	See Table 7
A list of scope 1, scope 2, and scope 3 activities excluded from the report with justification for their exclusion	See Table 8
The year chosen as base year and rationale for choosing the base year	FY2019-20, the first year a GHG inventory was undertaken and pre-COVID baseline
Once a base year has been established, the chosen base year emissions recalculation policy. If base year emissions have been recalculated, the context for any significant emissions changes that triggered the recalculation.	To be decided

Table 6. Scope 1 and 2 activities included in The Wildlife Trusts' GHG Inventory FY2024-25.

Scope and category	Description of the types and sources of data used	Data quality*	Description of methodologies, allocation methods, and assumptions used to calculate emissions
Scope 1			
Building fuel (stationary combustion)	Supplier invoices of fuels used for heating, generators, and cooking. Including gas, oil, liquefied petroleum gas (LPG), diesel, petrol.	H	Consumption data (kWh, litres) x emissions factor
Fleet and equipment fuel (mobile combustion)	Fuel card and supplier invoices for fuels used in fleet vehicles, machinery, and other mobile activities.	H	Consumption data (litres) x emissions factor
Fugitive emissions (refrigerants)	Supplier invoices of refrigerant top ups in air conditioning units or refrigerators in reporting year.	H	Consumption data (kg) x emissions factor
Biogenic (out of scope)	Supplier invoices for quantities, in tonnes, and types of feedstock (e.g. logs, chips, pellets, grass/straw) for heating. Biodiesel methyl ester or hydrotreated vegetable oil (HVO) fuel for vehicles, in litres.	H	Consumption data (tonnes) x emissions factor
Scope 2			
Purchased electricity (location-based)	Supplier invoices of purchased electricity, cooling and heating.	H	Consumption data (kWh) x emissions factor (average UK grid)
Purchased electricity (market-based)	Supplier invoices of purchased electricity, cooling and heating.	H	Consumption data (kWh) x emissions factor (tariff specific)

Table 7. Scope 3 activities included in The Wildlife Trusts' GHG Inventory FY2024-25.

Scope and category	Description of the types and sources of data used	Data quality*	Description of methodologies, allocation methods, and assumptions used to calculate emissions
Scope 3			
1: Purchased goods and services	Spend data of all purchased goods and services.	M	Either consumption data (weight, volume, etc.) x emissions factor Spend (£) x spend-based emissions factor
1: Water use and wastewater	Supplier invoices of mains water use and wastewater treatment, in cubic meters (m3).	H	Consumption data (kWh) x emissions factor Assume water treatment is the same as water supply unless otherwise stated.
2: Capital goods	Invoices for spend on capital assets purchased during the reporting period, following organisation's rule for capitalisation.	M	Spend (£) x spend-based emissions factor Full cost reported, not amortised.
3: Fuel-and energy-related activities (not included in scope 1 or scope 2)	Function of fuel and energy use in other categories, including electricity transmission and distribution and well-to-tank emissions covering heat, travel, bioenergy, travel mileage and public transport emissions covered by the Inventory.	H	Fuel consumption x emissions factor
4: Upstream transportation and distribution	Use of couriers including inbound and outbound logistics: Distances, weight as proportion of containment and mode of transport. Data supplied by couriers.	M	Activity (transport type, total distance travelled and weight transported) x emissions factor

Scope and category	Description of the types and sources of data used	Data quality*	Description of methodologies, allocation methods, and assumptions used to calculate emissions
5: Waste generated in operations	Waste weights generated in operations entering different waste streams. This includes landfill, incineration, commercial recycling by material type, and composting.	M	Estimated on bin volume equated to weight, typical proportion filled and number of lifts in reporting year. Or Waste service provider reports Weight (tonnes) x emissions factor
6: Business travel (employees)	Distance and mode of travel incurred by employees to deliver organisation's operations. Activity data obtained from the expense system.	H	Activity (km and mode of travel) x emissions factor
6: Casual staff and volunteers travel	Distance and mode of travel by casual staff (non-permanent, contract) and volunteers deployed to deliver Wildlife Trust activities. Done through various methods, e.g. estimations, surveys, rarely actual activity data.	L	Estimate of activity (km and mode of travel) x emissions factor
7: Employee commuting	Staff survey to estimate distance and mode of travel by employees' commuting from their homes to their registered place of work.	M	Extrapolated estimate of activity (km and mode of travel) x emissions factor
7: Employees working from home	Staff survey to estimate additional fuel and energy emissions associated with staff working from home.	M	Extrapolated estimate of total working from home hours x emissions factor Function to distinguish additional energy use more readily based on household occupancy and devices.

Scope and category	Description of the types and sources of data used	Data quality*	Description of methodologies, allocation methods, and assumptions used to calculate emissions
	Based on average working from home hours per month reported by each employee and extrapolated.		
8: Upstream leased assets	Supplier invoices or activity data for the use of leased assets including energy use in buildings with no control over supplier, and electricity use for leased electric vehicles where not already included in scope 2.	M	Consumption data (unit dependent on fuel/energy type used) x emissions factor

***Data quality key:**

- High - activity and consumption data used
- Medium - some proxies / estimates
- Low - estimates and proxies only
- None - no data available

2. Emissions Factors

Emissions factors are used to calculate GHG emissions for an activity. We use emissions factors to convert either consumption (weights, volumes etc.) or spend-based data (£) into estimated GHG emissions.

