

FARMING FOR THE FUTURE

Our work in Scotland



INTRODUCTION

Welcome to Soil Association Scotland, Scotland's leading food and farming charity. We work across the whole farming and food system, from the farmer in the field to the food on your plate. We are working to deliver real, on the ground solutions to the challenges that our food system faces both now, and in the future.



Laura Stewart

In this report, we pay tribute to the land managers, farmers and crofters we work with who are striving for progress - in their businesses, their communities and in society. It can be difficult to face up to our biggest challenges, from climate change and biodiversity loss, to water and soil quality, with the added complication of upheaval in our political system. But we regularly see curious, ambitious people coming together in the fields and halls to explore how to innovate and to make space for nature, whilst building the resilient businesses their families rely on.

There is an urgent need to accelerate change if we want to achieve the climate leadership Scotland is aiming for. We believe our programmes, which promote win-wins for both the economy and the environment, set out a way to move forward in this area.

Our dedicated, passionate farming and land use team look for ways to connect, facilitate, inspire, learn from and support land managers, helping them make an impact by doing things differently. Focusing on cross-sector collaboration and harnessing technological innovations, as we do with the Rural Innovation Support Service, provide more ways to futureproof Scotland.

Our vision is one of good food for all produced with care for the natural world, and we are proud to play our part, alongside our partners, in helping Scotland become a true world leader in innovative, nature-friendly farming.

Laura Stewart,
Soil Association Scotland co-director

OUR MISSION

Transforming the way we eat, farm and care for the natural world

OUR VISION

Good food for all, produced with care for the natural world

GOOD FOOD FOR ALL

We are working to get 'good food' onto the public plate in schools, hospitals and care homes: food that's good for your health, good for the environment and good for the economy

FARMING FOR THE FUTURE

We support and enable farmers in Scotland to work with nature to build thriving, resilient businesses

We promote sustainable farming, which is:

FARMING THAT'S GOOD FOR Scotland's environment -

increasing biodiversity and supporting healthy ecosystem services, such as clean water, fertile soil and pollination

FARMING THAT'S GOOD FOR Scotland's rural economy -

building thriving, resilient businesses that contribute to strong rural economies

FARMING THAT'S GOOD FOR Scotland's place in the world -

transitioning towards zero carbon farming, promoting Scotland as world leader on climate change

OUR KEY FARMING THEMES

Investing in soil

Healthy soils are essential for growing food, providing clean water, tackling climate change and reducing the risk of flooding and drought.

Supporting biodiversity

Creating, connecting and enhancing habitats on farmland and minimising use of chemical inputs provides a home for wildlife and protects natural resources including healthy soils, clean water and insect pollination.

Encouraging agroforestry

Combining trees with agriculture, known as agroforestry, can give farmers healthier soils and yields, improve farm management and animal husbandry, increase biodiversity and help tackle climate change.

Restoring peatland

Restoring damaged peatland in our farmed landscapes will protect an internationally important wildlife habitat, landscape and carbon store which provides our rivers, lochs and reservoirs with clean water.

Giving farm animals a good life

Humane farming is better for animals, people and the environment - high animal welfare standards can reduce farm costs, cut greenhouse gas emissions, reduce environmental pollution and support more jobs.

Promoting organic farming

Adopting organic practices is a proven way to farm more humanely and sustainably for the benefit of people, wildlife, farm animals and the environment.

Backing farmer-led innovation

The best ideas for farming often come from farmers themselves. Supporting a bottom-up approach empowers and enables farmers to turn their good ideas into practice.



WHAT WE DO

From the Northern Isles to the Scottish Borders, we work with progressive, ambitious land managers, inspirational individuals and a wide range of organisations to promote sustainable farming and land use.

Inspire and enable change

We run interactive activities for land managers to share innovative practice around low carbon and nature-friendly farming.

Encourage Citizen Science

In field labs, farmers and researchers test new ways of working in the field and share results.

Support farmer-led innovation

We get the right people together in working groups to help land managers get innovative ideas off the ground.

