Summary

Agriculture plays an important role in society, producing food and a range of other goods and services we all depend on. It is part of a much larger food system and just one of the ways in which we use our limited land resources. Any future vision for farming must reflect this.

The environment must be at the heart of farm business decisions in future and the huge potential of agriculture to address the twin challenges of climate change and biodiversity loss must be realised.

To improve the environmental performance of farming by 2025, we suggest 10 steps that would make a difference:

1. The completion of whole farm environmental audits and plans, compulsory for those in receipt of public money.
2. More rapid uptake on all farms of best-practice farm management techniques that deliver environmental improvements.
3. An increase in the area of farmland managed under agri-environment-climate options.
4. At least 10% of Scottish farmland managed organically.
5. High Nature Value farming systems being fully recognised, valued and supported.
6. All protected sites on farmland managed appropriately to ensure favourable condition is achieved.
7. More farmers working collaboratively to manage land at landscape and catchment scale.
8. More research being carried out to further identify those farming systems and practices that can protect and enhance the environment whilst meeting our food needs.
9. Greater effort focused on knowledge transfer, advice and training to encourage and promote uptake of best environmental practice.
10. More consumers choosing Scottish produce for its quality and environmental benefits, encouraged by the supermarkets, other food outlets and retailers, and public procurement.

Step changes are required in other areas, beyond the environment, to ensure farming has a brighter future. This includes, amongst other things, farmers being paid a fair share of the price of food, greater diversity in production and supply chains being shortened with more Scottish produce processed and consumed here. We also need to see opportunities for new entrants to farming and more scope for people to grow their own food. We need to reduce waste and invest more in changing the culture around food in Scotland.

Change will only be delivered through an appropriate mix of public policy, consumer choice and market prices. But we need Government to show leadership, setting out a new Food and Farming Strategy (consistent with the Land Use Strategy) and an action plan to deliver it.
1. Introduction

The publication of the Scottish Government’s discussion document ‘The Future of Scottish Agriculture’, which contains a vision and 9 key outcomes for farming, is welcome. This is stimulating some important debate about the many challenges facing agriculture and its current and future role. But this is not the first time the Scottish Government has produced a vision for farming or sought to find agreement on how agriculture needs to change and develop. In broad terms, there is considerable agreement, across a range of stakeholders, as to what changes are needed. Many of the aspirations for farming, whether expressed by those within the sector, by environmental groups or the Government itself, are similar. We all want a viable farming sector, providing decent livelihoods and employment, producing good food and other products and doing so in ways that do not harm the environment. But, in many respects, little progress has been made; many of the challenges identified at the turn of the century remain with us today or have intensified. Many of the indicators that measure success are on a downward trajectory. Action to address these challenges, and set agriculture on a more sustainable footing, has been too little in either scope or scale. We cannot continue as we are. We need a new Vision for Food and Farming to emerge from current discussions and this must be accompanied by a clear action plan, with specific targets and timescales, to bring that vision to fruition.

RSPB Scotland can help to make progress through: our conservation science which is helping to identify the causes of declines in farmland wildlife; our nature reserves, where our farming activity is conserving important species and habitats; our advisers, who work with many farmers, crofters and land managers to help them farm in more nature friendly ways; our policy research and advocacy which makes the case for public policy that supports sustainable farming; and, our 1.1 million UK members who support our activities and who are also consumers, tourists and countryside users. We are keen to work with Government, other stakeholders and farmers to progress a new vision for farming, one which puts the environment at its heart.

We welcome the theme of ‘greener farming’ found at various points in the document and specifically ‘Outcome 6: Scotland is a world leader in green farming’. This is a laudable ambition; achieving it will be an enormous challenge, requiring a step change in the current environmental performance of Scottish farming and a change in the mindset of many farmers. At the heart of the need for greener farming sits two major challenges: the climate challenge and the biodiversity challenge. We explain why these challenges are so important in Section 2. In Section 3, we highlight the benefits of seeking environmental improvements in farming and suggest the need for clarity regarding the term ‘green farming’ and how to measure progress. In Section 4 we then propose 10 steps that, in our view, would help us to make progress towards more nature friendly and environmentally responsible agriculture.

Of course, it isn’t just in relation to the environment that step changes in agriculture are required. The long term viability and prosperity of the sector in Scotland will only be secured if other changes also happen, many as highlighted in the discussion document. From farmers getting paid a fair share of the price of food to ensuring that farming is seen as a desirable profession and is populated by

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well trained and skilled individuals. We highlight what, in our view, are some of the critical changes required to make progress (Section 5).

As acknowledged in the Foreword, agriculture is just one part of a much larger food and drink sector and food is not the only ‘product’ derived from land. We therefore welcome reference to the Government’s Food and Drink Policy and suggest there is need for better integration between the food and farming sectors. Agriculture must play a much stronger role in delivering the vision and aspirations set out in ‘Becoming a Good Food Nation’.

We are also pleased to see reference in this document to the Scottish Government’s Land Use Strategy and recognition that farmers, and the land they manage, can and should provide a range of other outputs and benefits besides food e.g. timber, opportunities for recreation and reducing flood risk. Any vision for farming must set out in clear terms how it will contribute to delivering the principles and objectives of the Land Use Strategy and the Land Use Strategy, in return, must demand this and drive delivery. Taking all relevant strategies into account, our challenge to Government looking ahead is therefore twofold: first, how to join the dots between the visions contained in these different documents and strategies to ensure they are consistent and mutually reinforcing; and secondly, to ensure the necessary public policy framework is put in place to drive progress towards those visions in a coordinated and coherent way.

