



England Skills Assessment

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Foreword

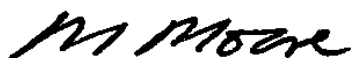
I am delighted to introduce Lantra's England Skills Assessment for 2010. This annual report brings together research from across England on all the industries in the land-based and environmental sector. Farming is the largest industry representing around 35% of the sector by employment, but the Assessment also covers areas such as landscaping, horticulture, land-based engineering, animal welfare and a further 12 industries.

High quality research is central to all Sector Skills Councils. We are required to produce authoritative labour market information for our sector and demonstrate an extensive understanding of the current and future skill needs of businesses. Lantra's Skills Assessment analyses current and future skills needs, shows how job roles are changing, identifies the new skills that will be required, and examines major shifts in employment. Within England, the Coalition Government's drive is to return the economy to sustainable growth, extend social inclusion and social mobility and to build the Big Society. This Government is determined to foster prosperity in all parts of the country aiming to rebalance the economy ensuring growth is spread and prosperity shared. The creation of local enterprise partnerships will bring together businesses and civic leaders to set the strategies and take the decisions that will allow areas to prosper. Skills development and skills utilisation underpins every aspect of this purpose. This skills needs assessment is therefore an essential tool for policy makers and researchers responsible for developing evidence based policy about skills and our sector.

Lantra's Skills Assessment also identifies those drivers for change that are having a major impact on the sector and employment. These include global climate change; the need for enhanced levels of environmental protection; increased demand for food, energy and water; and the need to reduce our consumption of fossil fuels. Much of our sector operates in a globalised economy, and future business and employment prospects are very much shaped by this.

The headline conclusions of the 2010 Skills Assessment support the key messages from previous research studies – the rapid changes in the sector are driven by drivers for change; the urgent need to recruit new entrants of all ages; the challenge of engaging small businesses in structured skills and business development; the need for constant updating of skills to align with markets' changes, new knowledge and technological developments.

The outcomes of the Report are a major determinant in shaping Lantra's own research programme: they also inform Lantra's Business Plan to ensure that our work has a strong evidence base.



Madge Moore, National Director England

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Lantra would like to acknowledge the support of a wide range of representatives from industry and education for their participation in, and support of, this research. Lantra is pleased to record its deep appreciation to all those who have given time to considering and discussing the land-based and environmental sector and its needs.

The project team at Lantra included: Nadine Flowers, Ruchira Pounds, Kate McCarthy, Sara Maslowski, Avril James and Caroline Judd.

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England Skills Assessment

December 2010

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Executive summary

The land-based and environmental sector touches all our lives wherever we live. The sector feeds our nation and is indispensable for our current and future economic prosperity. Land-based and environmental businesses safeguard England's natural environment and natural heritage and are in the front line in the drive for food security, sustainable development, renewable energy, adapting to climate change, reducing greenhouse gases, growing the rural economy and supporting healthy, active living through our parks and green spaces.

As Caroline Spelman MP, Secretary of State for Environment, Food and Rural Affairs, stated in June 2010¹: 'Farming and food contribute around £86 billion to our economy – you [the sector] are an absolutely indispensable part of the green economy we are putting at the heart of our economic recovery.'

This diverse and highly skilled sector comprises some 158,660 predominantly small businesses employing around 905,500 people across 17 industries in England. Sector businesses are responsible for land management and production, animal health and welfare and environmental enhancement and conservation in both rural and urban locations.

The Government's chief scientific advisor Professor John Beddington has warned of a 'perfect storm'² of food shortages, scarce water and insufficient energy resources which threaten to unleash public unrest and international conflict. By 2030 the global population will be approaching nine billion; globally we will need to produce 50% more food, generate 50% more energy, and provide 30% more fresh water. Over the same time period, countries with growing economies like China and India will become net importers of food, and a mixture of climate change and political imperatives will severely limit exports from traditional food exporting countries.

Independent studies suggest that productivity of British agriculture is already high when measured against international comparators. However, to meet the future challenges Professor Beddington said that a new, major push was now needed to develop renewable energy supplies, boost crop yields and better utilise water supplies. To achieve this, increased knowledge and technology transfer (KTT) allied to higher skills levels have to be a key feature for on-going development in this sector.

1 Cereals Show, 'Biodiversity – The canary in the mine', 10 June 2010

2 Food, Energy, Water and the Climate: A perfect storm of Global Events?, Sustainable Development UK Conference 2009

Primary producers in the UK sector form a major part of the food supply network, a supply chain network already employing 3.1³ million people (one in seven of the working population) and contributing £84.6⁴ billion of gross added value (7% of the UK total) to the economy. Alongside this essential role in food supply and security, the sector is integral to the low carbon economy and adapting to climate change. It also contributes in many other ways to the economy and society. Rural firms in England, by example, earn £325 billion⁵ annually. Whilst the 2001 foot and mouth epidemic had a devastating effect on the rural economy, land-based businesses have shown resilience and entrepreneurship and in many cases have weathered the impact of the recent recession.

The sector supports higher levels of welfare and animal husbandry thus protecting businesses and communities from threat and incidences of disease. In addition proactive land management increases the resilience of the local economies, and protects them from negative environmental impacts such as flooding. The sector also plays a key role in conserving and maintaining habitats to support biodiversity and ensure the survival of threatened species – valued at £1.1 billion annually. Green spaces in towns support community development and deliver significant health benefits, estimated at £8.2 billion⁶ per year.

The Government's new White Paper, Skills for Sustainable Growth recognises the importance of the employer voice in shaping the skills system and contains recommendations to realign the present system in order to create a higher skilled workforce and productive economy. Employers in the sector believe that changes and flexibilities are required to the skills system across England, based on evidence drawn together in this report. Lantra encourages businesses to understand that by increasing their investment in skills and knowledge and technology transfer, thereby ensuring an increase in economically and environmentally valuable skills of the workforce, the sector will enhance its contribution to England's productivity and sustainable development objectives.

Lantra's role as the Sector Skills Council for the land-based and environmental sector is to ensure that the sector's skill needs are fully identified and met. Lantra does not deliver training itself but achieves this aim by providing strategic leadership, and influencing suppliers and providers, employers, funding organisations and Governments.

The England Skills Assessment for the land-based and environmental sector forms part of a wider programme of research reviewing the supply and demand for skills within the sector across England. In drawing together research from both primary and secondary sources from across the sector and England and analysing sector-related policies, Lantra identifies in this report a number of key themes essential to the success of sector businesses. These apply equally across the whole sector and to all countries in the UK.

3 Food Statistics Pocket Book, Defra 2010

4 Food Statistics Pocket Book, Defra 2010

5 England's rural areas: Steps to release their economic potential, Commission for Rural Communities 2008

6 Natural Fit: Can green space and biodiversity increase levels of physical activity?, Dr William Bird/RSPB, October 2004

The high priority the sector places on the role played by life sciences and the need for the acquisition and application of new knowledge and innovation in primary production is evident. This must be achieved through research, development and knowledge transfer to deliver efficiencies, increase yield and improve profit potential.

With 97% of businesses being micro-businesses employing fewer than ten people, the need to help business principals and the self-employed with the development of management and business development skills is paramount. In terms of land management and production, the need to deliver greater environmental sustainability through efficient resource management of water, soils, fertilisers, pesticides, energy and waste, together with a greater understanding of measures that will reduce emissions of greenhouse gases and enable adaptation to climate change, is essential. To meet these challenges the sector needs to be more highly skilled and armed with the latest technologies and knowledge. The micro and small businesses that dominate the sector must continue to invest to maintain their productivity and competitiveness and contribute fully to the sustainability agenda.