Evaluate

We evaluate all our activities to improve what we do and provide an evidence-base to make the case for change.

Collaborate

Our partnership programmes attract and connect land managers of all ages and backgrounds.

Look outwards and forwards

We seek inspiration in the work of relevant organisations around the world, and constantly explore new ways of working.



Photo: Clem Sandison

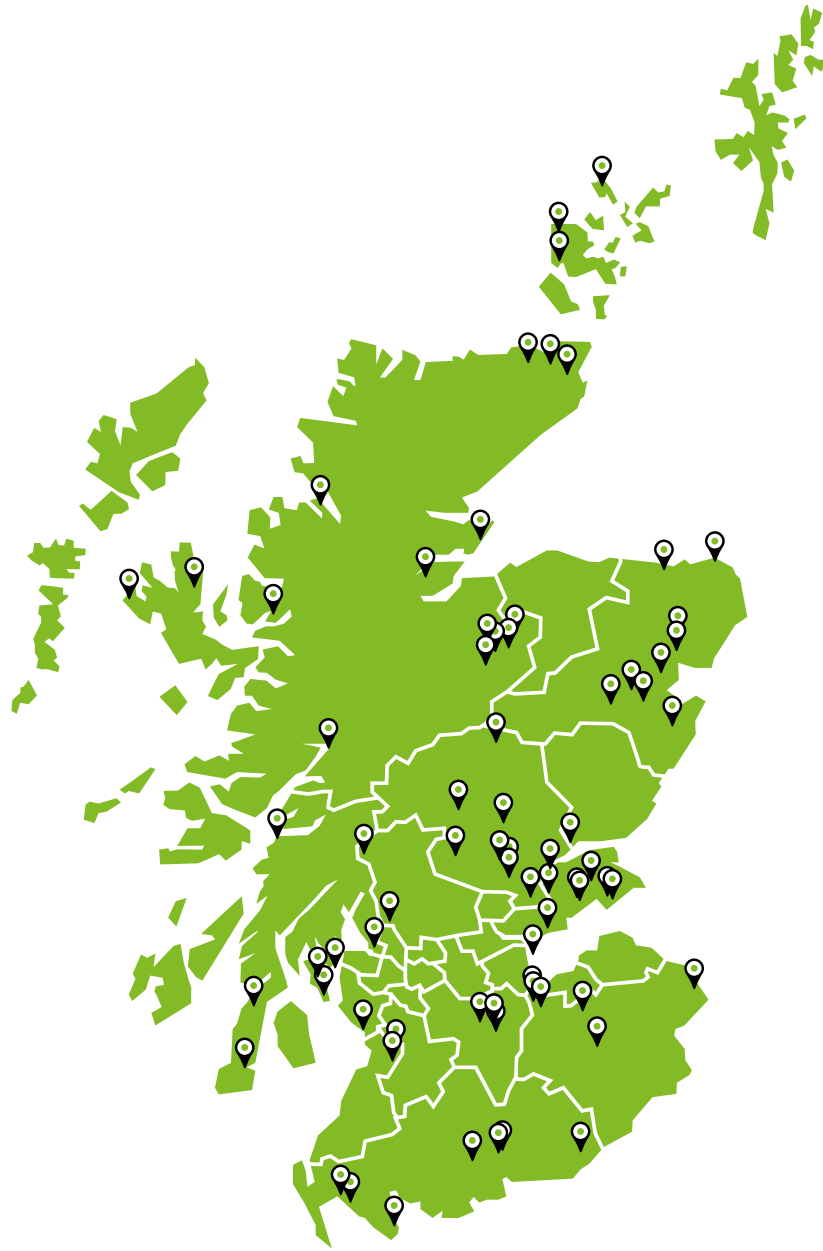
FARMING FOR THE FUTURE BY NUMBERS 2015-2018