2. Twin challenges: strategic choices

Climate change is the biggest threat to life on this planet. The scientific consensus is that we must keep global temperatures within 2°C or less of pre-industrial levels if we are to avoid the worst impacts of climate change. Even at this level, some regions and countries will experience increased risk of sea level rise, forest fires, water shortages and other devastating impacts. Agriculture itself faces a number of challenges from a warming climate including increased risks of drought, flooding and pests and diseases, all impacting on production. These impacts are likely to outweigh any benefits conferred such as increased crop yields due to warmer temperatures and a longer growing season. But unlike many other sectors, agriculture – and related land use - also has a vital role to play in climate change mitigation and adaptation. From deciding how soils are managed to producing renewable energy, farmers – individually and collectively - can help us face the climate change.

Given the far reaching effects of climate change, the very limited reference to it in ‘The Future of Scottish Agriculture’ discussion document is worrying; moreover, many of the desired outcomes will be difficult, if not impossible, to achieve without a stable climate. Apart from minor references in the document to greenhouse gas emissions from agriculture and a desire for a low carbon industry, there is little sense of the strategic choices that will need to be made in future in Scotland as to what food to produce, and how and where, or of how best to use our limited land resources more widely, in order to combat climate change and adapt to it. Outcome 3 comes closest to acknowledging the climate challenge and the need for a resilient and adaptive sector but shows limited scope in terms of the next steps identified. Much greater emphasis must be given to the climate challenge and how best to respond to it - in any future iteration of this document.

For example, greater consideration should be given to the current strategy of seeking to expand red meat production given the climate warming impacts of GHG emissions from the livestock sector
(especially cattle and sheep) and the widely acknowledged impacts on health of over-consumption of meat and dairy products, with advice from health bodies to eat less. This is not to say that Scotland should stop producing those products for which it has a natural advantage and which utilises land that could not produce other food products. Rather, it would be sensible to focus less on quantity per se and consider alternative strategies for red meat production, focusing on quality, added-value and shorter supply chains. At the same time, we also need to consider that land currently grazed by livestock may also be suitable for other uses such as timber production, minimising flood risk or nature conservation, some of which may be more beneficial in climate terms.

The second major challenge we face as society is how to halt the loss of biodiversity. Nature is in trouble both globally and at home. There are four principle causes of damage: habitat degradation; over-exploitation; pollution (particularly global climate change); and, the introduction of invasive non-native species. Across the UK, of the species we know about, 60% have declined in the last 50 years and many of our natural services continue to be exploited beyond sustainable thresholds. Scotland still has an abundance of wildlife – including many species of national and international important – but many species are in decline and climate change is adding further pressure. Agriculture – both here and globally - has a major role to play in determining whether such declines continue or are halted and reversed. *As for climate change, the lack of recognition in the discussion document of this biodiversity challenge, its significance for agriculture and society more widely, and the strategic choices it presents us with, is disappointing and must be rectified.*

We explain below why addressing both the climate change and biodiversity challenges, as part of an overall approach to reducing farming’s impact on the environment, is both necessary and desirable.

3. Why ‘green’ and what does it mean?

Scotland’s environment is one of its greatest assets. Its soil, air, water and biodiversity are not only the life forces on which we as humans depend for our basic survival but they support much economic activity and contribute to societal health and wellbeing. Agriculture has a major role to play in maintaining the health of these resources, now and for future generations.

Agriculture has helped to create much of what we value today – the wildlife and landscapes we enjoy – whilst producing food for our tables. Scotland’s agricultural land is home to significant bird populations: almost all of the UK’s breeding corncrakes and half of the lapwings, oystercatchers and curlews are in Scotland, as are a third of the skylarks and 15-20% of grey partridges, choughs, starlings, linnets and yellowhammers. In winter, important populations of upland birds and birds from further north reside on Scottish farmland, including raptors such as merlins and hen harriers, waders such as golden plovers, curlews and snipe, winter thrushes (redwing and fieldfare), twite, snow buntings, whooper swans and several goose species.

Whilst there is pressure in many areas to intensify farming, Scotland continues to have a large share of High Nature Value (HNV) farming systems – predominantly extensive, upland livestock and crofting systems – which benefit birds and other wildlife. In the lowlands, the combination of agri-

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environment schemes and (until recently) set-aside management set in landscape contexts where mixed farming, spring-sowing, later harvesting and retention of over-winter fallows still occur, have been beneficial for wildlife. The mixed farming landscapes of north-east Scotland, for example, with a mosaic of arable and grass fields interspersed with areas of semi-natural habitat retain a diverse farmland bird community now scarce in many other parts of the UK.

But, over the past fifty years or so, as agriculture has become more intensive and specialised, especially in the lowlands, many of the negative environmental impacts of agriculture have become more prevalent. Right now, intensive and specialised agriculture is responsible for a significant proportion of climate warming greenhouse gas emissions, for contributing to water pollution and driving declines in wildlife. Conversely, HNV farming systems are economically vulnerable and under threat from intensification on the one hand, or land abandonment on the other, both with consequences for nature and for some of our more remote and fragile rural communities.

So, we now face a choice. We can continue on the path we are on, allowing further environmental degradation of our natural assets and the loss of much of what makes Scotland special. Or, we can make a step change towards more sustainable farming systems, realising the huge potential of the agriculture sector to help us address the twin challenges of climate change and biodiversity loss. RSPB Scotland thinks the latter is the only sensible option. We do so because we believe we all have a moral responsibility to care for and protect the species with which we share this planet and the environment in which we live. We value nature for its own sake and recognise its right to exist.