An ageing workforce increases concern about the sustainability of production and the management of our environment over the next decade. Lantra's employment forecasting model indicates that over 194,000 new entrants are needed in the sector in England over the next ten years, to counter replacement demand and those who will retire from the sector.

The age profile of the sector indicates that almost a quarter of the workforce (24%) is 55 years of age or older, more than that across England as a whole (17%). The ageing workforce, coupled with 12% of the workforce who have no qualifications, which is almost double than for England as a whole (7%), provides the impetus across much of the sector to develop and professionalise the workforce. Preferred options for this are to develop programmes for continual professional development (CPD) and to introduce systems to record such professional and skills development and lifelong learning.

In addition, Apprenticeships could provide a solution for encouraging and developing new entrants to the UK sector. However take-up of publicly funded Apprenticeships remains low in the UK sector with 66% of businesses unaware of the programmes, with the exception of veterinary nursing and farriery where this is the regulated entry route. There is a particular challenge for smaller employers who are often concerned about issues of employment and being able to offer the full range of work experience to trainees.

A significant proportion of employers in the sector offer some sort of on-the-job training which could be described as an Apprenticeship, and of those who have recruited an apprentice more have done so through an alternative Apprenticeship programme than through the publicly funded programmes. The key features of such programmes however are similar to Apprenticeships with on-the-job training, practical skills training, and coaching and mentoring from senior staff.

While only 4% of employers currently have an apprentice, over a quarter of the UK sector (28%) has potential interest in Apprenticeship schemes, either through providing their own Apprenticeship-like training or indicating an interest in recruiting an apprentice in the future. Just over one in ten employers can be termed as 'lapsed' employers. These employers do not currently have an apprentice but have worked with one in the past five years. The 54% of 'stagnant' employers, i.e. those who have never had an apprentice and have no intention of recruiting or offering this type of training in the future, represent a potential new market for the sector-reformed programmes, which may be more accessible to them and more appropriate to the needs of the sector's small and micro-businesses.

The development of clear career pathways agreed with industry also supports such entry into employment. The sector needs to make continued efforts to promote the image and attractiveness of the sector and attract new entrants of all ages, by promoting sector opportunities to adults, women and career changers and by working with providers and awarding organisations to ensure that learning and training encompasses the knowledge and skills required.

The set of drivers that are impacting on the sector suggest that tomorrow's farmers, growers, those caring for our environment or those involved in animal health and welfare will need to have a mix of high level technical skills as well as business management skills to be sustainable businesses and to cope with increasing environmental and legislative demands driven by consumers, technologies and policy. The degree of change occurring within the land-based and environmental sector is significant. This suggests that skills relating to managing change are essential to the running of a successful business. In their totality these changes provide a driver for the increased professionalism of the sector and there is strong evidence that jobs are becoming increasingly skilled within the sector.

This report, and the associated Skills Assessment for the UK, identifies a number of common themes across the UK which impacts the whole sector. The key themes, based on the findings outlined in this report, are set out under the following headings:

- Supporting entry to employment
- Promoting lifelong learning and continued professional development
- Supporting careers information, advice and guidance.

With the sector facing very similar issues wherever businesses are based, specific skills needs and the required training solutions, as indicated by discussions with key employers, are identified and presented in this report by industry. Whilst education and training systems and structures vary in each country of the UK and, therefore, the actions needed to support the sector's skills and development needs may differ to accommodate these national variations, the priorities for the sector remain the same. This report summarises the evidence across England and concludes with key findings. The England Skills Assessment provides the contextualised evidence base which supports these key themes and priorities for action.

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1 Introduction

Lantra is the Sector Skills Council for the land-based and environmental sector. It is an employer-led organisation licensed by Governments across the UK, to determine, promote and ensure that there are appropriate levels of skills and development support for businesses and individuals within the sector.

Lantra's strategic objectives are to:

- Improve business performance by promoting increased investment by businesses in business and skills development;
- Develop and recognise the skills of the workforce through the development of appropriate learning frameworks and a responsive network of learning providers;
- Raise the quality of entrants to the sector; and
- Influence Governments and their agencies for the benefit of the sector by providing authoritative advocacy and leadership on skills and business development for the sector.

Lantra has a strong presence in England and works closely with Lantra's Council for England. The England Council currently has 16 members in total representing industry, unions and educationalists. There are 14 employer members, one college member and one union representative from Unite the Union.

1.1 Skills Assessment

Each year, Lantra produces Skills Assessments highlighting the key issues affecting the land-based and environmental sector and the resultant skills implications for businesses and individuals in the sector. Lantra publishes a UK Skills Assessment report and four national reports for Wales, England, Northern Ireland and Scotland. The Skills Assessment offers an annual opportunity on which the foundations for a more sustainable future for the land-based and environmental industries can be built and provide up to date information and intelligence about the sector.

The aim of the UK Skills Assessment is to ascertain for each of Lantra's industries the range and level of skills in its labour force that are necessary to achieve productivity at nationally and internationally competitive levels. The purpose of this report is to set out a detailed skill needs assessment and should be read in conjunction with Assessment of Current Provision for each of the nations⁷.

⁷ Assessment of Current Provision for the land-based and environmental sector in England 2010

1.2 Definition of the land-based and environmental sector

The land-based and environmental sector is complex and diverse, covering a range of sub-sectors across the UK. Businesses in the land-based and environmental sector enhance the quality of life for every man, woman and child. They improve well-being, supply quality-assured food, ensure the health and welfare of animals, provide leisure activities, enrich the rural and urban environment, and protect our natural heritage.

Lantra is responsible for the skills interests of employers and businesses in the land-based and environmental sector and defines the sector in terms of a range of sub-sectors or industries, which are defined by Standard Industrial Classification codes (SIC), details of which can be found in Appendix A. Table 1.1 below provides a description of the scope, as defined by Lantra for each industry comprising our licensed footprint.

Table 1.1: Industries in the land-based and environmental sector

<p>Agricultural crops</p> <p>Primarily arable production, including combinable grains, oil seeds, sugar and potatoes, related agricultural contracting, agronomists and crop consultants. Some farms produce both crops and livestock or crops and fruit and vegetables. In addition others have diversified into energy and biofuel crops, trees and short-term coppice. This includes plant breeding and scientific research as well as other ancillary services that support the industry such as land agents and agricultural merchants.</p>
<p>Agricultural livestock</p> <p>The production of beef, sheep, dairy, pig, poultry and eggs, as well as the production of other non-mainstream livestock and related agricultural contracting. This includes animal breeding, animal health research and other ancillary services that support the industry such as land agents and agricultural merchants.</p>
<p>Animal care</p> <p>Pet shops, boarding kennels/catteries, animal breeding, animal training (including film and TV production, armed forces and police), animal grooming, animal welfare charities, zoo/wildlife parks, and public services e.g. dog wardens.</p>
<p>Animal technology</p> <p>The husbandry, care and welfare of animals bred to be used in scientific research and the carrying out of authorised procedures.</p>
<p>Aquaculture</p> <p>Aquaculture may be defined as "The farming of aquatic organisms in inland and coastal areas, involving intervention in the rearing process to enhance production and the individual or corporate ownership of the stock being cultivated. The intervention may include strategies such as regular stocking, feeding and individual or corporate stock ownership" (from the Food and Agriculture's (FAO) Aquaculture Glossary).</p>

In the UK, types of aquaculture range from intensive farming, where fish are held at a relatively high density and all feed is provided by the farmer (including salmon, trout, turbot and pilot volumes of halibut and cod) to extensive farming of shellfish, where the intervention is limited to the supply or redistribution of juveniles either from hatcheries or the wild (includes some scallop, mussel, cockle, crab and lobster production).