88.7%
OF LAND MANAGERS
ADOPTING
SUSTAINABLE
PRACTICES
AS A RESULT OF THEIR ENGAGEMENT
WITH OUR FARMING PROGRAMMES

1,678
FARMERS
ENGAGED

OVER
800 SQ
MILES
OF FARMLAND
BEING MANAGED DIFFERENTLY
THANKS TO OUR PROGRAMMES

45%
OF LAND MANAGERS
ARE MANAGING MORE THAN HALF
THEIR LAND MORE SUSTAINABLY AS A
RESULT OF OUR FARMING PROGRAMMES



66 EVENTS

22 FARMER-LED
WORKING
GROUPS

24 FIELD
LABS

SCOTLAND'S NATURAL ENVIRONMENT

NATIONAL COMMITMENT

The Scottish Government is committed to protecting and enhancing the environment, safeguarding natural resources and continuing Scotland's leading role in addressing environmental challenges. While there have been many notable successes in recent years, the government is clear that significant future action is needed to halt loss of biodiversity, restore healthy ecosystems, tackle pollution and protect our natural assets.

What needs to change and why

- Within Scotland's farmed landscapes, increased use of chemical inputs, changes in land management practices and climate change have resulted in a decline in wildlife and biodiversity over the last 60 years¹.
- Vital natural services including soil quality, pollination, water supply and regulation of climate, hazards, pests and diseases have also deteriorated².
- Around 40% of Scotland's surface waterbodies are at risk of not meeting water quality targets as a result of diffuse pollution from agriculture and forestry³.
- Peatland covers a fifth of Scotland and is an internationally important wildlife habitat, rich carbon store and origin of around 70% of our drinking water⁴. However, it is estimated that around 80% of our peatlands are damaged⁵.



How we are helping land managers to work with nature

We work with land managers and agricultural and environmental experts across Scotland to share knowledge and skills for nature-friendly farming. The focus is on evidence-based land management practices which deliver win-win benefits for productive and profitable food production and the natural environment.

These practices include creating and managing farmland habitats for wildlife, using non-chemical pest control, restoring peatland, encouraging pollinators and natural predators, and organic farming.

In areas of high nature value, we are helping crofters and farmers to manage livestock grazing for species-rich grassland. In marginal and upland areas we are encouraging livestock farmers to restore and sustainably manage peatland and make it a successful part of their business, as well as a haven for our upland wildlife.

We also work with farmers closer to our towns and cities, helping them to make space for wildlife in ways that benefit their business. Creating native woodland on farms, for example, provides valuable fencing and shelter for sheep, improving farm management, whilst creating pollinator habitats and natural wildlife corridors.

Across Scotland we encourage practices that reduce the use of chemical pesticides that are known to be harmful to wildlife and the environment including our rivers, lochs and reservoirs. And our farmer-led field labs are helping to find new nature-based ways of producing food.

Our work connects land managers with decision-makers and helps to inform policies and improve the targeting of resources including agri-environment schemes for land managers.



Photo: RSPB

TO BEE OR NOT TO BEE? THE ANSWER IS SIMPLE



Sandra Baer, Rob Havard,
Lynn Cassells

“Pollinators are vital to our wellbeing, and to agriculture,” says Dr Lorna Cole of SRUC, who spoke at our Buzzing About Grassland events in July 2018.

Not just bees but hoverflies, sawflies and other insects fertilise about a third of the food we eat. A 2014 study calculated that the cost to UK agriculture of doing what pollinators do naturally would be £1.6billion⁶, and this year their value to Scotland alone is estimated at £43million⁷.

“Pollinators are a crucial part of the whole farm ecosystem,” says beef farmer Rob Havard of Natural England, who also spoke at the event, alongside RSPB Scotland and Plantlife Scotland. “I need

pollinators on my legumes in order for them to seed. The legumes are free nitrogen, which gets high protein herbs into the swards, which is great cattle feed and fantastic for wildlife.

“Housing cattle over winter costs between £1 and £1.50 per head of cattle per day, so the longer you can keep them outdoors the more you save. In Scotland you have a free draining soil-type so it should be possible to encourage permanent pasture that holds cattle very well. Too often we have nature strips, and farm chemically where the nature isn’t. But it makes more sense to build the benefits of nature into the farm system.”

