Policy

Sustainable Agriculture

February 2025

Policy Headlines

- The Scottish Wildlife Trust recognises the economic benefits and cultural importance of agriculture in Scotland, but also that agriculture has had, and continues to have, profound negative impacts on biodiversity and wider ecosystem health. By adopting nature-friendly policies, we can protect Scotland's biodiversity while supporting farmers, their families and wider rural communities.

- The Trust calls for policy and investment to develop a resilient and diverse agricultural sector that enables sustainable food production, provides equitable incomes for farmers, supports the wider rural economy and delivers for the environment and society.

- The Trust believes that farming, and by extension society, is utterly dependent on healthy functioning ecosystems over the long-term, and the best way to protect food security is to develop agricultural policy which promotes ecosystem health.

- The Trust calls for a more multifunctional agricultural sector that builds healthy stocks of natural capital. The Trust wants to see policy which incentivises responsible natural capital management practices and delivery of nature-based solutions within the agricultural sector, and ensures natural capital and ecosystem services are valued, restored and well managed.

- The Trust believes that securing the delivery of public goods and Government priorities – such as clean air, water and soil, carbon sequestration, and flood prevention – should be core objectives for financial support in agriculture.

- The Trust believes there needs to be greater alignment and integrated application of relevant land-use policies. Policies related to forestry, agriculture, water management, biodiversity conservation and broader land-use should be pursued in an integrated way with the Land Use Strategy providing a "golden thread" of coherence.

Scope

This policy sets out the Scottish Wildlife Trust's views on how agriculture in Scotland can be more sustainable and supports the Trust's vision for a "*a network of healthy, resilient ecosystems on land and sea, supporting Scotland's wildlife and people*." The policy outlines some of the changes we would like to see to help deliver a more sustainable agricultural sector in Scotland, with reduced environmental impacts and greater biodiversity value.

The policy broadly covers the impact that agriculture has had on Scotland's biodiversity and greenhouse gas emissions. It covers agricultural support and policy, particularly the Agricultural Reform Process and current changes to agriculture payments. The policy also touches on how agriculture can deliver public goods and nature-based solutions and discusses the debate regarding food security. In addition, the policy covers high input systems, regenerative farming and agroecology, organic farming, High Nature Value (HNV) farming and crofting, livestock grazing, soil health, ecosystem scale management practices, natural capital, agroforestry, riparian agriculture and water quality, and intensive farming, land sparing and land sharing approaches. The policy concludes with our priorities for the Trust's own reserves and projects.

Context

Cultural significance

Along with other traditional rural industries, farming plays a crucial role in Scotland's identity. The Trust is keenly aware of the deep passion and commitment of Scotland's farming communities, and the importance of farming to the identity of wider rural communities. The Trust is also aware of some of the fantastic work that Scotland's farmers are doing for nature.

Biodiversity loss

Despite the numerous, obvious benefits that we get from farming, and the nature-positive steps many farmers have taken, agriculture in Scotland has negatively impacted on biodiversity in many ways. For example, by causing habitat loss, fragmentation and increased homogenisation (such as straightening of water courses and drainage of wetlands). Intensive farming can degrade soil, pollute waterways, and reduce habitats for wildlife like curlews and red squirrels, among others. By embracing sustainable practices, farmers can boost productivity, protect natural resources, and create landscapes where wildlife thrives.

Intensification has led to significant declines in many farmland species, as well as profoundly changing vegetation communities and reducing botanical diversity, and has led to soil erosion and a reduction in soil organic matter. Agriculture can also negatively affect water and soil quality and cause significant greenhouse gas emissions. These and other issues are discussed further below.

The Scottish Government has recently committed to halting biodiversity loss and becoming nature positive by 2030, and to restoring and regenerating biodiversity by 2045.[i] Agriculture is identified as having a significant role to play in meeting these targets by the Government.

Agricultural support and policy

Scotland is in the process of pivoting away from the old framework of farm support provided by the EU Common Agricultural Policy (CAP). The Scottish Government's Agriculture Reform Programme and Route Map is the programme for implementing the Vision for Agriculture and outlines changes to the agriculture policy – and is the replacement for the CAP.[ii] The Route Map sets out the timescales, key dates and support available to farmers, crofters and land managers for implementing change, and the Agricultural Reform Programme contains a list of proposed measures.