But we also acknowledge the utilitarian value of nature and the environment, based on the goods and services it provides us, and suggest there are strong economic and social reasons for environmental responsibility. Of all the human activities we undertake, farming is perhaps one of the most dependent on the natural world – on soil, air, water and biodiversity. Running down the assets on which food production itself depends would be a short-sighted business strategy; one likely to compromise future economic viability. And, by caring for the environment, Scottish farming has the potential to develop a brand for its produce which is synonymous with high environmental standards and for quality food which is recognised by consumers at home and abroad. Growing recognition of the links between public health and wellbeing and the condition of the natural world also highlights the social arguments for making environmental improvements. These are all good reasons to make the step change.

Defining ‘green farming’ and indicators of progress

The discussion document frames the vision and desired outcomes around the notion of ‘green farming’. We take this as short-hand for some kind of more environmentally responsible agriculture and acknowledge references in the document to the need to address problems including diffuse pollution, greenhouse gas emissions and loss of farmland biodiversity.

We think it is important however that green farming (as an outcome) is defined, an assessment is made of how ‘green’ farming in Scotland is currently, and a set of indicators established in order to measure progress towards the outcome. We also wish to highlight that if the outcome is for Scotland to be ‘... a world leader in green farming’ this requires benchmarking the environmental performance of Scottish agriculture against that of other countries. None of this is identified in the ‘Next Steps’ which is a major omission. We believe the Scottish Government should initiate a
process, with participation from stakeholders, to help define what green farming means in a Scottish context, establish baselines and identify indicators.

This is important because there are likely to be different definitions and understanding of what green farming means in practice. Our impression, from numerous discussions with farmers and their representatives over many years, is that many farmers think Scottish agriculture is already relatively green. Where they do acknowledge problems, this is more likely to be in relation to issues such as diffuse pollution and GHG emissions (often seen as localised or relevant only to certain sectors) with declines in wildlife often seen as resulting from non-agricultural factors such as predation or development. This view that farming in Scotland is already fairly green is not supported by a large body of scientific research. There is therefore a perception gap that needs to be dealt with if farmers themselves are to be persuaded of the need for action.

A brief literature review of ‘green farming’ identifies that there is no universally agreed definition. The greening of agriculture, as set out in UNEP’s Green Economy Report⁴, refers to the increasing use of farming practices and technologies that simultaneously:

- Maintain and increase farm productivity and profitability while ensuring the provision of food and ecosystem services on a sustainable basis;
- Reduce negative externalities, such as soil erosion, inorganic agro-chemical pollution, and agricultural GHG emissions; and
- Rebuild ecological resources, such as soil fertility, water, air and biodiversity including animal and plant-genetic diversity.

Green farming is therefore unlikely to be any one system or type of farming but rather a way of farming that employs some key ecological principles and puts these into practice. This will require significant knowledge on the part of farmers and others who work in the sector. For RSPB Scotland, central to any concept of green farming, is farming which makes space for nature and is friendly to wildlife. This can manifest itself in numerous ways from taking simple steps to mark the nests of ground-nesting birds and avoid them during field operations to creating wildlife habitat such as field margins, beetlebanks and hedgerows. Our advisors work with many farmers and crofters across Scotland to help them identify what steps they can take to benefit nature. But, alongside farmers taking direct action for nature we also want to see more effort to address some of the underlying drivers of wildlife declines including climate change and water pollution. This means farmers in future need to take a much more holistic approach to how they manage their land.

4. 10 steps towards nature friendly farming

Our vision for Scottish farming is of a sector which puts nature and the environment at the heart of business decisions and, through this, is delivering real environmental improvements. We want farming to be productive, resilient, diverse and carried out in ways that are appropriate to the land and that maintains and enhances nature rather than degrades it. We want to see a sector which is justifiably proud of what it achieves and which is supported for taking environmental action through a mix of public policy, consumer choice and market prices.

To improve the environmental performance of farming by 2025, we suggest the following needs to occur:

1) Every farmer will have undertaken an environmental audit on their land. This audit will be used to produce an integrated whole farm business and environment plan which is implemented and then reviewed on a 3 year cycle. Audits and plans should be compulsory for those in receipt of public money through the CAP.

Knowing how best to manage land to achieve environmental outcomes requires a thorough understanding of the resource base – soils, hydrology, species and habitats, carbon sinks and sources etc. – and how current management affects them. Whilst many farmers are likely to have a good understanding of their farms from a production perspective, unless they have had an environmental audit done on their farm, they may not have a full picture of the environmental situation. An audit is therefore the first step in being able to better plan for the use of resources and determine how to avoid negative environmental impacts and enhance positive ones. Environmental planning needs to be done alongside business planning so that financial and environmental objectives can be better integrated. By undertaking such auditing and planning, farmers will know what, why, when, where and how to farm more sustainably. These plans must then be actioned. It should be a requirement to undertake an audit and produce a whole farm plan for those in receipt of public money from the CAP. The audit and planning process may require professional help; this links to 9) regarding enhanced knowledge transfer and advice provision.

2) More rapid uptake on all farms of best-practice farm management techniques that deliver environmental improvements such as soil testing, nutrient budgeting, Integrated Crop and Pest Management, alongside greater adoption of simple measures to help wildlife.

There is a wide range of no-cost, low cost or cost saving practices and techniques that farmers could adopt that would yield environmental improvements and help the farm business. The Farming for a Better Climate Initiative is a good example of such an approach, identifying simple steps that farmers can take to help combat climate change. But we know that uptake is low with far fewer farmers adopting beneficial techniques and practices than is required; 90% of farmers need to introduce such practices for GHG emission reduction targets to be met by the sector. Greater and more rapid uptake would have environmental benefits and could, in many instances, save farmers money. Integrated Pest Management and the more holistic Integrated Crop Management also offer ways in which farmers can save money whilst improving environmental performance. To help wildlife on farms, simple steps such as marking and avoiding nests in fields, cutting hedgerows on rotation and scattering tailings on tracks to provide food for birds in winter can all be done with little or no impact on costs. These actions are not, in themselves, going to solve all environmental problems, but they represent some significant first steps towards more sustainable farming and more widespread adoption would be beneficial.
3) An increase in the area of farmland managed under agri-environment-climate options
designed to help wildlife, improve water quality and reduce floodrisk, and reduce GHG
emissions.