One event included a visit to Lynbreck Croft, near Grantown on Spey, where Lynn Cassells and Sandra Baer are restoring species-rich grasslands as part of a nature-based farming system. “Pollinators are key to helping with our restoration of grasslands and woodlands, to the diversity in the grasslands and to the ongoing health of our farm,” says Lynn. The pair have planted 23,000 trees, including willow because it stabilises riverbanks and flowers early, bringing in pollinators for more of the year.

July also saw the first on-farm event at Soil Association Scotland’s demo farm, Lochend of Barra in Aberdeenshire, where we are investigating Powell et al (2015)’s finding that pollinators can raise arable crop yields over a seven-year period⁸, with Dr Cole and Alan Johnson from Kings Seeds.



FOR PEAT'S SAKE!



Malcolm Hay

"Where they drained the peatlands - during the First World War - we had three miles of 18-inch trenches, eight feet deep in some places," says Malcolm Hay, of upland sheep and livestock farm Edinglassie, near Huntly in Aberdeenshire. "They were death traps for animals which would fall in and we'd never know what happened to them. On top of the hill there was an area where peat had been cut out for fuel - 100 acres where it had been cut down to the bedrock, with nothing on it."

Hay had applied for a peatland restoration grant and in 2015 Scottish Natural Heritage came in and "did all the work", he explains. "They went in with diggers, blocked up the gullies, got the vegetation back into the bare ground - they spread brash to reseed with sphagnum moss and heather so the soil wouldn't blow away. They installed fencing to prevent snowdrifts and stabilise windswept areas. You can't even see now where the trenches were. We can put the sheep out now and know they won't disappear."

Reduced loss of livestock, often called blackloss, is one benefit to land managers, and others include improved soil health, water retention in dry periods and flooding prevention in the wet. "But there's more to life than economic return," says Hay. "Particles from decaying peatland get into the rivers, and water companies have to pay millions to take it out. Juvenile salmon and trout can't see their food in the cloudy water and their gills get infected and they die. Wading birds and grouse love peatland. It's worth doing peatland restoration on a district wide scale - to prevent flash flooding for example."

"Adding the peat dams," says Farm and Conservation Adviser Sandra Stewart, "raises the water levels in the ditches and slows the water flow, helping to restore natural flood management. The water pools created encourage wading birds, amphibians, pollinator insects, dragonflies, which is great for the whole ecosystem."

A NATURE-BASED SOLUTION

The problem: costly chemical herbicides do not prevent the spread of invasive rushes, and mean livestock must be removed after application.

The solution: over 100 farmers participated in our field lab to test and learn about strategies for the sustainable control of invasive rush. Some rush was retained as habitat for breeding waders, including the lapwing: a vulnerable priority species. The lab findings are being used to run knowledge transfer events across Scotland, and as a result more farmers and crofters are changing how they manage rushes to benefit both their business and farm wildlife.



ARE THE AECS WORTH THE PAINS?



Ken Porter

We spoke to Ken Porter, farm manager of 1,500 hectares of mixed livestock at Tanlawhill, Dumfries and Galloway, about his experience of conversion to organic through an Agri-Environment Climate Scheme (AECS) grant. He says:

"I applied for the job of farm manager here in 2001 because the trustees wanted to go organic. I like that way of farming - not using chemicals, having to work with the land and the stock. Sometimes with farming it feels like you're hitting it with a hammer, but

organic farming means finessing it - working with the land to make it go your way.

"The AECS payment is top-heavy because you have initial costs, and the criteria changes slightly every five years, but it's definitely been worth the effort. For me to generate £16,000 a year as clear profit would be very difficult.

"We have an inspection every year and we have to keep more records than our neighbours, but I find that helps because I know exactly when what field got lime, and how much beans and barley went into what feed.

"I do need slightly more staff as what we do is labour intensive - instead of spraying for weeds we use a crop rotation and cut weeds manually. And I have a lower stocking rate. But my cows and heifers perform better and my animals are generally healthier. I haven't dosed my ewes for worms for the last four years, for example - they seem to have built up some immunity.