The Scottish Government has stated that direct payments will be retained in the Base Tier and Enhanced Tier (Tiers 1 and 2) which will take 70% of the farm budget. A further 11% of the budget will sit with the Less Favoured Area Support Scheme (LFASS). Just 5% of funding is allocated to the Agri-Environment and Climate Scheme (Tier 3), which is where the big gains for nature and climate sit, with little remaining for key elements such as agroforestry, collaboration, support and advisory services (Tier 4). There are opportunities across each Tier and across all farming

systems for paying farmers and crofters for environmentally sensitive management, and the Trust would like to see these opportunities prioritised.

Evidence is clear that the direct payments made through the Basic Payment Scheme are an inequitable and inefficient use of public funds. The Scottish Government's own assessment found that direct payments made under the CAP over 2014-2020 reduced innovation, development and growth and had little environmental benefit – and in some cases, a negative impact. This is despite the inclusion of greening requirements.

Given Scotland's 2030 and 2045 nature targets, and the role identified for agriculture by the Government, it is confounding that direct payments look like they are here to stay. The Trust will continue to argue for a more sensible approach, but in the meantime, the Base Tier must work a lot harder than it does at present for nature and for climate. We propose that mandatory requirements should be strengthened in the Base Tier, that clarity and purpose should be given on whole farm plans and that a higher proportion of the agriculture budget should be directed towards nature and climate friendly farming. Broadly, the Trust wants to see money shift from the lower tiers towards Tiers 2 and 3. Adopting this approach should not come at the expense of but rather focus on boosting the rural sector as a whole.

Tinkering at the edges and maintaining the status quo that we had under the CAP will not deliver the Scottish Government's Vision for Agriculture, meet 2030 and 2045 nature targets, provide value for money or get public support. For more information on these opportunities and an overview of the tiered payment system, please see the Trust's ongoing blog series.[iii]

Whilst we are supportive of subsidies and investment of public money in farming, we are clear that regulation should set a fair but firm baseline for all farm businesses to protect the natural environment. The Trust also supports making polluting businesses pay for the damage that they cause and creating a level playing field to ensure those farmers who are doing more for nature are not undermined.

The Trust also thinks there needs to be more pressure on large retailers to ensure farmers receive a fair return from the market, and a greater emphasis placed on the public sector to purchase local, high quality, high environmental standard food.

We note that from the UK Government's October 2024 budget that agriculture budgets for devolved nations will no longer be ring-fenced, which will require the Scottish Government to voluntarily prioritise spend on agriculture. Funding for agriculture will therefore be competing with other Government priorities such as the NHS, and it is therefore important to make clear how agriculture funding can support a range of public benefits. This will be critical to maintaining or enhancing budgets in this area.

We would also like to see farming representative organisations and Government more fully embrace the range of nature-based solutions that can be provided through well-targeted agricultural policy which rewards the delivery of public goods whilst also enabling food production.

Delivering public goods and nature-based solutions

Environmental economic public goods are broadly defined as commodities or services that are provided, without profit, to all members of a society either by the Government or a private individual or organisation. Public goods are non-rival (meaning lots of people can use it at the same time without reducing its availability) and non-excludable (meaning people cannot be excluded from using it). A farmer locking up carbon or improving water quality by delivering riparian habitat restoration works could be said to be delivering public goods because the carbon and water quality improvements benefit everyone in society, and it is not possible to exclude anyone from these collective benefits.

The Trust advocates for agricultural subsidy and support to be geared towards providing a whole range of public goods in return for public money. In general terms, the best way to deliver a range of public goods is to improve ecosystem health and enhance the resultant delivery of ecosystem services.

Recently there has been greater focus on providing a range of nature-based solutions to a whole host of Government priorities – but particularly on climate change mitigation and adaptation. Farming, if properly enabled

by policy and funding levers, is very well placed to deliver on this agenda in Scotland. However, it is critical that policy makers take holistic approaches to realise this potential.