Environmental conservation

Environmental conservation embraces the management of landscapes, habitats and species (in urban, rural, coastal and marine environments) alongside countryside and coastal access, recreation and interpretation to promote awareness, understanding and enjoyment. There are some overlaps with wider environmental management activities including recycling, energy production from waste and pollution reduction.

Equine

Riding schools and livery, training, racing and competition yards, breeding/studs, instructors, working horses, training horses, equine sanctuary, clubs and hunts, trekking, horse sales, transporting and diversified equine activities.

Farriery

Farriery is defined in the Farriers (Registration) Act 1975 as “any work in connection with the preparation or treatment of the foot of a horse for the immediate reception of a shoe thereon, the fitting by nailing or otherwise of a shoe to the foot or the finishing off of such work to the foot”.

Fencing

Includes a number of sub-sectors including agricultural, high security and electrical, environmental, vehicle restraint systems and residential. The industry now also includes automatic gates and access barriers.

Fisheries management

Includes those having a major involvement in the provision of freshwater angling, conserving and enhancing freshwater fish and habitats, and securing sustainable freshwater fisheries. The sector encompasses, for example, Government funded Research Institutes, the Environment Agency, fisheries trusts, commercial fisheries, District Salmon Fishery Boards, and angling clubs.

Floristry

Includes floristry design, floristry creation, retailing and delivery and the use of flowers and decorative plants and related products for displays, events and public and private functions.

Game and wildlife management

The management of upland, lowland, woodland and wetland game and wildlife species including deer and the management of sporting estates, game shooting and fishing.

Horticulture, landscaping and sports turf

Hard, soft and interior landscaping, sports turf and golf green-keeping, heritage and botanic gardens, private, commercial and public grounds, parks and green spaces.

Land-based engineering

The manufacture, dealership, hire and maintenance of agricultural machinery (including tractors, harvest, cultivation and crop protection machinery), Groundcare machinery (including garden, sports turf and local grounds maintenance machinery – sometimes called 'outdoor power equipment'). Forestry machinery (includes chainsaws, chippers, etc.), fixed machinery (includes grain/crop processing and milking equipment) and construction machinery (there is some cross-over between agricultural and construction machinery such as fork-lift trucks, mini diggers etc.).

Production horticulture

The commercial production and supply of fruit, vegetables, glasshouse crops and plants, flowers and bulbs, nursery stock and trees.

Trees and timber

Involves the establishment, care, maintenance and management of trees, woodlands and forests and the production of wood and timber products. The industry is comprised of many different types of businesses including arboriculture, forestry establishment and forestry harvesting.

Veterinary nursing activities

Veterinary nurses care for animals, usually within a veterinary practice, under the direction of a veterinary surgeon. As part of the veterinary practice, they provide skilled supportive care for animals and support and education for their owners.

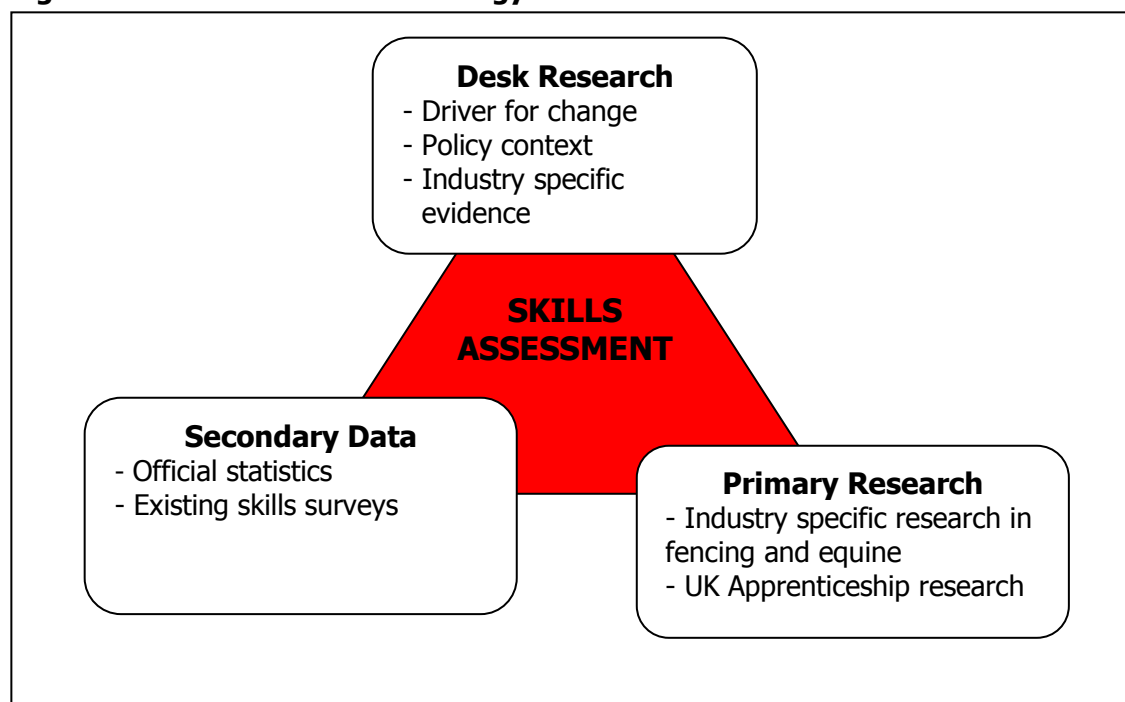
Listed veterinary nurses (RCVS List) are entitled under the Veterinary Surgeons Act 1966 Schedule 3 to carry out minor surgery and provide medical treatment to animals under veterinary direction.

1.3 Evidence base for assessing skill needs

The main purpose of this section is to outline the research methodology and data sources used to assess employer's skill needs in the land-based and environmental sector within England. Lantra recognises that robust quantitative and qualitative evidence for the sector requires analysis at a number of levels to ensure that findings are both relevant and meaningful on the one hand, and have better prospects of effective implementation on the other.

The Skills Assessment has employed a series of research activities starting with a desk review of existing research, and then involving targeted primary research where there were gaps in the existing information as detailed in the figure below.

Figure 1.1: Research methodology for skills assessment



1.3.1 Availability of data in the sector

As a Sector Skills Council, a key role of Lantra's is to collect, analyse and communicate up-to-date labour market information on our sector. In order to achieve this it is essential we make full use of secondary evidence including official statistics, national datasets and survey evidence.

Lantra has mapped and appraised the core data sets which can be used to develop UK-wide and nation specific Labour Market Information (LMI) for the sector. These cover information such as employment levels, future changes in employment, workforce and business characteristics. The data sets which are available offer variable coverage of the land-based and environmental sector. Some parts of the sector, such as animal care or environmental conservation, are not clearly represented within the Standard Industrial Classification codes (SIC) system which underpins most cross sector data collection (see Appendix A).