"I'd say you can't go organic just for the money. Things go wrong, it's nature. But if you enjoy it, the financials will follow."



SCOTLAND AND CLIMATE CHANGE

NATIONAL COMMITMENT

Scotland is a world leader in tackling climate change and is committed to reducing its greenhouse gas emissions in accord with the Paris Agreement. Scotland's Climate Change Plan 2018-2032 sets out a range of policies for reducing emissions from agriculture - a major source of Scotland's emissions - and speeding up rates for carbon sequestration through tree planting and peatland restoration.

What needs to change and why

- The agriculture and related land use sector in Scotland accounts for a quarter of our total greenhouse gas emissions. Around 25% of these emissions arise from the application of nitrogen fertilisers, and around 45% from livestock production⁹. Scotland wants more farmers using low carbon farming techniques to reduce emissions and increase their environmental and business performance.
- Despite being a large source of emissions, agriculture, which covers three quarters of Scotland, has significant potential to capture and store carbon by integrating farming with woodland creation, agroforestry and peatland restoration.
- Scotland's peatlands store 25 times more carbon than all the vegetation of the UK. Grazing is the main land use on peatland, and consequently farmers and crofters have a key role to play in restoring and protecting this carbon-rich habitat.¹⁰



How we are helping land managers to reduce emissions and store carbon

We are helping land managers to enhance and protect their soils, reduce use of nitrogen fertiliser, improve productivity through higher animal welfare and integrate farming with other forms of sustainable land use such as peatland restoration and agroforestry.

Evidence strongly suggests that healthy livestock systems tend to have a lower carbon footprint than systems with higher mortality and lower fertility rates. We are working with livestock farmers, researchers and industry experts to promote and explore sustainable management practices which improve animal health and welfare. These practices include building healthy soils and grasslands, reducing risk of diseases such as liver fluke, and trialling new and innovative grazing techniques which increase productivity and cut emissions.

Using green manures and clover to improve soil fertility reduces the need to use nitrogen fertilisers which are a major source of greenhouse gas emissions.

Trees on farmland using the guiding principle of the 'right tree in the right place' can help achieve Scotland's national planting target and deliver multiple economic and environmental benefits, including carbon sequestration. Our work showcases the economic and agricultural benefits of trees on farms, and gives a practical insight into woodland creation and management.

We are working with crofters, farmers and peatland experts to raise awareness of the benefits of peatland restoration, and provide advice and support to get projects up and running.



FODDER FOR THOUGHT



Duncan McEwen

Sheep and arable farmer, Duncan McEwen of Arnprior Farm in Stirling, hosted a farm visit for one of our silage events. He says: "Growing good silage is a huge cost benefit. With the silage we make now, we're feeding the same amount of concentrates with 1,200 sheep as we were with 350, when we used to feed them hay.

"There's no secret to it: good grass seed mixes, we use a clover mix; wilting it properly, and we cut it every 35 - 40 days before it goes to head to get the highest energy and protein for the ewes."



Steven Wylie

Store calf producer Steven Wylie of Swartland Farm in Orkney makes the right type of silage (bulkier, with lower protein and energy), for his system, to avoid cows producing too-big calves. As an organic farmer he avoids feed where he can, as it's expensive.

"The cost of ploughing and reseeding for silage is offset against nitrogen fertiliser," he says. "The year before I went organic I spent £8,000 on fertiliser. The following year I spent none on fertiliser but £4,000 on grass seed mixes instead, and I've since increased my number of store calves from 30 to 50.

"I use a five-year rotation: planting barley in year one then grass and undersowing with oats in year two, then I get two years of silage and one of grazing. I test 30 - 40 acres of soil a year - you start with the soil, because that's what everything grows from.

"I don't buy in any feed. I've got an abundance of grass this year and might even be able to sell some. And with the good quality bales the calves are eating less."



Photo: Dan Beattie

“IF THE SOIL’S NOT RIGHT, NOTHING’S RIGHT...”