Many people advocate that within agricultural policy, delivering food should be classified as a public good. The Trust does not support this approach as food has a market value and it is excludable. However, we do see the need to have some exceptions for this when local food production with educational benefit is being supported through wider agricultural policy. We therefore support shortening supply chains and connecting people locally to where their food is grown and produced.

Greenhouse gas emissions

Agriculture is the second largest source of greenhouse gas emissions in Scotland, and with around 70% of Scotland's land classified as agricultural, the sector plays a key role in both halting biodiversity loss and meeting the country's net zero targets. Many farmers want support to help achieve these goals and the Trust would like to see enhanced Government policy to reduce greenhouse gas emissions from agriculture and greater support given to farmers.

Scotland's agriculture has a high carbon footprint because of its focus on livestock production – which is due in part because much of the land is not suitable for growing commercial crops. Current emissions from Scottish agriculture are around 7.5Mt of CO2 equivalent per year – around 20% of the Scottish total.[iv] This is balanced between methane (4.2Mt), nitrous oxide (2.2Mt) and carbon dioxide (1.1Mt). Most methane emissions come from the digestive systems of cows, sheep and deer; most nitrous oxide emissions from the interaction between reactive nitrogen and soil; and most CO2 emissions come from mobile machinery, where there are significant opportunities for reducing fuel use and decarbonising farm machinery and other systems.

In 2024 there were 1.67 million cattle recorded in Scotland, a decline of 2.4% compared with the five year average. The total number of sheep also decreased by 3.8% to 6.47 million.[v] The Trust would like to see more incentives to support the agricultural practice changes that are needed to reduce emissions. For example: better management of fertilisers, manures and grassland (including not ploughing/re-seeding pasture and meadow); improved animal health, reproduction, and better genetics; feed additives that reduce methane emissions; intercropping, cover crops, legumes and reduced tillage; reducing energy use and generating energy on farm; and agroforestry and organic systems.

Changes in climate will determine what can be grown commercially in different regions of Scotland. Climate change will directly affect farming operations in terms of water availability, increased risk of flooding, changing temperatures, increased pressure from pests and disease, and changes in the habitats and species found on farmland (e.g. water courses, types of grassland, and tree species).

The Trust would like to see more research into the potential for regenerative pasture-based and silvicultural systems to sequester higher levels of carbon than more conventional approaches. Carbon can also be locked up below ground in soils, and above ground in trees, hedges and scrub.

High input systems

Many of our agriculture systems in Scotland require high levels of inputs such as fossil fuels, pesticides, fertilisers, herbicides or fungicides. As well as increasing costs for farmers, these inputs have also been shown to have significant direct and indirect impacts on biodiversity.

The use of pesticides has a harmful effect on Scotland's wildlife and ecosystem health. Because of this, the Trust supports low input systems in which pesticide use, and associated landscape scale impacts are reduced by adopting an ecosystem approach to pest and disease management. We feel that in conventional systems, pesticide application should be viewed as a last resort rather than the first option.

The Trust supports integrated pest management which promotes using a combination of tools to achieve low pesticide-input systems resulting in low impacts at the landscape scale. Integrated pest management adopts an ecosystem approach to pest and disease management, works at the landscape scale, and is based on knowledge of soil organisms, crop and non-crop plants, multiple herbivores, agricultural (or forestry) food webs, natural pest enemies and pest attractants and repellents.

Improving ecosystem health will enhance ecosystem services such as nutrient cycling, food production, pollination, improved water and soil quality, and the cultural and aesthetic service provided by increased biodiversity. Additionally, there are significant cost savings to farm businesses of moving away from high input models.

We support policy measures aimed at decreasing use of inputs for both cost saving and biodiversity benefits.

Food Security

The generally accepted definition of food security is "when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life".