To provide a comprehensive data set for Lantra, primary research activity is conducted to supplement secondary data where there are limitations within existing data. By combining both a top-down and bottom-up analysis of these sources, research is driven by both official datasets and intelligence from businesses themselves. The individual industries which make up the land-based and environmental sector have unique characteristics. These distinct characteristics often demand that our research is customised to reflect industry needs⁸.

⁸ Stakeholder Survey 2009

The employers and organisations working within these industries place greatest value on work which is tailored to addressing their needs. In addition to this, primary research enables us to capture those that are self-employed, volunteers and the migrant workforce that work in the Lantra industries and are not captured in official statistics.

1.3.2 Desk research

As part of the research process, analysis of Government policy in relation to skills, education, training and rural affairs/agriculture was undertaken. Labour markets in the four countries within the UK reflect similar conditions but have distinctive characteristics. Given these issues, and the devolution of many aspects of the skills agenda, it is likely that policy responses within the sector will vary amongst the countries. Thus a comprehensive review of England's policy context is undertaken together with the drivers for change which influences and shapes the skills and training agenda for the land-based and environmental sector.

1.4 Secondary research

This report draws from existing data, research reports and intelligence sources to investigate current and future demand, productivity issues, recruitment issues, skills needs and skills gaps. Nationally available data such as the Inter-Departmental Business Register 2010 (IDBR), Labour Force Survey 2009-10 (LFS), and the Working Futures employment projections were analysed and used for this research report.

We have analysed the IDBR for business data, rather than the Annual Business Inquiry (ABI) which is frequently used in other sectors. This is deliberate, as the ABI does not cover farms and is therefore not an appropriate source to analyse the size, shape and value of the whole sector. The research also makes use of the June Agricultural Surveys 2009 for the four nations, particularly for obtaining employment figures in agricultural parts of the sector.

Nationally available data is based on Standard Industrial Classification (SIC) and Standard Occupational Classification (SOC) codes. There are many industries within the Lantra sector that are not defined by SIC codes, therefore the data from official statistics cannot be used for these industries. For these industries we have used a mix of sources including the Experian National Business Database (NBD) and data from relevant professional organisations. The NBD is the UK's largest and most detailed database of commercially active organisations – from single person businesses working at home, to multi-subsidary corporations and uses information from 'Companies House', 'Yell.com' and the 'Thomson Directory'. It includes information on 4.9 million business records. Whilst most publically available data only counts businesses which have reached the VAT threshold, the NBD offers far greater granularity as it includes all businesses, right down to single person businesses.

Sources of data for business units and employment can be found in Appendix C and also Appendix D which includes all the postcodes for data sourced from sources other than national statistics.

1.5 Primary research

Lantra undertakes a rolling programme of industry specific primary research to supplement the information which is already available from official statistical sources. In 2010, Lantra undertook primary research for the following industry groups:

- Fencing⁹ which included a telephone survey of 375 businesses in England and focus groups were also conducted as part of this research
- Equine¹⁰ which included a telephone survey of 355 businesses in England and focus groups were also conducted as part of this research
- Sector wide analysis of current business needs for each of Lantra's industries were compiled by Lantra's employer engagement team
- Cross sector research into Apprenticeships.

1.5.1 Focus groups

Focus groups provide important additional information regarding skills and training delivery across the land-based and environmental sector. Delivery of focus groups is an important way of gathering information and opinions from relevant employers, stakeholders and employees. Due to the variety of businesses within our individual industries it is not always possible to get full representation. Focus groups are attended by a range of types of businesses/organisations from trade associations, commercial businesses, public, and third sector, thus representing the views of different business models. Some of the advantages of focus groups include:

- Focus groups can lead to **insights** that would be less accessible without interaction found in a group setting – listening to others can stimulate memory, ideas and experiences in participants
- Sometimes participants share a **common language** to describe similar experiences. This enables the research to capture 'discourses', that is, ways that interventions are experienced and talked about
- Participants can agree or disagree with each other allowing the researcher to identify and explore **shared views and opposing views**
- Focus groups are often desirable because they bring **participants together**, encouraging a sense of community and a sense that consultation is important

⁹ UK Fencing Industry UK Labour Market Information Research (2010)

¹⁰ A study into the business and skills requirements of the UK Equine Industry (2010)

- In some cases focus groups **put participants at ease** because unlike an interview, there is not as much pressure on an individual to respond to every single question.

As part of the development of the UK and England Skills Assessment, focus groups were held with the England Council members in autumn 2010 to provide a specific national context and linkages between policy drivers and skills requirements. This process was also strengthened by similar workshop sessions as part of Lantra's industry advisory groups held in autumn 2010. In total this captured the views of 100 businesses and trade representative bodies.

2 Background and context

2.1 Introduction

The prosperity of England is dependent on the skills of its workforce and its ability to meet the needs of the local economy, to support a strong export oriented market, and to secure the wealth creating opportunities of the future. Recent Government policy has encouraged the demand for skills and quality education to meet the needs of business. Skills and education developments are now at the core of European, national and local policy initiatives; as such skills and education are now recognised as key drivers of the English economy. This section gives a brief overview of the policy strategies pertinent to the skills agenda and the land-based and environmental industries and the economic context in England.

2.2 The Skills Strategy in context

Skills have taken centre stage with the previous Government and continue to do so with the new Coalition, hence there has been extensive consultation and skills policies developed. The key policies concerning skills are summarised below.

In November 2009, the Department for Business Innovation and Skills (BIS) produced the White Paper, *Skills for Growth*¹¹, a national strategy for economic growth and individual prosperity. It draws its main inspirations from several policies, in particular, the Leitch Review of Skills¹², published in 2006. The strategy is also heavily influenced by the UK Commission for Employment and Skills (UKCES) who have produced two reports on the Government's progress against the Leitch targets under the collective title of *Ambition 2020*¹³.

The Skills for Growth strategy takes some important decisions and marks a radical shift in some of the priorities of our skills system and there are 20 key proposals that fall under the following headings:

- Promoting skills for economic prosperity
- Expanding Apprenticeships to build a new technician class
- Responding to businesses and key sectors
- Equipping adults for future jobs
- Raising business investment in workforce productivity
- Improving training at the heart of a simpler system.

¹¹ Skills for Growth: Building Britain's Future, BIS, Nov 2009

¹² Leitch Review of Skills, Prosperity for all in the global economy – world class skills

¹³ *Ambition 2020: World Class Skills and Jobs for the UK*, UKCES May 2009; *Towards Ambition 2020: skills, jobs, growth*, Expert advice from the UK Commission for Employment and Skills, UKCES October 2009

The Paper states: “there are a number of existing policies which will remain priorities in the future, subject to spending pressures. These include the entitlements to literacy and numeracy, first full Level 2 qualifications and first full Level 3 qualifications for 19-25 year olds; training for learners with learning difficulties and disabilities; training for the unemployed; and informal adult learning for vulnerable, low skilled learners.”

Linked to the Skills for Growth strategy is the Department for Business, Innovation and Skills’ Skills Investment Strategy 2010-2011¹⁴. This sets out how the Government will invest in the skills training critical to the recovery and long-term success of the UK economy, and underpins the priorities announced in the Skills for Growth strategy. The investment strategy sets out how to meet the challenges the skills system faces to train people with the higher technical skills required for the key sectors that underwrite our economic growth, which requires a smarter focusing of resources.

In July 2010, the Coalition Government published The Coalition: our programme for Government¹⁵ which describes how the Government will “support sustainable growth and enterprise, balanced across all regions and all industries, and promote the green industries that are so essential for our future.”