Philip Bews

Philip Bews of Gorn Farm, Westray, Orkney (630 acres, mixed livestock), says:

“I took along a soil sample to a Soil Association Scotland event in June 2016. When the expert broke it up it split horizontally – I didn’t know that was a classic sign of compaction, and I didn’t know about the need for aeration. On their advice I bought a flat lifter and the results were stunning for grassland and barley, amazing. You

could see the line between where I’d used it and where I hadn’t by the grass.

“Since then the increased grass has meant we can reduce our use of fertiliser – we bought 20% less last summer. That’s a win-win – we’ve saved money on that and the freight costs, which are high here on Orkney. And although we’re not an organic farm we try to apply organic principles where we can, because it’s better for the environment and the soil.

“If the soil’s not right, the livestock aren’t right. Because of the increased grass growth, of the calves born last spring I’ve kept 20 more than I otherwise would have.”

Photo: Andrew Perry



SCOTLAND'S RURAL ECONOMY

NATIONAL COMMITMENT

The Scottish Government's commitment for rural development is to provide stability and security for producers, land managers and businesses while maintaining high environmental standards. The commitment says that any change in approach to providing support should take Scotland closer to policies which help to protect and enhance the natural assets on which our farming and other rural industries depend. They should contribute to Scotland's world-leading climate change ambitions, and promote efficient and innovative rural businesses and thriving rural communities.

What needs to change and why

- Without subsidies, many of Scotland's farms would make a significant financial loss. Yet a recent Survation poll found that 88% of people consider farming a key industry for Scotland, and the majority in favor of continued support¹¹.
- The same poll found more than three quarters in favour of a farm subsidy that supports the environment. The National Farmers' Union Scotland envisages payment linked to environmental benefits in their Change document of 2018. Rewarding farmers for their environmental stewardship would provide a priceless return on investment for generations to come.
- Tourism, timber and food production are key sectors of the rural economy with potential for growth in home and export markets. Scotland Food and Drink's ambition is to double Scotland's farming, fishing and food and drink turnover by 2030.
- Innovation is key to Scotland's economic strategy. The OECD's international conference in Edinburgh in April 2018 focused on rural innovation as a key driver of economic growth.



How we are helping to build thriving, resilient rural communities

We recognise that farmers run businesses and so all our work is rooted in the commercial realities of farming today.

We work with farmers on 'optimum' rather than 'maximum' production: producing the right amount for your business in the most efficient and profitable way. We emphasise the financial savings that can be made by reducing reliance on expensive inputs such as pesticides and fertilisers and optimising natural resources, especially soil. We show how organic farming principles can be adopted more widely to create these 'win-wins' for both business and the environment.

We work with land managers to explore opportunities for new environmentally sustainable income streams including habitat management, peatland restoration, woodland management and agroforestry. We signpost to the funding that's available to make changes.

Through our events, field labs and working groups we bring together farmers who might otherwise be isolated, encouraging a co-operative, collaborative approach to trying new things.

We lead on the Rural Innovation Support Service (RISS), part of the Scottish Rural Network, partnering with SAC Consulting, SAOS and Scotland Food & Drink. RISS provides facilitators to help farmers, foresters and crofters turn their innovative ideas into actionable project plans.

RISS gets the right people together all along the supply chain to help make sure the right connections are made between food producers, the rest of the food and drink supply chain, and anyone else with an interest in sustainable food production. By enabling farmers to come up with their own solutions to their own problems in a way that works for them, RISS has identified and started to address some of the genuine problems that Scottish agriculture faces. Whereas innovation support services in Europe are often driven by researchers or advisors, RISS is a truly bottom-up, farmer-led example of rural innovation.



Photo: Dan Baillie

“SOME THINK FARMING AND TREES DON’T GO WELL TOGETHER...”



Iain and Marion Macdonald

Iain Macdonald of Ardoch and Threepland farms, East Renfrewshire (250 hectares, 700 sheep and 109,000 trees), says:

“You have to look at the bigger picture and get the best out of your farm, rather than keep doing what you’ve always done. It’s getting harder to make a living - I might have considered leaving farming if I hadn’t diversified.