Agri-environment schemes incentivise farmers to take specific action for wildlife or to
achieve other environmental objectives e.g. improve water quality. Payments compensate
for the loss of agricultural income which occurs as a result or cover associated costs. These
payments recognise that the actions farmers take benefit us all but that the farmer has no
way of being recompensed for this action through the market. Such schemes therefore
constitute ‘public payments for public goods’. The area of land in Scotland’s targeted agri-
environment scheme (Rural Priorities) in 2013 was 1.16 million hectares\(^5\) or 19% of all
farmland. To achieve the Government’s own targets for halting the loss of biodiversity,
improving water quality and reducing GHG emissions, a much greater area of land needs to
be managed under appropriate options. For example, in 2009 only 24% of the Scottish corn
bunting population (a priority species) benefited from land management under agri-
environment schemes; this needs to extend to at least 72% of the population to halt the
current decline\(^6\). Agri-environment schemes are also the main funding mechanism to
achieve and maintain favourable condition of protected sites; almost one quarter of such
sites designated for their national or international importance are currently in unfavourable
condition, in many cases as a result of damaging agricultural practices (see 6). Broadening
the reach of agri-environment schemes and increasing uptake will require increased budgets
for such schemes.

4) At least 10% of Scottish farmland will be managed according to organic farm standards
and the market for organic produce will have continued to grow.

Green farming can take different forms; we do not advocate a ‘one-size-fits-all’ approach.
But, we believe greatest progress towards greener farming will be made where farmers take
a more agro-ecological approach towards land management. By this we mean the
application of ecology to the management of agricultural systems\(^7\). Perhaps the best
exemplar of such an approach is organic farming which, if more widely adopted, or its
principles incorporated into conventional farming systems, would do much to make progress
towards greener farming.

Organic farming is a system of farming that seeks to work with natural processes and the
ecology of the farm. Artificial fertilisers are banned and farmers develop fertile soil by
rotating crops and using compost, manure and clover. Scientific research has demonstrated
the benefits of organic farming for wildlife; wildlife is 50% more abundant on organic farms\(^8\)

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\(^{5}\) [http://jncc.defra.gov.uk/page-4242](http://jncc.defra.gov.uk/page-4242)

\(^{6}\) Perkins, A.J., Maggs, H.E., Watson, A. & Wilson, J.D. (2011) Adaptive management and targeting of agri-
environment schemes does benefit biodiversity: a case study of the corn bunting Emberiza calandra. Journal of

\(^{7}\) Lampkin, N.H., Pearce, B.D., Leake, A.R., Creissen, H., Gerrard, C.L., Girling, R., Lloyd, S., Padel, S., Smith, J.,
the Land Use Policy Group. Organic Research Centre, Elm Farm and Game & Wildlife Conservation Trust.

\(^{8}\) Bengtsson, J., Ahnstrom, J. and Weibull A-C. (2005) 'The effects of organic agriculture on biodiversity and
abundance: a meta-analysis' Journal of Applied Ecology, 42(2), 461-269
and farms have, on average, a third more species, including more rare species\(^9\). This is more the case in intensively managed landscapes than less intensively managed ones. A recent study has also shown that organic crops are up to 60% higher in a number of key antioxidants than conventionally-grown ones\(^{10}\). The researchers suggest that switching to eating organic fruit, vegetable and cereals – and food made from them – would provide additional antioxidants equivalent to eating between 1-2 extra portions of fruit and vegetables a day.

In Scotland, the area of organic land has been declining steadily in recent years and in 2013 only 2.6% of farmland was managed organically\(^{11}\). Increasing the area of land farmed organically, especially in the more intensive arable and dairy farming areas, and increasing the production of organic crops, fruit, vegetables and dairy produce in Scotland could yield a range of environmental and health benefits. In many other European countries, the organic sector has developed rapidly in recent years and Scotland risks lagging behind. Austria has 19% of its Utilisable Agricultural Area managed organically, Sweden 15.7% and Estonia 14.1%. Some countries such as Denmark have set targets for organic farming in order to drive expansion; Denmark aims to reach 15% of farmland managed organically by 2020. Scotland should set an ambitious but achievable target of 10% of farmland managed organically by 2025.

5) **High Nature Value (HNV) farming systems** – those which are already of particular importance for wildlife but are economically vulnerable – will be fully recognised, valued and supported through the Common Agricultural Policy, other funding streams and wider Government policy.

All farms – even the most intensively managed - can be managed in ways to benefit wildlife. For example, hedgerows and field margins in intensive arable systems can provide valuable habitat for a range of species. In many cases, such habitat creation and management is incentivised through agri-environment schemes. However, there is generally an inverse relationship between the intensity of farming and the diversity and density of wildlife found there. Less intensive systems tend to be more biodiverse. HNV farmland has been defined as ‘...those areas in Europe where agriculture is a major (usually the dominant) land use and where that agriculture supports or is associated with either a high species and habitat diversity or the presence of species of European conservation concern or both.’ Some 40% of Scotland has been identified as HNV farmland with Argyll, Highland, the Western Isles and Northern Isles having the highest shares of HNV farmland. This is where traditional systems


\(^{10}\) Higher antioxidant concentrations and less cadmium and pesticide residues in organically-grown crops: a systematic literature review and meta-analyses. Baranski, M. et al. British Journal of Nutrition/ Volume 112 / Issue 05 / September 2014, pp 794-811

of farming and crofting methods – primarily livestock production – have created a rich diversity of wildlife habitats for species such as corncrakes, corn buntings, flag iris, great yellow bumblebees and marsh fritillary butterflies, to name just a few species.