In considering sustainable growth, the Coalition Government also published Local Growth: realising every place’s potential¹⁶, which sets out how they will create local enterprise partnerships (LEP). These partnerships will be equipped to promote private sector growth and create jobs locally. The aim is to create a fairer and more balanced economy with business opportunities spread more evenly across the country and between industries. It is anticipated that this will help to drive forward the aforementioned Skills Investment Strategy 2010-2011.

Following on from this is the Coalition Government’s new strategy for skills – Skills for Sustainable Growth¹⁷, and its parallel publication, Investing in Skills for Sustainable Growth¹⁸, published on 16 November 2010. These publications build on the previous Skills for Growth Strategy outlined above.

The strategy sets out the Government’s vision for reform of the Further Education (FE) and skills system in order to improve the skills of the workforce, the performance of the economy and engagement in learning. Investing in Sustainable Growth sets out how Government seeks to achieve its objectives through investing strategically in FE and skills over this spending review period.

14 Department for Business Innovation and Skills, Skills Investment Strategy 2010-11, November 2009

15 HM Government, The Coalition: our programme for Government, 2010

16 Local Growth: realising every place’s potential, 28 October 2010

17 Department for Business, Innovation and Skills, Skills for Sustainable Growth, Full Report, November 2010

18 Department for Business, Innovation and Skills, Further Education – New Horizon, Investing in Skills for Sustainable Growth, November 2010

The strategy is based on the Coalition's principles of fairness, shared responsibility and increasing freedom. Funding for skills will focus strongly on those with the greatest need or for those where it would provide the most value. For others, there will be a shared responsibility between employers, citizens and Government for ensuring skill needs are met, and an expectation of co-funding with contributions that reflect the benefit each receives. To underpin the informed choices individuals and employers invest in, there will be improved access to information about skills through a new all-age careers service.

Apprenticeships will be at the heart of the system, supported by a system of valued qualifications. There will be a new role for employers in shaping the skills system and particular support for small and medium sized enterprises. There is a need for employers to get involved, to shape the system and utilise the skills of their workforce, so that they get the most from their investment. There will be support for employers in implementing proposals they make for raising their game on skills.

As a principle of fairness, Government retains a responsibility to ensure that everyone has the basic skills they need to access employment and participate in society. In supporting learners, every adult will be offered a Lifelong Learning Account which provides access to the new FE student loans. A new model for adult and community learning will also be developed leading to the creation of progression routes to formal learning.

Overall, the strategy sets out a vision for a radical reform of the skills system, transforming and simplifying the skills landscape, and introducing new freedoms and flexibilities for providers¹⁹. The following provides more detail about what the reform of the skills systems includes:

- By 2014-15 there will be 75,000 more adults starting Apprenticeships than under the previous Government's plans; leading to more than 200,000 adults able to start an Apprenticeship each year. To fund this, there will be an increased investment in Apprenticeships by up to £250 million over the spending review period. There will be an investment of £605 million in 2011-12 and an indicative budget of £648 million in 2012-13
- Improving the Apprenticeships package, so that Level 3 (A-Level equivalent) becomes the level to achieve, and there are clear progression pathways
- Fully funding training for young adults aged from 19 up to 24 undertaking their first full Level 2 (GCSE equivalent) or first Level 3 qualification when they do not already have one
- Fully funding basic skills courses for individuals who left school without basic reading, writing and mathematics
- Introducing Government-backed loans from 2013-14 for learners aged 24 and over undertaking Level 3 or higher qualifications

¹⁹ Written Ministerial Statement, John Hayes Minister Of State For Further Education, Skills And Lifelong Learning, Department For Business, Innovation And Skills, 16 November 2010, Skills For Sustainable Growth

- Initiating a demand-led growth and innovation fund of up to £50 million of Government investment a year, to support employer-led initiatives within sectors, such as new professional standards, and to promote leadership and management in small and medium enterprises
- Replacing Train to Gain with a small and medium size employer-focused programme to help small employers train low-skilled staff
- Helping people who are on active job-seeking benefits to secure work through labour-market relevant training
- Reducing bureaucracy in the sector by providing colleges and training providers with the freedom to respond to the needs of employers and learners. The complex funding system will be simplified and from the 2011-12 academic year, there will be a single adult skills budget.

2.3 Higher education

To complement the Skills for Growth strategy, the higher education blueprint, Higher Ambitions²⁰ was published. Higher Ambitions sets out a course for how universities can remain world class, providing England with the high level skills needed to remain competitive, while continuing to attract the brightest students and researchers.

In addition to this is An Independent Review of Higher Education and Student Finance in England 2010²¹. The review was guided by three aims; to increase participation, improve quality and create a sustainable long-term future for higher education in England. The recommendations resulting from this review present a radical plan to shake up higher education in England and a charter for choice for students, who will be entrusted with far more power to shape their own future. The key facts from this review are as follows:

- Under a new system, to be called the Student Finance Plan, no student will pay anything until they graduate and are in work
- After leaving university, graduates will only begin repaying when they reach annual earnings of over £21,000 a year, up from £15,000 under the current system. Even then, the payments will be small, for example at an income level of £25,000 a year the repayments will be £7 a week
- The current cap on fees of £3,290 per year will be removed, allowing universities to put quality first and charge accordingly. A tapered levy on institutions charging more than £6,000 per year will ensure that those which charge the most contribute more to supporting the poorest students. In addition, universities that wish to charge more will be required to demonstrate to the regulator and to their students both improved standards of teaching and fair admission
- Demand for higher education will continue to increase and the Government will fund more places so that everyone who has the potential to benefit from HE gets

²⁰ Higher Ambitions: Building Britain's Future BIS, 2009

²¹ Securing a Sustainable Future for Higher Education, An Independent Review of Higher Education Funding and Student Finance, October 2010.

the opportunity to do so. A 10% increase in student places will be factored into the system over the next four years

- Careers advice is in need of a radical overhaul. Part of empowering our young people is ensuring they have the right information, advice and guidance to make the correct choice. This means careers advice in all schools of the kind currently being given in the private sector
- Those who wish to pursue part-time study should have equal entitlement to tuition support under the Student Finance Plan. Part-time study provides a second chance for people who missed out earlier in their lives and it is important to level the playing field between part-time and full-time study²².

2.4 Policy overview of the land-based and environmental sector

The food producing and environmental parts of the sector have come under increased scrutiny over the past year as the challenge for food security and climate change have attracted increased interest from Government. There are many policies that relate not only to England, but to the UK as a whole and some of these are discussed within the UK Skills Assessment Report 2010²³ (including Food 2030²⁴, the UK Cross-Government Food Research and Innovation Strategy²⁵, the Stern Review²⁶, the UK Low Carbon Industrial Strategy²⁷, the UK Low Carbon Transition Plan²⁸ the UK Renewable Energy Strategy²⁹ and the Marine and Coastal Act 2009³⁰). Some of the most important and/or most recent policies that relate to the land-based and environmental sector in England are summarised below.