There are four main components to food security:

- **Physical availability of food:** This is the "supply side" of food security and is determined by the level of food production, stock levels and net trade;
- **Economic and physical access to food:** An adequate supply of food at the national or international level does not in itself guarantee household level food security. Concerns about insufficient food access have resulted in a greater policy focus on incomes, expenditure, markets and prices in achieving food security objectives;
- **Food utilisation and nutrition:** Utilisation refers to the way the body makes the most of various nutrients in the food. Sufficient energy and nutrient intake by individuals are the result of good care and feeding practices, food preparation, diversity of the diet and intra-household distribution of food. Combined with good biological utilisation of food consumed, this determines the nutritional status of individuals; and
- **Stability of the other three dimensions over time:** Even if your food intake is adequate today, you are still considered to be food insecure if you have inadequate access to food on a periodic basis, risking a deterioration of your nutritional status. Adverse weather conditions, political instability, or economic factors (unemployment, rising food prices) may have an impact on your food security status.[vi] [vii]

When discussing food security in relation to agriculture in Scotland, we are generally talking about the first component, or the supply of food. It must be kept in mind that this is a complex discussion and simply upping production or increasing subsidy does not necessarily improve food security.

We must consider that many agricultural systems in Scotland are geared up to produce a lot of things we don't eat, such as barley for producing alcohol. That isn't to say these outputs don't have important economic impact, but that is *not* the same as food security. Furthermore, real discussion around supply chains and domestic Scottish food security should involve discussions around limiting exports, focusing on self-sufficiency and diversifying farm outputs.

We believe that the largest threats to long-term food security in Scotland are over-reliance on high levels of inputs (see above) and the direct exploitation of natural capital assets without investment in their long-term health leading to damaged ecosystems. Farming, and by extension society, is utterly dependent on healthy functioning ecosystems over the long-term and the best way to protect food security is to develop agricultural policy which promotes ecosystem health.

The Trust believes there needs to be more pressure on large retailers to ensure farmers receive a fair return from the market, and a greater emphasis placed on the public sector to purchase local, high quality, high environmental standard food.

Regenerative farming and agroecology

Regenerative farming does not have a fixed definition or set of standards but rather applies to a range of different practices generally focused on a holistic, integrated, place-based approach which strongly considers the landscapes and ecosystems where the agriculture is taking place. In theory, the land is allowed to "regenerate" and soil health is generally prioritised.

Some regenerative farming systems more closely resemble what might be considered "traditional" farming practices such as integrating arable and livestock more closely.

The place-based approach recognises that each farm exists within its own setting or parameters such as climate, topography and soils. Therefore, approaches must differ on each farm to get the best overall balanced outcomes. Many regenerative farmers describe their approach as allowing nature to have a place at the table alongside other considerations when running a farm business.[viii]

Because no fixed definition can properly be given to regenerative farming, caution must be taken that the term *regenerative* does not become overused and ubiquitous as some feel "sustainable" has become (this is perhaps more applicable to corporation and Government policymakers than farmers).

Like regenerative farming, there isn't a fixed definition to agroecology. At its simplest, it involves applying ecological principles and concepts to farming. Many regenerative systems and other approaches such as organic farming could be described as adopting agroecology.

The Trust wholly welcomes a move to regenerative and agroecological approaches and supports policies which enable farmers to transition to these methods. However, we urge caution around unscrupulous use of the term by those who may wish to use it to "green wash" products or agricultural operations.

Organic farming

Organic farming differs from regenerative and agroecology approaches as there are stricter definitions (and regulations) around what can and cannot be labelled and sold as 'organic' produce.[ix] However, for most people this is understood as an approach that embraces nature and does not use artificial fertilisers, herbicides, pesticides or fungicides.

The Trust would support an increase in the number of certified organic farms in Scotland where this will deliver better environmental outcomes than conventional systems. This aligns with the Trust's belief that all farming systems should deliver public goods, such as biodiversity and other ecosystem services, as well as food production.

High Nature Value farming and crofting

High Nature Value (HNV) farming refers to farming systems where the overall management characteristics of the system provide a range of environmental benefits, particularly maintaining and enhancing habitats and species (such as butterflies and birds) that are considered to be of high nature conservation importance at a Scottish, UK and European level.

The Scottish Government defines a croft as a small unit of land traditionally situated in the former crofting counties which are located in the Highlands and Islands.