Two datasets are leveraged to calculate this GHG Inventory:

1. Government conversion factors for company reporting[6]

The majority of emissions factors used in our GHG Inventory calculations are taken from the Government's annually published conversion factors for company reporting of GHG emissions. For the reporting year FY2024-25, the 2025 dataset was used.

2. UK and England's carbon footprint consumption emissions factors[7]

The UK and England's carbon footprint emissions factors published by Defra have been used to estimate emissions for purchased goods, purchased services, and purchased capital assets. In most cases, spend-based emissions factors are used but consumption-based factors can be used for some purchased goods where weight or volume data is available, for example.

We recognise that these factors will vary from other spend-based emissions factors and will have a bearing on the resulting emissions estimates. Defra's carbon footprint consumption emissions factors are based on average emissions from the activities covered. We recognise that the suppliers chosen by Wildlife Trusts may result in different emissions to the Defra averages for the goods and services they provide. The spend-based method may therefore not provide a precise reflection of actual emissions. Additionally, certain goods and services purchased by Wildlife Trusts, such as those contributing to reserve management, may not be well represented in the emissions factors included by Defra. We therefore have to select the most appropriate categories and associated emissions factors, which may result in some inaccuracies. We consider the current method an appropriate compromise at this point in our accounting journey to estimate emissions from different areas of our procurement activities, whilst not investing heavily to access paid-for datasets. However, we endeavor to improve the accuracy of emissions estimates for purchased goods and services in future.

For the reporting year FY2024-25, the 2022 factors were used which was the most recent dataset available at the time. There tends to be a three-year lag in the availability of these factors. The categories used (Standard Industrial Classification codes) and emissions factors are usually updated by Defra annually. The three-year time lag in factors being released means they need retrospectively updating in previous accounts for accurate comparisons to be made between years. This is not currently feasible due to the time required to update the accounts for every Trust, and the need to do this each year until the factors corresponding to the correct year are released. Additionally, this would not increase the accuracy of our reporting given the factors are based on industry averages.

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[6] Department for Energy Security and Net Zero and Department for Business, Energy & Industrial Strategy (2025). Government conversion factors for company reporting of GHG emissions. Available at: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting (Accessed: 01/07/2025).

[7] Department for Environment, Food & Rural Affairs (2025). Official Statistics: UK and England's carbon footprint to 2022. Available at: https://www.gov.uk/government/statistics/uks-carbon-footprint (Accessed: 30/05/2025).

Table 8. Exclusions from The Wildlife Trusts' GHG Inventory FY2024-25.

Scope 3 category	Comment
Downstream scope 3 emissions	
9: Downstream transport and distribution emissions associated with the distribution of publications and retail products from retailer to consumer	Unlikely to be material to our GHG inventory.
10: Processing, use and end-of-life treatment of sold products e.g., emissions associated with the assumed post-sale third-party processing of publications and retail products sold by The Wildlife Trusts or a Wildlife Trust	Unlikely to be material to our GHG inventory.
11: Use of sold products	Unlikely to be material to Wildlife Trusts GHG inventory.
12: End-of-life treatment of sold products	Unlikely to be material to our GHG inventory.
13: Downstream leased assets	Activity either at federation or individual Trust level is not considered to be of scale for this to be sufficiently relevant.
14: Franchises	Not applicable, though subsidiary companies of Wildlife Trusts are included within the inventory boundary.
15: Investments emissions associated with the business activities of the companies in which The Wildlife Trusts or the relevant Wildlife Trust has invested.	We do not actively manage own investments.

3. Biogenic emissions and removals from habitats and livestock

Livestock

We will continue to measure and report annually emissions generated from livestock grazed on land we own or manage to deliver nature conservation benefits. Prior to FY2022-23, these were grouped within our operational emissions reporting, but from FY2022-23, livestock emissions have been reported separately alongside, rather than nested within, our operational GHG inventory.

The data collected from each Wildlife Trust in FY2024-25 concerning the grazing animals used in their conservation grazing operations was as follows:

- Species of animal (cattle, sheep, goats, horses and ponies, pigs, deer, water buffalo, bison).
- Lactation state (dairy/non-dairy) for cattle.
- Breed size at maturity (small, medium, large) for cattle, sheep and for horses and ponies.
- Animal age (calves and lambs under one year, or older animals) for cattle and sheep.
- Number of animal days spent on pasture or range (for each animal category).
- Number of animal days spent off pasture or range, housed in buildings or yards (for each animal category).
- Waste management approach used for each animal category while off-pasture (farmyard manure, outdoor yard or indoor solid floor, indoor slatted floor, deep bedding).

Data format and collection was tied as closely as possible to established grazing management record keeping and reporting for other purposes.