“In 2013 we got a Rural Priorities contract for woodland creation and planted 29,000 trees over 12 hectares. Beforehand, stock would go down steep bankings and into the burn, or cross marshy grass to get to fresher pasture. Rescuing calves and lambs at gathering time was a nightmare. Now these areas are fenced off it’s made a big difference to sheep management.

“In 2017 we got a Forestry Commission grant to plant 80,000 trees, picking the site because very little of it was good upland grazing. This is more of a commercial investment, which we could sell on to an investor or harvest the timber.

“Some think farming and trees don’t go well together but it can work. The first scheme was about creating shelter and managing the land better, the second is an investment for our daughters.”



Photo: Neil Davidson



MOB GRAZING FIELD LAB



Tom Chapman

Our mob grazing field lab, started in October 2018, is the only one of its kind in the country. Mob grazing, sometimes called tall grass grazing or holistic planned grazing, has huge potential, but as a fairly new practice there is as yet little documented evidence, and none in Scotland, on its benefits. This field lab plans to change that.

According to livestock farmer and Nuffield scholar on the subject, Tom Chapman, mob

grazing is basically “short duration, high density grazing with a longer than usual grass recovery period. So you move a large group of cattle on average once a day and leave the grass to recover for between 40 and 100 days.”

Chapman, who manages 300 cattle at East Hall Farm in Hertfordshire, says: “It’s been a transformation. Initially we introduced it because we wanted to improve soil fertility, which has worked: we have as much as 10 per cent organic matter in the mob grazed field compared to 3.5 in the adjacent field. So that means better water-holding capacity when it’s dry and freer draining when it’s wet, and more nutrients.

“But it’s also turned out to be better for the cattle. They look better, their dung is better and we have fewer vet visits.”

In Scotland we’ve got together 15 farmers who have either recently started mob grazing or would like to try it. They are excited to be trying something new together, with support from us and experts like Tom Chapman and long term practitioner Rob Havard. The group is currently figuring out how to measure mob grazing’s potential to build soil carbon, improve animal health, reduce the costs of straw and winter feed and increase biodiversity, and group members will adopt a comparable methodology.



Photo: Clem Sandison

THE RURAL INNOVATION SUPPORT SERVICE

In February 2018 we launched the Rural Innovation Support Service (RISS), part of the Scottish Rural Network, in partnership with Scotland's Agricultural Organisation Society (SAOS), SAC Consulting, Scotland Food and Drink and the Soil Association's Innovative Farmers.

RISS gets the right people together to help farmers, foresters and crofters across Scotland solve a business problem or get an innovative idea off the ground. A facilitator forms a working group around the farmer to explore the idea, bringing in group members from any relevant sector, from along the supply chain or from research.

By the end of 2020 we will have 42 groups up and running, producing blueprints that can be utilised across the agricultural sector. Current groups include:

LAND MATCHING SERVICE

This group is exploring how best to unite new entrants looking for land to farm with older farmers looking to pass on land or farm in partnership. The group is looking at similar services in other countries, but the idea of 'honest broker' who ensures that both parties are "not making money out of each other, but are making money together", funded by both government and industry, is currently taking shape.



MOBILE ABATTOIR

The problem of local access to slaughter is shared by small-scale meat producers across Scotland. A mobile abattoir is one solution, and the group has linked up with a group in England who are closer to building such a facility. On-farm processing is another option, as is co-ordinating access to a larger facility. It is likely several groups will form from the initial one, as different solutions will suit different areas of Scotland.



BETTER HILL SHEEP

A large group of 15 farmers and vets across Scotland and Northern Ireland had been meeting for five years without coming up with an action plan to boost the profitability of their industry: hill sheep. A RISS facilitator has helped the group decide on one of the four options they had been debating. They are now focusing on better marketing the high quality, commercially viable breeding of their hill sheep to their customers - other farmers.