HNV farming systems in Scotland are most associated with extensive beef and sheep farming in the uplands, marginal farming areas where semi-natural vegetation makes up a high proportion of the available forage resource, and where the livestock grazing is carried out at low grazing densities.[x]

Whilst HNV systems are certainly vital, there is a range within HNV systems of just how high value they are. Caution needs to be taken when assuming all HNV systems are maximising their potential delivery for nature or that they have no negative environmental externalities. This said, HNV and crofted systems provide a comparatively higher range of public benefits, and we think there is a case for providing specific support within Tier 2 (see above). The Trust also believes there is scope to re-focus the current LFASS into HNV farming support.

Livestock grazing

The Trust recognises that grazing is an important tool in the maintenance of some habitats and notes that sustainable stocking densities are location-specific. However, stocking densities should be set at levels that will achieve improvements in soil, plant productivity and diversity, as well as co-benefits such as water quality improvement. The type of grazing and management of pasture can have major impact on biodiversity and soil carbon, and we would like to see more research in these areas.

Low intensity, mixed livestock farming should only be encouraged where it is ecologically appropriate. Policy should focus on reducing stocking densities on sensitive habitats and setting maximum stocking densities for improved and unimproved grasslands and rough grazing. As above, there should also be targeted support for HNV farming and extensive livestock grazing systems.

The Trust supports a move toward eating less meat due to the environmental impact it can have.[xi] However, we feel nuances around where and how meat is produced are often lost in wider debates around diets in a global context.

Some traditional grazing practices, with exclusion during spring and summer, can provide optimal conditions for ground nesting birds such as curlew. However, there is evidence to suggest that some intensive grazing practices can lead to negative impacts to bird populations[xii], and the Trust therefore calls for greater monitoring of upland birds to further asses the risk.

Intensive production of animal products is a leading cause of environmental harms, both in the Scotland and overseas. Overgrazing, pollution arising from poor nutrient management, the application of biocides and land take for feedstocks all have significant detrimental effects on Scottish and global wildlife. We acknowledge that widespread adoption of agroecological and regenerative farming practices will require shifts in dietary trends in Scotland.

The Trust uses both sheep and cattle for conservation grazing across a number of our reserves, and this brings numerous habitat benefits to these sites.[xiii]

Soil health

Healthy soils with high biodiversity are the foundation of many food webs and play a vital role in delivering ecosystem goods and services. However, agricultural intensification and changing agricultural practices have led to losses of soil biodiversity through declines in crop rotation and increased ploughing, increased application of inputs, and reduction in soil organic matter and soil compaction.

Scotland's soils are an important natural resource providing a wide range of services for the environment, ecosystems, people and the economy. Apart from the moral imperative, it is essential to protect soils so they are in good enough condition to be able to provide these vital benefits. There is a range of indirect protections [xiv] but no overarching piece of framework legislation in place to protect soils specifically.[xv]

Threats to Scotland's soil also pose threats to the wider environment – from biodiversity loss, impacts on carbon sequestration, erosion, contamination, water retention, flood and drought. Scotland's soils, including its peatlands and peaty soils, also store huge amounts of carbon that may be released through inappropriate land management practices, such as ploughing or overgrazing of moorland. Degradation of soil also has an economic impact; according to Environmental Standards Scotland, erosion, compaction and reduced crop yield in Scotland costs the economy up to £125 million per year (although the true cost of degradation is likely to be much higher).

The Trust believes that reducing soil erosion and conserving and increasing soil organic matter, especially in arable areas, should be priorities for Government policy. A specific piece of framework legislation should be brought in to protect soils.

We are supportive of soil testing requirements (e.g. identifying macro-biology [nematodes, arthropods, beetles], soil structure, organic matter, etc.) and nutrient testing as part of whole farm plans within the Agricultural Reform Process and we believe more stringent soil analysis should be part of the conditions in upper tier payments.

We are also supportive of minimum tillage approaches and would like to see them supported within Tier 2 of the future support framework.

Ecosystem scale management practices

The Trust believes we will see the best long-term, sustainable outcomes for the environment and communities if we take a holistic landscape scale approach to wider land management. If we are to meet the 2030 and 2045 nature targets, with a just transition, the Government must make better use of its Land Use Strategy to balance competing

land uses and help guide support in the most efficient way possible whilst involving multiple stakeholders and communities.

Particularly in the proposed Tier 3 funding, there is scope to create co-operative action incentives to encourage work on cross farm boundary issues such as tackling Invasive Non-Native Species (INNS) control and river restoration.