In general, HNV systems are low input-low output types of farming. Grazing by cattle and sheep, often using traditional breeds, at the right times of year creates the conditions for wildlife to thrive. Low intensity arable cropping is also found in some places, for example, alongside machair grasslands in parts of the Western Isles. Although some more ‘intensive’ farming practices can be found in HNV areas, the use of artificial fertilisers and pesticides remains relatively low compared to farming in other parts of Scotland. Maintaining the quality of our current HNV farmland, whilst improving the nature value of remaining farmland, is essential.

Farming and crofting in HNV areas is not an easy occupation. Harsh climatic conditions, poor soils and distance from markets conspire to make it difficult to earn a living from the land. Financial returns from the food produced there are low and alternative income streams are limited, although tourism – with visitors attracted by the stunning landscapes and wildlife – is a lifeline for some communities. Faced with such low financial returns, many HNV farmers and crofters are under pressure to either adopt more intensive farming practices in order to increase production or to give up production completely. Both courses of action spell disaster for the natural environment.

Financial support for farming and crofting across Scotland as a whole is delivered through the Common Agricultural Policy (CAP). HNV farms and crofts currently get a low share of the c.£650 million CAP budget spent each year in Scotland. This has to change if traditional farming and crofting systems are to survive and the public benefits they deliver be secured for future generations.

6) **Protected sites (SSSI’s, SPAs and SACs) on farmland which are currently in unfavourable condition will have moved to favourable condition as a result of the introduction of appropriate land management practices.**

Over 380 Natura 2000 sites and over 1,450 Sites of Special Scientific Interest (SSSI), covering more than 1,000,000 hectare of Scotland, have been designated for their national or international importance, according to their special biodiversity or geodiversity interest. The sites extend the length and breadth of Scotland, from the moss heaths on the highest summit, Ben Nevis, through to lowland species-rich grasslands and raised bogs, as well as marine sites. They are home to some of Scotland’s most iconic and best loved species including golden eagle, capercaillie, Scots pine, otter, red squirrel and osprey.

The current national performance indicator is to “improve the condition of protected nature sites”\(^{12}\). Previously there had been a target to get 95% of features into favourable condition by 2010 – a target which was missed and subsequently dropped by Government. Officially: “By March 2014, 78.8% of nature sites were assessed as being in a favourable condition. The proportion of features in favourable condition has increased by 7.4 percentage points between 2005 and 2014 from 71.4% to 78.8%.” However, there has been hardly any improvement since 2009, when the equivalent figure was 78.4%. Thus, the proportion of

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\(^{12}\) [http://www.scotland.gov.uk/About/Performance/scotPerforms/indicator/naturesites](http://www.scotland.gov.uk/About/Performance/scotPerforms/indicator/naturesites)
sites in both “favourable” and “recovering” categories is flat-lining, and consequently between a fifth and a quarter of features remain in “unfavourable” condition, with no remedy in place to offer any prospect of improvement.

The reasons for sites being in unfavourable condition are often complex but for many sites associated with farmland, inappropriate management e.g. under or over grazing, burning and nutrient enrichment are causal factors. Sites need active and appropriate management to bring them into favourable condition and agri-environment schemes are now the key funding mechanism through which this is to be achieved. This will require greater levels of funding than are currently allocated to such schemes in the Scotland Rural Development Programme and greater uptake of appropriate management options.

7) **More farmers will be working collaboratively to manage land at landscape and catchment scale in order to achieve enhanced environmental outcomes.**

There is growing recognition of the need to adopt a landscape-scale approach to conservation and environmental management, alongside site protection. This acknowledges that many desired environmental outcomes such as the conservation of species and habitats or improved water quality can only be fully achieved by sympathetic land management across large, contiguous areas of land as opposed to individual sites or parcels. For example, if diffuse pollution in a water catchment is caused by the activities of 10 farmers and only 1 takes action, the problem will remain unresolved. The desired outcome can only be fully achieved if all 10 farmers work together to adopt sympathetic land management practices. Equally, species require a sufficient extent of the habitats they depend on – and corridors to connect habitat - to maintain viable populations and to expand. This will frequently require the management and creation of habitat across areas larger than individual farm units and needs farmers to work together to achieve it.

The benefits of collaboration and cooperation are not confined to achieving environmental outcomes. Farmers who collaborate in terms of the production, processing and marketing of produce can also gain significant advantage compared to operating individually. Encouraging a greater culture of collaboration/cooperation amongst Scottish farmers could therefore be beneficial on a number of fronts.

8) **More research is carried out to further identify those farming systems and practices that can protect and enhance the environment whilst meeting our food needs.**

Looking ahead, we face a significant food challenge: how to feed a growing world population sustainably. This is likely to require some increases in food production globally but also less waste and reduced demand for resource intensive products alongside much greater effort to safeguard the ecosystem services underpinning agricultural production. The Foresight Report\textsuperscript{13} suggests there will need to be, ‘...economic and social changes to recognise the multiple outputs required of land managers, farmers and other producers and a redirection of research to address a more complex set of goals than just increasing yield.’

In modern times, the vast majority of agricultural research – both privately and publicly funded - has largely been focused on how to increase production e.g. plant and animal breeding to increase yields, with little emphasis on research into sustainable models of agriculture. Whilst greater attention is now being given to how to reduce the negative environmental impacts of food production, much of the related research focuses on efficiency of production and technological improvements. Whilst this is valid, there has been rather limited focus in research terms on the role that ‘agro-ecological’ approaches could offer to the challenge of producing adequate supplies of food with minimal environmental impact.