22 <http://hereview.independent.gov.uk/hereview/>

23 Lantra's UK Skills Assessment December 2010

24 HM Government (2009), Food 2030

25 UK Cross-Government Food Research and Innovation Strategy, UK Government Office for Science, Jan 2010

26 Stern Review on the Economics of Climate Change, October 2006

27 The UK Low Carbon Industrial Strategy, HM Government Department of Business Innovation and Skills and Department of Energy and Climate Change, 2009

28 HM Government (2009) The UK Low Carbon Transition Plan

29 HM Government (2009) The UK Renewable Energy Strategy

30 HMSO 2009, The Marine and Coastal Access Act

2.4.1 Defra's Business Plan/Structural Reform Plan

On Monday 8 November 2010, Defra's business plan was launched which sets out the department's vision, priorities, structural reform plan and information strategy³¹. At the heart of this business plan and structural reform plan is Defra's commitment to make this the greenest Government ever. Defra supports the ambitious programme for Government set out by the Coalition, and supports its top priorities, which are to:

- Support and develop British farming and encourage sustainable food production
- Help to enhance the environment and biodiversity to improve quality of life
- Support a strong and sustainable green economy, resilient to climate change.

Defra will work in partnership with local communities, civil society, members of the public and businesses contributing to the Big Society.

2.4.2 Policies relating to the land

Rural Development Programme 2007-2013³²

The Rural Development Programme for England (RDPE) 2007-2013 is jointly funded by the EU, through the European Agricultural Fund for Rural Development, and the Government. The RDPE 2007-2013 has a budget of £3.9 billion. This is more than double the budget available for the previous programme which ran from 2000-2006. £3.3 billion of the total budget will be allocated to agri-environment and other land management schemes. This funding will help farmers to manage the land more sustainably and deliver important outcomes on biodiversity, landscape and access, water quality and climate change. Some £600 million will be made available to make agriculture and forestry more competitive and sustainable and to enhance opportunity in rural areas.

The programme is currently delivered by the Regional Development Agencies (RDAs), Natural England (NE) and the Forestry Commission (FC). However, Government's plans to abolish Regional Development Agencies (RDAs) and create Local Enterprise Partnerships (LEPs) will have implications for future delivery of the RDPE. Discussions are on-going both within Defra and with other Government departments to ensure that arrangements continue to be in place for the future delivery of the Programme, and to ensure the smooth transition from RDAs to the new delivery arrangements.

³¹ <http://engage.defra.gov.uk/reform-plan/>

³² <http://ww2.defra.gov.uk/rural/rdpe/>

Farming for the Future Programme³³

The Farming for the Future Programme was launched in July 2009 and is designed to contribute to delivering our vision for English farming in 2020 in which the farming sector is: profitable in the marketplace; continuing to produce the majority of the food we consume; making a positive net environmental contribution, notably in respect of climate change, but also more widely; and managing the landscape and the natural assets that underlie it. The programme is aimed at delivering the behavioural changes necessary to realise that vision, at the same time setting a new direction for the relationship between Government and industry.

In brief, the programme is made up of the following work streams:

- Strategy and stakeholder engagement
- The Skills for Farming Project
- Agricultural industry resilience
- Climate change mitigation
- Anaerobic digestion
- UK/China collaboration on sustainable agriculture
- Climate change adaptation
- Nutrient management
- The Environmental Management Systems project
- Cross compliance
- Campaign for the farmed environment.

Review of waste policy³⁴

The coalition agreement committed the Government to “work towards a zero waste economy and encourage councils to pay people to recycle and work to reduce littering”, and “measures to promote a huge increase in energy from waste through anaerobic digestion³⁵”. Therefore, Government is to carry out a full review of waste policy in England, looking at the most effective ways of reducing waste, maximising the money to be made from waste and recycling, and how waste policies affect local communities and individual households.

³³ The Future of Our Farming, Defra 2009

³⁴ <http://www.defra.gov.uk/corporate/consult/waste-review/>

³⁵ HM Government, The Coalition: our programme for Government, 2010

The review will include:

- The effect of waste policies on local communities and individual households, and how local authorities can best work with people to make the best decisions
- Maximising the contribution of the waste and recycling industries to the UK, both economically and environmentally
- How we work towards the 'zero waste economy' and drastically reduce the amount of waste created and valuable resources sent to landfill, looking at the entire process from source to end of life
- New approaches to dealing with commercial waste and promoting 'responsibility deals', reducing the amount of waste generated by production and retail.

2.4.3 Policies relating to water

Water Framework Directive (WFD)³⁶

The Water Framework Directive (WFD) is the most substantial piece of EC water legislation to date and is designed to improve and integrate the way water bodies are managed throughout Europe. It came into force in December 2000 and became part of UK law in December 2003. The Directive is designed to:

- Enhance the status and prevent further deterioration of aquatic ecosystems and associated wetlands, which depend on the aquatic ecosystems
- Promote the sustainable use of water
- Reduce pollution of water, especially by 'priority' and 'priority hazardous' substances
- Ensure progressive reduction of groundwater pollution.

In England the implementation work is undertaken by the Environment Agency with the aim to reach good chemical and ecological status in inland and coastal waters by 2015.

Flooding Risk Regulations 2009³⁷

The Flooding Risk Regulations 2009 came into force on 10 December 2009. It establishes a framework for assessing and managing flood risks aimed at reducing the adverse consequences for human health, the environment, cultural heritage and economic activity. The Environment Agency is responsible for preparing assessments, maps and plans for main rivers, sea and reservoir flood risk whereas Lead Local Flood Authorities are responsible for all other sources of flooding including where main river, sea or reservoir flooding affects this.

³⁶ <http://www.environment-agency.gov.uk>

³⁷ <http://www.defra.gov.uk/environment/flooding/policy/2009directive.htm>

Flood and Water Management Act 2010³⁸

The Flood and Water Management Act 2010 makes provision about water, including provision about the management of risks in connection with flooding and coastal erosion. Implementation of the first parts of the Flood and Water Management Act 2010 began on the 1 October 2010. Key features of the Act are:

- To give the Environment Agency an overview of all flood and coastal erosion risk management and unitary and county councils the lead in managing the risk of all local floods
- To introduce an improved risk based approach to reservoir safety
- To encourage the uptake of sustainable drainage systems by removing the automatic right to connect to sewers and providing for unitary and county councils to adopt Sustainable Urban Drainage (SUDS) for new developments and redevelopments
- To widen the list of uses of water that water companies can control during periods of water shortage, and enable Government to add to and remove uses from the list
- To enable water and sewerage companies to operate concessionary schemes for community groups on surface water drainage charges
- To reduce 'bad debt' in the water industry by amending the Water Industry Act 1991 to provide a named customer and clarify who is responsible for paying the water bill
- To make it easier for water and sewerage companies to develop and implement social tariffs where companies consider there is a good cause to do so.

Water White Paper 2011³⁹

Defra are developing a Water White Paper to be published by early summer 2011 as part of the department's structural reform plan. The Water White Paper will focus on the future challenges facing the water industry around maintaining water supplies, keeping bills affordable and reducing regulation. The Government wants a strong and sustainable green economy.

³⁸ <http://www.defra.gov.uk/environment/flooding/policy/fwmb/>

³⁹ <http://ww2.defra.gov.uk/environment/quality/water/whitepaper/>

2.4.4 Policies relating to animal health and welfare

Due to increased concerns around animal health and welfare, there are a number of policies that have been revised and updated.

Animal Welfare Act 2006⁴⁰

From 6 April 2007 animal welfare law was improved in England. Not only is it against the law to be cruel to an animal, you must also ensure that all the animal's welfare needs are met. These include the need:

- For a suitable environment (place to live)
- For a suitable diet
- To exhibit normal behaviour patterns
- To be housed with, or apart from, other animals (if applicable)
- To be protected from pain, injury, suffering and disease.