The Trust also supports further investment into Regional Land Use Partnerships (RLUPs)[xvi] and supports the Scottish Government's plans for the national roll-out of RLUPs from 2026 onwards; however, we want to see RLUPs and the communities involved have more say over land management funding priorities.[xvii]

Natural capital

The Scottish Wildlife Trust believes there is an urgent need to gain a better understanding of agriculture's impact on natural resources and calls for a more multifunctional agricultural sector that builds healthy stocks of natural capital. The Trust believes Scotland has as an opportunity to lead by example by ensuring natural capital and ecosystem services are valued, restored and well managed, providing a balance of benefits for commerce and communities. The Trust would like to see policy incentivise responsible natural capital management practice and nature-based solutions within the agricultural sector.

The Trust believes that that all public support for agriculture should be linked to maintaining, enhancing, and restoring natural capital and correcting market failures. Well-administered public support mechanisms should properly reward groups or individuals for the public benefits they provide (e.g. enhancing farm biodiversity, increasing habitat connectivity at the landscape scale, and mitigating and adapting to climate change). These same mechanisms should disincentivise activities that incur unacceptable costs to society (e.g. exacerbation of climate change, pollution and destruction of habitat).

Agroforestry

Agroforestry is a dynamic, ecologically based, natural resource management system. Through the integration of trees in farms and in the landscape, agroforestry diversifies and sustains production for increased social, economic and environmental benefits for land users at all levels.

The Trust believes that there is significant potential for greater integration of woodland into farmed landscapes. Agroforestry systems (which include silvopastoral e.g. trees and pasture for livestock and silvoarable systems) provide shelter for livestock, windbreaks for crops, a local source of fuel and / or a commercial wood crop and can be of benefit to wildlife. Targeted establishment of agroforestry systems, and greater woodland planting on farms in general, offers a means of increasing ecological connectivity at the landscape scale, improving ecosystem resilience and increasing the range of ecosystems services that are delivered. The Trust would like to see this supported through specific funding.

The Trust would also like to see far greater encouragement of riparian tree planting and management within cooperative action schemes in Tier 3.

Riparian agriculture and water quality

Riparian agriculture refers to farming operations that take place beside bodies of water such as rivers, streams and lochs. Riparian zones link land and water by transporting nutrients and supporting food chains, providing vegetation which many species rely on for habitat (e.g. otter, pollinators, osprey), food (e.g. beaver) and spawning (e.g. Atlantic salmon), as well as shelter for grazing livestock. Functioning riparian habitats (from woodlands and hedgerows to heathland, scrub and bogs) also help alleviate flooding, store and lock-up carbon, improve freshwater quality, sustain soils and provide health and wellbeing benefits for people.

For riparian management in an agricultural context, the Trust encourages the use of buffer strips along water courses and proposes expanding the requirement for the uncultivated area from its current 2 metres upwards. There is a substantial and growing body of evidence that creating three-dimensional riparian buffer zones which include more complex vegetation, height (for example through trees), and width (to at least six metres) improves almost all ecosystem functions from soil health to reducing thermal stress to aquatic life – as well as improving farm business.

Riparian buffer strips can qualify as Ecological Focus Areas under greening requirements, and we support biodiverse buffer strips being included in future requirements, ideally three-dimensional for maximum benefits.

The Trust believes there should be specific support, with an emphasis on cooperative action, for river restoration. This could include riparian planting, but also re-naturalisation (sometimes known as 're-wiggling'). The Government should also carefully consider beaver-specific habitat management options. This would help derive multiple nature-based solutions while also providing financial support to landowners who are managing beavers on their land.

Runoff from agricultural and forestry activities is the most common threat to water quality. In this way, buffer strips can also have the benefit of protecting and enhancing water quality. Chemicals from fertilisers can seep into groundwater and run into water ways. A particular concern with water quality is agricultural nitrate pollution, and while there are efforts to monitor and identify areas affected by nitrate pollution in groundwater[xviii], the Trust feels there is need for greater protections for water quality generally.