Agro-ecological approaches include organic farming but extend to a wide range of other agricultural practices and system components including, amongst others: biological nitrogen fixation using legumes; biological control of pests; crop rotation to manage soil fertility; temporal and spatial design of cropping systems to disrupt pest life cycles; mixed grazing systems for grassland utilisation and health management. These have a strong biological rather than technological focus and rely on the skills, knowledge and experience of the farmer for their effective management. Given likely future constraints on the resources needed for producing pesticides and fertilisers, on water resources and in the face of a changing climate, further and new research into agricultural production systems which work with – and not against - nature is required.

9) **Greater effort will be focused on knowledge transfer, advice and training to encourage and promote uptake of best environmental practice.**

If Scottish farmers are to improve their environmental performance they need the necessary information, advice and skills to help them do so. Whilst there are a number of mechanisms and initiatives designed to provide information and advice to farmers, too few have an explicit environmental remit. The Farming for a Better Climate initiative is one positive example but the number of farmers reached by it is small. Monitor Farms have also proved a successful mechanism for knowledge exchange but again, reach a relatively small proportion of the farming population and, to date, have been limited in terms of the environmental issues they explore. Where environmental issues have been considered these have tended to be in relation to climate change and renewable energy with little focus on biodiversity or water quality. New measures for knowledge transfer and advice under the new Scotland Rural Development Programme may help to address the environmental challenge but more is likely to be needed in future if faster progress is to be made.

Currently only 27% of farmers in Scotland have any formal agricultural training. This seems very low for a sector that needs increasingly to embrace innovation and new technologies, be more market orientated and adopt greener farming methods. Much higher rates are likely to be required if the sector as a whole is to undergo transformational change. For those who do receive formal training, the environmental content of courses is often very limited or treated as optional. Environmental management must be put at the heart of all formal qualifications and training courses if farmers of the future are to be better equipped to deliver environmental outcomes.

More consumers will be choosing Scottish produce because it will be recognised for its quality and having been produced in ways that are beneficial for the environment. The supermarkets, other food outlets and retailers, and public procurement will all help to encourage and drive such demand.

Action must start on the farm but extend throughout the wider food system if Scottish produce is to become synonymous with good environmental performance. Farmers need the ‘push’ from public policy and the ‘pull’ from markets if they are to put the environment at the heart of farm business planning and decision making. As our vision highlights, there is a strong role for Government in driving improvements at farm level – from requiring specific action such as audits to providing incentives such as agri-environment payments and funding appropriate research, knowledge transfer, advice and training. More widely, Government can send important signals about purchasing sustainably produced food through its own procurement. Public sector expenditure on food and drink was £129.3 million in 2009 with the majority of this being food purchasing by schools, hospitals and prisons. By demanding food produced to high environmental standards, public procurement could help to drive the market for it.

Initiatives such as the Food for Life Catering Mark are also helping to support more sustainable food choices in both the public and private sectors by providing independently verified standards which caterers can adopt. At Silver and Gold level, the mark recognises caterers who go to greater lengths to include ethical, environmentally friendly and local produce in their menus. As the Catering Mark grows so does demand for products that meet the standards. The supermarkets also have a major role to play in our food systems from the production standards they set for suppliers, the prices they pay and the products they promote in store. A much stronger focus on environmental sustainability by supermarkets and paying fairer prices to producers could be a significant driver of change given their dominance in food markets.

Ultimately, it is the choices we all make as consumers that, in part at least, determine how the food we buy is produced, processed and sold. More consumers actively choosing to buy food produced sustainably in Scotland will send important signals across the food supply chain.

5. Productive, resilient and diverse farming

We want Scottish farming to be greener and more environmentally sustainable but we know this change won’t happen unless farm businesses are economically viable and run by individuals with appropriate knowledge and skills. Step changes are required in other areas, beyond the environment, to ensure farming has a brighter future. Many of these changes are highlighted in the discussion document; below we pick out those which we think are critical to progress.

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16 [http://www.soilassociation.org/foodforlifescotland](http://www.soilassociation.org/foodforlifescotland)
Farmers are paid a fair share of the price of food

Farmers should be paid a fair share of the price of food but we would extend this to argue that food prices should also reflect the true costs of production, including the costs of undertaking appropriate environmental management. As far as the share of the consumer food pound received by farmers is concerned, it is quite clear that the majority of farmers are ‘price takers’ not ‘price makers’. Most produce raw commodities that enter often long supply chains and the share of the final product price received by farmers is often low. The business practice of supermarkets (who dominate food sales) with their farm suppliers has come under scrutiny in recent years and most recently in relation to milk prices. Whilst there are some hopes that the Grocery Adjudicator may take action against unfair practices, it remains to be seen whether matters will improve.

Farmers have a number of options to improve their situation. The simplest, but not commonly practised in the UK, is to improve their collective bargaining power by working together through cooperatives. As for environmental management, greater cooperation or collaboration can yield benefits; in the case of supply chains, farmers working together can shift the buyer-seller relationship and lead to better base prices for raw commodities such as milk, wheat or vegetables. Taking things further, farmers have the option to cut out the middle-men and sell direct to consumers thereby gaining the full value of every consumer pound spent. This is clearly not an option for every farm or for some types of produce but growth in farmers markets and farm shops, including novel approaches such as ‘farm shops’ located in towns and cities (perhaps operated by farming cooperatives), could be a way to expand direct sales.