The law also increases the minimum age a person can buy an animal to 16 and prohibits giving animals as prizes to unaccompanied children under this age. Anyone who is cruel to an animal or does not provide for its welfare needs may be banned from owning animals, fined up to £20,000 and/or sent to prison. In January 2010 a consultation began on a new Animal Welfare Bill to help implement its plans for responsibility and cost sharing to deliver improved animal health and welfare in England. The Coalition Government does not intend to proceed with the draft Animal Health Bill and instead will investigate ways to share with livestock keepers the responsibility for preparing for, and dealing with, outbreaks of disease⁴¹,

Conservation of Habitats and Species Regulations 2010⁴²

On 1 April 2010, the Conservation of Habitats and Species Regulations 2010 replaced The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) in England. The new regulations update the legislation and consolidate all the many amendments which have been made to the Regulations since they were first made in 1994.

40 <http://www.defra.gov.uk/foodfarm/farmanimal/welfare/act/info.htm>

41 <http://www.defra.gov.uk/foodfarm/policy/animalhealth/sharing/ahbill/index.htm>

42 <http://www.defra.gov.uk/wildlife-pets/wildlife/protect/bird-habitat/habitat2010.htm>

The Coalition Government has committed, as part of a package of measures, to develop affordable options for a carefully-managed and science-led policy of badger control in areas with high and persistent levels of bovine TB in cattle (currently in consultation state, open until 8 December 2010). The policy will focus on:

- Eradicating bovine TB is the long-term goal, but additional measures are needed urgently to stop the disease spreading and to start to reverse the rising trend. The overall aim is to put measures in place to control the disease in badgers for areas with a high incidence of bovine TB in cattle. The farming industry and Government need to work in partnership to achieve this
- This consultation will be of interest to a wide range of stakeholders: farmers and farming industry, landowners, veterinary industry, wildlife groups, members of the public, non-Government organisations and rural groups.

2.5 Economic growth

The Coalition Government is committed to addressing the impacts of the recession in all areas, both urban and rural, and to ensuring that rural businesses, in common with all others, have equal access to recovery. Defra has been proactive in encouraging all parts of Government to ensure that actions designed to mitigate the impacts of the recession and foster recovery benefit rural areas in a proportionate way. The effects of the recession have been felt everywhere and the impacts of the recession have been very similar in rural areas to those felt in urban areas.

On a UK wide basis, the land-based and environmental sector has weathered the impact of the recession better than many sectors. Gross Value Added (GVA) across the agricultural, forestry and fishing industries increased by 2.7% in Q2 2010 compared to Q1 2010. This compared to an increase of 1% across all production industries and an increase of 1.2% across the economy as a whole⁴⁴.

To help assess the impact of the economic downturn in rural areas, Defra has developed a 'dashboard' of indicators. The dashboard is updated on a monthly basis and collects data such as benefit claimant counts, economic activity (proportion in employment and those unemployed), redundancies, house prices and business insolvencies. This dashboard presents a range of statistics designed to give an indication of the effects of the economic downturn in rural areas.

⁴³ Bovine Tuberculosis: The Government's approach to tackling the disease and consultation on a badger control policy, Defra September 2010

⁴⁴ ONS Quarterly National Accounts <http://www.statistics.gov.uk/pdfdir/qna0910.pdf>

Key findings from the latest report⁴⁵ are:

- In September 2010, 1.8% of the working age population in rural England was claiming unemployment related benefits, compared to 3.9% in urban areas and 3.5% of the country as a whole. In rural areas this was a decrease of 0.4% points from September 2009 and no change from August 2010. In urban areas this was also a decrease of 0.4% points from September 2009 and no change from August 2010
- The unemployment rate decreased between quarters one and two of 2010 to 5.0% in rural areas and 8.3% in urban areas (compared to 7.7% in England as a whole)
- The redundancy rate in rural areas decreased between quarters one and two of 2010 to 5.0 redundancies per 1,000 workers. This compares to an urban rate of 6.5 and 6.2 for England as a whole
- Business insolvency rates have fallen to 0.8 insolvencies per 1,000 businesses in rural areas in quarter two of 2010, compared to 0.9 insolvencies per 1,000 businesses in urban areas and 0.9 for England as a whole.

In addition to the rural dashboard of indicators, the England rural Purchasing Managers Index (PMI) report provides an additional tool in understanding the recession and recovery in rural areas. The regular reports provide details on the current state of order books, output and employment, based on purchasing manager's intentions. The index is used by the Bank of England in determining interest rates and is a key tool amongst economic forecasters⁴⁶. Key findings from the latest report⁴⁷ are:

- New businesses rose moderately (albeit at the fastest rate since March). This continues to contrast with the stronger rate of growth seen across all businesses
- Rural input prices continued to rise but this month's rise was smaller than that experienced by all businesses
- Employment rose in October. The increase was at the fastest rate since February 2007 and a higher rate than that seen for all businesses and may be attributed to the rise in business activity.

⁴⁵ Recession – impacts, response and recovery in rural areas, Defra November 2010

⁴⁶ For further information, see <http://www.defra.gov.uk/rural/economy/recovery/rpmi.htm>

⁴⁷ England Rural PMI™, Defra November 2010

During the current period of uncertainty, it is important that the skills system can meet the challenge of a global economic downturn. In the past, skills shortages have slowed the pace of economic recovery when it has occurred⁴⁸. England, like other parts of the UK, has an advanced educational system; despite this the UK skills base remains weak by international standards (Leitch, 2006)⁴⁹. Therefore, a good understanding of labour market intelligence for the sector is vital to ensure that Government, employers and individuals are able to make appropriate investments in skills which meet current and future demands.

2.6 Drivers for change

This chapter has considered the main external factors that are driving skills demand across the sector in England, including the impact of international competition and wider environmental changes. Whilst Government policy recognises that employers must lead the skills agenda, the new skills strategy in England indicates greater emphasis on apprenticeships.

The Market and Regulatory Pressures Campaign was formally launched on 5 November 2009. It offers an approach that enables farmers to continue to produce more but impact less on their environment and is aimed at three key beneficiaries of:

- Farmland birds
- Biodiversity of open habitats
- Resource protection.

It is aimed primarily at arable farmers and has developed a series of measures to complement key Environmental Stewardship (ELS) options as well as promoting the uptake of Environmental Stewardships⁵⁰.

48 Blake N, Dods J and Griffiths S (2000), Employers Skill Survey: Existing Survey Evidence and its uses in the analysis of Skills Deficiencies

49 HM Treasury (2006), Prosperity for all in the Global Economy: Leitch Review of Skills

50 The full list of measures under the campaign can be found on www.cfeonline.org.uk

Other Government policies have been developed due to an increased concern for the environment, landscape management, the use of chemicals and sensitivity to the needs of wildlife. It is important to note that with policy, including skills, to recognise that macro-economic perspectives are not how issues are seen at the business level. Taken together the policy initiatives discussed give rise to drivers for change which have an overall impact on skills in the land-based and environmental sector businesses as follows:

- Skills to adapt to Government/EU policy where support is linked to public good and not just food production e.g. water quality and low carbon
- Skills for effective communication for engaging with policy makers, the media and general public
- Skills in understanding the implications of the common agricultural policy reform
- Skills to feed a growing population.