Emissions of methane and nitrous oxide were estimated using emission factors taken from the UK Greenhouse Gas Inventory report, 1990 to 2021[8].

Livestock Unit equivalence values were used to adjust emissions factors to suit different species and breed sizes not included within the UK Greenhouse Gas Inventory methods, using Countryside Stewardship Higher Tier guidance for 2022 as the primary source of Livestock Unit equivalences[9].

Calculation of estimated emissions was undertaken using a bespoke conservation grazing GHG emissions calculator, based on the principles that:

- The primary purpose of grazing animals employed in conservation grazing is to remove vegetation by eating it and the scale and effectiveness of their contribution to conservation land management efforts can be largely measured in those terms.
- A Livestock Unit of grazing pressure is typified by a 650 kg productive dairy cow requiring 13 kg of dry matter intake per day to maintain its weight and condition, and

[8] Brown, P., Cardenas, L., Del Vento, S., Karagianni, E., MacCarthy, J., Mullen, P., Passant, N., Richmond B., Thistlethwaite, G., Thomson A., Wakeling D. & Willis, D. (2023). UK Greenhouse Gas Inventory, 1990 to 2021: Annual Report for submission under the Framework Convention on Climate Change. Available at: https://naei.beis.gov.uk/reports/reports?report_id=1108

[9] Rural Payments Agency UK (2022). Countryside Stewardship: Higher Tier Manual for agreements starting on 1 January 2022. Annex 8C - Convert livestock numbers into Livestock Units. Available at: https://www.gov.uk/government/publications/countryside-stewardship-higher-tier-manual-for-agreements-starting-on-1-january-2022

it is possible to use this relationship to equate grazing impact, feed intake and GHG emissions between different species, breeds and types of grazing animal.
- Ruminants emit more GHG than non-ruminants for a given amount of food intake (because their digestion depends more on the action of methanogenic microbes).
- There are differences in the way different species digest vegetation and the consequences of this for GHG emissions, but other than the difference between ruminants and non-ruminants, these are fairly minor.
- The quality and quantity of feed intake both have a significant impact on GHG emissions.
- Larger animals eat more than smaller animals of the same type, age and reproductive state.
- Younger (faster growing) animals eat relatively more than older (slower growing) animals.
- Lactating animals eat relatively more than non-lactating animals.
- Animals that eat more produce more waste (leading to more waste-related emissions).
- The way in which animal waste is managed can have a significant impact on the emissions generated from it.
- Feed quality in conservation grazing situations is largely determined by the habitat type(s) within the grazing range, so cannot normally be manipulated expressly to reduce GHG emissions without consequences for conservation of the habitat.
- In the absence of specific data concerning the nutrient value and fiber content of different food plants and the effect of fine-grained feeding behaviour of conservation grazing animals on their food intake, these cannot be taken into account as a variable in the calculator.

Data collected for FY2020-21 and FY2021-22 were converted (as accurately as possible) into the format required for the calculator first used in 2023 and used again in 2024 and 2025. Revised GHG emission estimates were generated for 2020-21 and 2021-22, to provide consistent estimates over the four-year period.

We will continue to refine our monitoring approach and to pursue options to reduce emissions where it is possible to do so. In particular:

- The site-based case studies being prepared with us by *Wild Business* were completed in October 2024 and were published in 2025.
- The Wildlife Trusts' bespoke emissions calculator will be refined further (including exploring further the use of the GWP* methodology for estimating the impacts of changing rates of livestock-related methane emissions).
- Versions of the bespoke calculator for future years will attempt to generate a clearer picture of how grazing-related emissions are allocated between animals owned by Wildlife Trusts and those owned by independent grazing partners.
- We will further explore the potential for modelling and testing alternative strategies for delivering conservation land management goals with fewer GHG emissions, including:
    - Reducing total numbers of cattle and sheep.
    - Increasing the use of hardier (typically smaller) cattle breeds.
    - Increasing the use of mixed grazing herds, including more ponies.
    - Using technology such as Nofence collars to increase the impact of grazing animals on vegetation and their related 'habitat management efficiency'.

    - Exploring the practical options for pasture-fed animals to receive methane-reducing feed supplements while still out on pasture; and (in some situations)
    - Moving to a greater reliance on grazing by wild and/or semi-wild grazing animals, such as deer.
- We will consider how conservation grazing approaches intended to limit associated GHG emissions might also bring benefits in terms of increased biological abundance and/or biodiversity.

Habitats

The Wildlife Trusts are working with the Greenhouse Gas Protocol in their development of international guidance on accounting for land-based emissions and removals, which are due for final publication in Quarter 4 of 2025.

In 2022, The Wildlife Trusts calculated a baseline estimate of the entire federation's annual land-based biogenic emissions and removals from habitats we own or manage. This has not yet been published externally due to large uncertainties in the estimates particularly for emissions from peatlands. Our current focus is narrowing the large uncertainty range of this estimate. We intend to re-run this estimate of the federation's annual land-based biogenic emissions and removals in 2025-26. Any calculation and reporting, at the federation or individual Wildlife Trust level, will remain separate to those of our operational GHG emissions.