Food prices that reflect the true cost of production are also a necessary step on the road of transformational change. Currently, most food prices do not reflect the full costs of production, especially the costs of the negative externalities that intensive farming methods give rise to, such as water pollution. Conversely, the positive externalities that arise where farmers take action to help the environment, such as creating wildlife habitat, are also not accounted for. Instead, these costs are borne by the customers of water companies that have to clean pollutants from drinking water or, in the case of positive externalities, are borne by the farmer themselves (making it less likely that farmers will undertake such action if it hits their bottom line). At the moment, only organic food prices and a few other examples such as Conservation Grade cereals go any way to properly reflecting the true costs of food production. This needs to change.

Any discussion around food pricing usually leads to arguments against price increases on the basis that consumers are food price sensitive. This is true to some extent but the picture is also a complicated one; food price may determine some buying behaviour but other attributes such as quality, origin and method of production also determine food choices. It’s also the case that we now spend less on food as a proportion of household income in the UK than ever before – down to 9.1% from 16% over a decade ago. This is in contrast to other countries such as France and Italy which spend 13.2% and 14.2% respectively, with many consumers tending to favour quality, freshness and provenance over price. And whilst people will often complain about the price of some basic commodities such as milk and bread, expenditure on more expensive options such as
ready-meals, takeaways and eating out is booming. Suggesting that all consumers want is cheap food – a line sometimes spun by the supermarkets – doesn’t quite bear scrutiny. Of course, food prices are critical for those living on low incomes or in poverty and the growing reliance on food banks is a sad indictment of our society. The solution though is not to drive down food prices in an ever faster race to the bottom but to address the real causes of food insecurity - low incomes and poverty. Food is a fundamental human right and everyone should have sufficient income to buy and access adequate supplies of safe, healthy, nutritious food for themselves and their families.

_Farms produce a more diverse range of products (both food and other products), identifying and developing markets. Where farms produce non-market goods that benefit society, they should be rewarded for doing so through public support._

Farmland can produce a diversity of goods and services and we need to find ways to value all of these. Even in a traditional sense, what we produce on farmland in Scotland is a relatively narrow suite of foodstuffs dominated by barley, wheat, beef and lamb with much smaller amounts of fruit, vegetables, dairy produce and other meats. Farms themselves are increasingly specialised, producing only one or two types of commodity. Whilst the climate and land capability constrain what can be produced in some places, there is potential to produce a greater diversity of products both at farm and regional level. This could have a number of benefits not least of which would be to make farms more resilient and less vulnerable to price volatility in any one commodity. It could also help to make farms more resilient in the face of climate change.

Beyond food production, farmland can be used to deliver other products and services. Some, such as timber from farm woodlands or farm tourism, have a market value but even here, relatively few farmers seem inclined to pursue such activities in order to diversify income streams. Others, especially environmental services, do not generate direct revenue and are unlikely to be undertaken unless incentivised by other means i.e. through public subsidy.

More effort is needed to help farmers identify new or alternative markets, diversify what they produce and, ultimately, become less dependent on income support payments. This will require significantly enhanced levels of information, advice and training along with grants to facilitate it. Much of this could be provided through Scotland’s Rural Development Programme, given sufficient levels of funding. For those activities that provide non-market benefits such as wildlife conservation, carbon storage or reducing flood risk, farmers should be supported through mechanisms such as the agri-environment-climate scheme, paid for from public funds. As we move forward, the only rational use of public money in the agriculture sector is to support change and transition towards more sustainable livelihoods and to pay for non-market public goods and services.

_More farm businesses process and add value to raw materials and more Scottish produce is processed (up from 45%) and consumed in Scotland. Shorter supply chains are desirable._

Very few farm businesses in Scotland (c. 2-3%) process and add value to the raw materials they produce, opting to sell their produce on to others in the food supply chain. This has a number of impacts, not least if which is to ensure that farmers receive a low share of the final consumer
pound spent on food. It also means that the majority of farmers are disconnected from the consumers of what they produce and poorly understand consumer requirements. More farmers need to be encouraged, supported and up-skilled to process, add-value and directly sell their produce, with an emphasis on supplying local and domestic markets. As well as having the potential to improve farm viability, we also believe greater progress in this area could have social and environmental benefits, helping to connect people to what they eat, where it comes from and how it is produced and reducing food transportation. We consider there is great potential for those farmers producing food in environmentally friendly ways to use this in their marketing and branding.

Much of the food produced in Scotland is sold as raw commodities to businesses located elsewhere, often outside of Scotland, which process and add-value to it. This means lost revenue for Scotland’s economy and fewer jobs in the food sector than might otherwise be the case. Greater investment in infrastructure such as abattoirs, grain mills and other processing facilities is required to build capacity and retain more of the value-added from what we produce. This should contribute to shorter supply chains, less waste and less food transportation.

**New entrants to farming should be encouraged and more people should have access to land to grow food.**

Every industry needs new blood and farming is no exception. We welcome recognition in Outcome 7 of the need to bring both young people into farming and create opportunities for those from diverse backgrounds to start farming. As the discussion paper sets out, there are various barriers to achieving this, not least the restricted availability of land and the contraction of the tenanted farm sector over the last few decades, which need to be overcome. We do not offer any particular solutions to these problems but note the content of the Land Reform Bill which is currently before Parliament. More widely, we think there would be benefits from improving access to and availability of land for people in urban areas who wish to grow food or be more closely connected to where their food comes from. Expanding the availability of allotments and community gardens and encouraging community supported agriculture, could all help in this regard.

**Reduce waste in the food and farming sector**

As noted in ‘Good Food Nation’, we waste one fifth of the food we buy every year with 630,000 tonnes of food and drink thrown away annually. This is compounded by further waste occurring in the food chain before it even reaches the consumer e.g. supermarkets rejecting food because it doesn’t quite meet their shape or size criteria. This is a huge waste of the natural resources that went into producing that food and a direct contributor to environmental degradation. Greater effort is required to cut food waste at every step in the food supply chain; zero waste is the only goal we should be aiming for.