Although inputs of fertilisers from farmland into the aquatic environment have declined in many parts of Scotland, the Trust believes that inputs of nitrogen and phosphorus should be reduced further to improve water quality for human use and benefit biodiversity. We support the inclusion of specific measures to reduce nitrogen and its impacts in Tiers 1, 2 and 3.

Intensive farming, land sparing and land sharing

With a growing human population, agricultural activity is likely to increase substantially over the next 50 years on a global scale.

According to the UN FAO, intensive agriculture is an agricultural system aiming to maximise harvests per unit of land by concentrating high levels of technology, machinery, and inputs like water and chemicals on relatively small areas. This intensification often has negative outcomes for a whole host of environmental and societal outcomes such as water quality, biodiversity, soil health and greenhouse gas emissions.

Intensification can occur in all farming systems with different specific environmental outcomes associated with this. The issues around intensive indoor animal production often garners public attention, particularly regarding animal welfare concerns. There are also specific biodiversity concerns with intensive animal production (for example, pig and poultry sites). Pollution can also often be very geographically focused and concentrated so impacts can be magnified, for example ammonia air pollution resulting in focused nitrogen deposition.

Regarding intensification, two approaches are often broadly proposed: land sharing and land sparing.

Land sharing is an approach where conservation objectives and food production are integrated by making existing farmland as hospitable to biodiversity as possible. This approach underpins much current European and Scottish agri-environment policy (although it is a moot point whether the policy objective is being achieved across Europe). In contrast, land sparing, involves maximising production on existing farmland with the aim of dramatically reducing the need to convert unfarmed habitats to agricultural land. There is an ongoing debate about the relative benefits of these two approaches.

The separation of nature and agriculture in the land sparing model can lead to local and regional scale losses of habitats, and their associated suites of specialist species, that co-occur with agriculture. Land sparing may also lead to increased habitat fragmentation if agricultural land covers large areas. In addition, communities living in land sparing farmed areas will not accrue the benefits associated with systems where farming and environmental objectives are integrated. However, it has been estimated that a land sparing approach could lead to reductions in greenhouse gas emissions from agriculture.

Given that 70% of Scotland's land area is used for agriculture, and the majority of the small remaining area of seminatural habitats in Scotland are not suitable for farming, the emphasis here will be on land-sharing, and on restoring and rewilding of some of our most marginal agricultural land (reverse land sparing).

The Trust generally supports a land sharing approach to Scotland's agriculture but recognises that land sparing may be an appropriate model in some circumstances.

Trust priorities for reserves and projects

The Trust will continue to use appropriate agricultural practices such as grazing to manage habitat, we will seek to be innovative, for example by using fenceless grazing, where possible.

The Trust will work, capacity allowing, with neighbouring farmers who wish to engage in cooperative landscape scale actions to benefit wildlife and habitats.

If appropriate agricultural support can be used to deliver our aims, capacity allowing, we will access this.

Through our Riverwoods project we will seek to encourage the use of appropriate Government and other funding sources to help create healthy river systems, many of which will be on farms.[xix]

Definitions

Ecosystem Services - "Ecosystem Services are the direct and indirect contributions ecosystems provide for human wellbeing and quality of life. This can be in a practical sense, providing food and water and regulating the climate, as well as cultural aspects such as reducing stress and anxiety. These services provided by ecosystems lead to benefits received by humans in the form of security, goods and materials, health and wellbeing." (From NatureScot Ecosystem services - nature's benefits | NatureScot)

Natural Capital - Natural capital can be defined as the world's stocks of natural assets which include geology, soil, air, water and all living things. It is from this natural capital that humans derive a wide range of services, often called ecosystem services, which make human life possible. (From What is natural capital? (naturalcapitalforum.com))

Net Zero - Scotland's climate change legislation sets a target date for net zero emissions of all greenhouse gases by 2045. Net Zero means the amount of greenhouse gas emissions put into the atmosphere and the amount we're able to take out (through carbon storage) will add up to zero. (From About | Net Zero Nation)

Sustainable Agriculture - "The management and utilisation of the agricultural ecosystem in a way that maintains its biological diversity, productivity, regeneration capacity, vitality and ability to function, so that it can fulfil – today and in the future – significant ecological, economic and social functions".

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