PUBLIC SECTOR SUPPLY

Scottish school plates seem a sensible destination for Scottish vegetables, and yet only a third of the veg in Edinburgh and the Lothians' schools currently comes from Scottish farms.

This group brings together school caterers who design menus; local authority procurement and economic development officers; vegetable wholesalers, farmers and members of our Food for Life Scotland team, who run a Scottish Government-funded programme to get 'good food' into schools.

Together they are figuring out how to get a shorter supply chain between Scotland's fields and school canteens.



SPEEDING UP DAIRY BREEDING

In the first UK project of its kind, three grass-based dairy farmers in the South West got together to explore harnessing dam genetics to increase productivity. Alongside a genetic scientist from SRUC, the group is designing a breeding programme to combine genomic ranking, reproductive technologies and herd data to speed up the time it takes to get the best cows back into the herd. If successful, this blueprint could revolutionise the livestock industry.



SCOTLAND'S PLACE IN THE WORLD

Scotland can be proud of showing leadership on important global challenges

Scotland is outperforming the rest of the UK on decarbonisation, the UK's Committee on Climate Change (CCC) concluded recently. The Scottish Greenhouse Gas Inventory shows that Scotland has already reduced emissions by almost half compared to 1990 and is outperforming all countries in Western Europe except Sweden. Scotland is a world leader in mitigating climate change.

Scotland has been instrumental in developing the concept of natural capital, with nature values integrated into Scotland's mainstream planning, policy and reporting frameworks. Nearly one-fifth of Scotland's seas have been brought into the Marine Protected Area network.

Scotland is committed to tackling inequality, including in agriculture, where a Women in Agriculture Taskforce has been set up to ensure that women's often 'behind the scenes' participation in farming translates into rural leadership.

Scotland is frequently cited as a leader on technology, innovation and research, with the James Hutton Institute's vertical farm showing recently how these three poles can unite under agriculture.

But there is more to be done

The International Committee on Climate Change's recent warning that we have only 12 years left to act before climate change becomes irreversible has sharpened the minds of many. Yet the UK committee warned Scotland that it has work to do in four sectors, including agriculture and related land use. And despite Scotland's commitment to the UN's 2020 'Aichi' biodiversity targets, within Scotland's farmed landscapes there has been an overall decline in wildlife and biodiversity over the last 60 years.

The urgency of climate change and the actions needed to mitigate it are only going to grow over the next few years. We believe Scotland now has a crucial opportunity to lead the way on agriculture by fully getting behind sustainable food production.

Given the environmental and social problems humanity must tackle, so many of which relate to food, farming and forestry, could any mission be more important than to transform the way we eat, farm and care for the natural world?



Photo: Tom Marshall, RSPB

THANK YOU

Thank you to all the land managers and inspirational individuals who have been actively involved in our sustainable farming and land use work over the years. We would also like to thank the following organisations which have helped to support the development and delivery of our work.

Bumblebee Conservation Trust	Scotland's Farm Advisory Service
Cairngorms National Park Authority	Scottish Farming and Wildlife
Central Scotland Green Network Trust	Advisers' Group
Esk Rivers and Fisheries Trust	Scottish Government
Forestry Commission Scotland	Scottish Land and Estates
IUCN UK Peatland Programme	Scottish Natural Heritage
James Hutton Institute	Scottish Rural Network
Loch Lomond & The Trossachs	Scottish Water
National Park Authority	SEFARI
NFU Scotland	SEPA
Plantlife Scotland	SNH Peatland Action
Quality Meat Scotland	SRUC
River South Esk Catchment Partnership	The Heather Trust
RSPB Scotland	The Moredun Institute
SAC Consulting	Woodland Trust Scotland
SAOS	

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"My subject is food, which concerns everyone; it is health, which concerns everyone; and it is soil, which concerns everyone - even if they do not realise it"

Lady Eve Balfour,
Founder of the Soil Association
Living Soil, 1943



Photo: Clem Sandison



Photo: Clem Sandison



Photo: James Silvey, RSPB

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