**Invest in changing our food culture**

We are one of the richest and most advanced nations in the world yet we have one of the worst food cultures anywhere, growing levels of food poverty and a rising epidemic of diet related disease. Again, these problems are referenced in ‘Good Food Nation’ but there is limited
reference to them in ‘The Future of Scottish Agriculture’. This is disappointing given that some of these problems start with primary production and many solutions can also be found there. Changing our food culture requires us to take a fresh look at what we produce, how we produce it, how we buy it and how we consume it. It is perhaps not surprising that increasingly industrialised models of agriculture producing food that is then often highly processed and packaged and sold through homogenous supermarkets or fast-food outlets is contributing to consumers being increasingly disconnected from where food comes from or to them developing unhelpful food habits.

We need to make changes on a number of fronts, including:

- more farmers producing a more diverse range of food products sustainably,
- more local processing and retailing, including more opportunities for consumers to buy directly from producers and local businesses,
- more opportunities for people to grow food for themselves from expanding the availability of allotments, developing grow-your-own clubs and encouraging community supported agriculture,
- better information and education in schools and elsewhere about food and how it is produced, on healthy diets and how to prepare and cook food,
- improved food offerings in nurseries, schools, hospitals, prisons, care facilities etc with public sector procurement driving up standards.

6. The role of regulation and the CAP in driving change

Public policy has a significant influence on farming, defining essential legislation that protects the public interest (in relation to food safety, animal welfare and pesticide use, for example) and providing significant levels of public funding to support the sector. In both cases, we believe this is necessary but that changes are required in relation to each in future if the outcomes in the discussion document – especially Outcome 6 - are to be achieved.

Government has given considerable focus in recent years to reducing the regulatory burden on farming, under pressure from the industry to reduce ‘red-tape’\(^\text{17}\). We believe this focus is misplaced and should, instead, be on ensuring effective implementation and enforcement of existing legislation designed to protect the environment and wider public interests. From ensuring protected areas are in favourable condition to reducing the burden of water pollution, greater effort is needed across Scotland to ensure farmers comply with regulatory baselines. We note the progress being made by SEPA in its efforts to reduce diffuse pollution through its catchment walking initiative and suggest such approaches need to be applied more extensively to improve compliance in other areas. At the same time, we urge caution in Government leaving too much to voluntary approaches. Whilst there is some merit in, for example, the Farming for a Better Climate Initiative, it is clear that, on its own, it is unlikely to stimulate the degree of change necessary to meet climate change targets. A recent study of voluntary approaches\(^\text{18}\) and

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schemes confirms their limited ability to deliver public policy objectives when used in isolation and found nothing to support the claim that voluntary approaches can be an effective alternative to regulation.

Beyond regulation, we support the use of public funds in the agriculture sector, the vast majority of which are spent under the Common Agricultural Policy (CAP). It is our view however that the current CAP is no longer fit for purpose and that the recent reform has done little to address the many economic, social and environmental problems facing the agriculture sector and rural areas more generally. Further, fundamental reform is essential. We support the vision stated in Outcome 1 for the industry to become less reliant on direct payments and of the need to ‘continue to support the social and environmental benefits delivered by farmers in remote and fragile areas where the scope to become more productive is limited.’ We draw particular attention to the need to support High Nature Value farming and crofting – see our comments at Section 4. point 5). The current distribution of Pillar I payments, and the amount of funds allocated to these, is problematic in this regard, favouring more productive land and farmers less likely to depend on income support.

The balance of expenditure within the CAP (at EU and domestic level) is also a problem with only c.25% allocated to Pillar II Rural Development Programmes. In our view, there is far greater potential to deliver the outcomes set out in this discussion document through measures and schemes in RDPs, than through the blunt instrument of direct payments. The very low budget for Scotland’s RDP is a major constraint, resulting in many schemes being underfunded and preventing the kind of transformational change that is required. Significantly greater investment in the Agri-Environment-Climate scheme, Forestry Grant scheme, Environmental Cooperation Action Fund, New Entrants, Crofting Agriculture Grant scheme, Food Processing, Marketing and Cooperation, LEADER, Knowledge Transfer and Innovation Fund and Advisory Service would all yield benefits that will never be achieved through Pillar I direct support. The Scottish Government should show leadership within the UK and EU (Outcome 9) in calling for a progressive reform of the CAP from 2020. Such reform must stimulate genuine sustainable rural development and environmental improvements rather than maintenance of now outmoded models of agricultural production.

7. Conclusion

We recognise that many of the changes we are arguing for in our response cannot and will not happen overnight. But if a level of agreement can be reached across the food and farming sectors, and with strong leadership from Government, we believe significant progress can be made over the next decade. Our primary goal, in line with our charitable objectives for nature conservation, is for Scottish agriculture to be better for nature – for the wildlife it supports and for the soil, air, water and climate that nature depends on. This too would be good for food production. The environment is, of course, only part of the picture. Agriculture can only be environmentally sustainable if it is also economically and socially sustainable and is seen as what it is i.e. one part of a much larger food system with a set of interconnected problems and solutions. With this in mind, we urge Government to develop not a farming strategy but a Scottish Food and Farming Strategy, which takes account of all the issues raised here, and is nested within the Land Use Strategy. The development and delivery of such a Strategy would be
best achieved through the establishment of a cross-departmental working group, chaired by the Cabinet Secretary, and taking into account a wide range of issues including health, education, skills, infrastructure, investment and communities.

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