At the macro level, the main drivers are reasonably well recognised for the land-based and environmental sector as being:

- Economic
- Labour supply
- Climate change/low carbon economy
- Food safety and security
- Animal health and welfare
- Energy and fuel security
- Health and safety
- Technological development

At a business level, drivers are manifest in relation to market developments (often influenced by the above factors) and skills needs generally arise in response to business drivers. Drivers are examined in more detail in Chapter six.

Chapter summary

The prosperity of England is dependent on the skills of its workforce and its ability to meet the needs of the local economy, to support a strong export oriented market, and to secure the wealth creating opportunities of the future. Much has happened, both politically and economically, since the publication of Leitch's review of skills but skills are a crucial part of the economic recovery plan for the UK as skilled people are deemed to be more innovative, productive and thus are the building blocks/foundation of successful businesses.

The Coalition Government published their new strategy for skills – Skills for Sustainable Growth (2010), and its parallel publication, Investing in Skills for Sustainable Growth (2010). The strategy sets out the Government's vision for reform of the FE and skills system in order to improve the skills of the workforce, the performance of the economy and engagement in learning.

The higher education blueprint, Higher Ambitions (2009) was published. Higher Ambitions sets out a course for how universities can remain world class, providing England with the high level skills needed to remain competitive, while continuing to attract the brightest students and researchers.

Some of the most important and/or most recent policies that relate to the land-based and environmental sector in England include Defra's Business Plan/Structural Reform Plan (2010), Rural Development Programme (2007-2013), Farming for the Future Programme (2009), Water Framework Directive, Flooding Risk Regulations (2009), Flood and Water Management Act (2010), Water White Paper (2011), Animal Welfare Act (2006), and Conservation of Habitats and Species Regulations (2010). In addition, there are some current reviews and consultations including a Review of Waste Policy and Consultation on a New Badger Control Policy.

The performance of the economy has impacted on employment levels and the willingness of employers to invest in skills and training. The land-based and environmental sector has weathered the impact of the recession better than many sectors. The food producing and environmental parts of the sector have come under increased scrutiny over the past year as the challenge of food security and climate change have attracted increased interest from Government.

In all, eight drivers for change were identified: economic conditions; labour supply; climate change/low carbon economy; food safety and security; animal health and welfare; energy, fuel and security; health and safety and technological development.

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3 Size and structure of the sector

This chapter looks at the size of the sector in terms of business and employment numbers. It also provides information on volunteers and migrant workers within the sector.

Accurately measuring the size and structure of the sector is difficult. This is due to both scarcity of data and also the way in which some of the available data is published. For some industries, determining the total number of businesses is possible, but employment distributions are less easy to establish. For other industries, the reverse is true. For readers interested in the sources and methods used to ascertain the numbers in this chapter, please refer to the methodology in Section 1.4 together with Appendices C and D.

3.1 Business numbers

According to official data sources based on SIC codes, there are 116,690 businesses within the Lantra sector, comprising 5.3% of all business across England. Comparing this to 2008 figures (112,510; comprising 5.0% of all sectors⁵¹) there has been little change in the total number of businesses in the sector.

As official data excludes many of the industries within Lantra's footprint, Lantra estimates (based on a large number of both primary and secondary sources)⁵² suggest that there are approximately 158,660 businesses, which is 36% greater than the figure obtained from official data.

In 2008-09, Lantra estimated that there were around 166,200 businesses. When we compare this figure to the most recent estimate of 158,660 it appears that the sector has decreased slightly (5%), however, in real terms this may not be the case and an explanation for this follows.

Only part of the business data based on Lantra's recent estimates is directly comparable with that obtained for the 2009 England Skills Assessment⁵³. This is due to the recent move to using new SIC definitions (SIC 2007 rather than SIC 2003) which provides a more accurate definition of the sector. It is for this reason that any differences between 2008-09 and 2010 data have been discussed from a more indicative perspective.

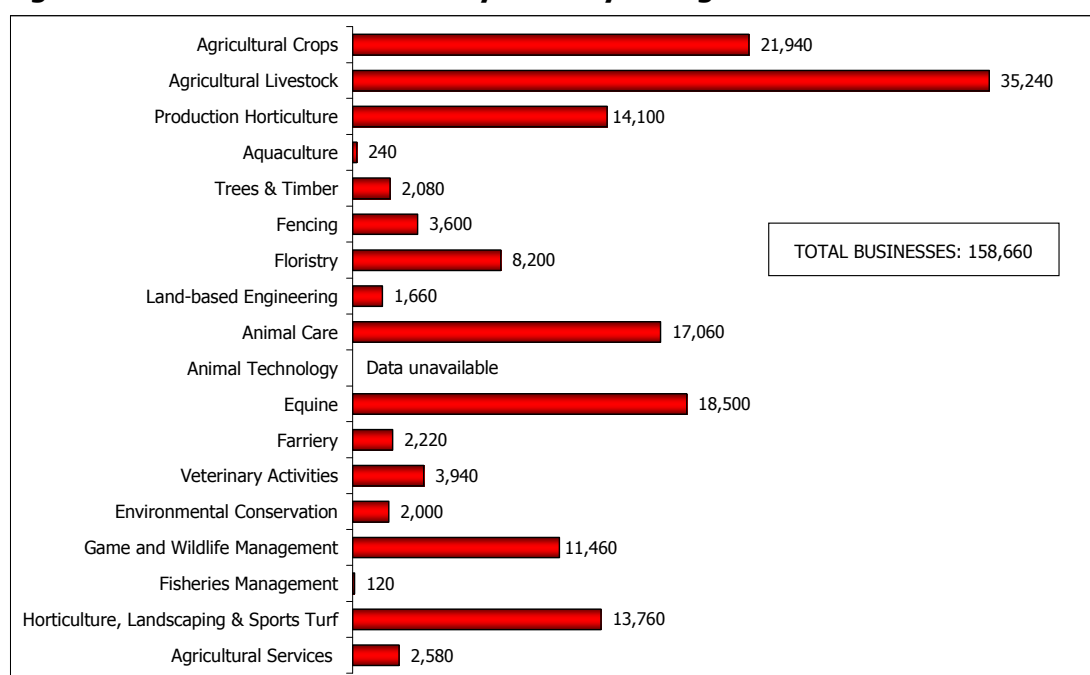
51 IDBR 2008

52 See Appendix C

53 A Skills Assessment for the Land-based and Environmental Sector, England Report, Lantra, October 2009

Figure 3.1 illustrates the number of businesses within each of the industries in the sector in England based on Lantra’s estimates and Table 3.1 provides further detail of the proportions of industries and comparisons with the UK as a whole and within the four nations of the UK. In terms of size, the sector is dominated by the agricultural livestock and agricultural crops industries, which when combined they account for 36% of businesses in the sector in England and it is these industries that are also predominant within each of the other nations. There are however some national variations, for example, agriculture (crops and livestock) accounts for 86% of the sector’s businesses within Northern Ireland but only 57% in Scotland.

Figure 3.1: Business numbers by industry in England



See Appendix C for sources

Business numbers displayed have been rounded to 20. Numbers do not sum due to rounding

Other industries which make up a significant proportion of the sector in England include equine (12%), animal care (11%), production horticulture (9%), horticulture, landscaping and sports turf (9%) and game and wildlife management (7%). This pattern generally mirrors the situation for the UK as a whole. Looking at the data from a regional perspective, one fifth of the sector’s businesses in England are located in the South East⁵⁴.

⁵⁴ Please see Regional Factsheets for further information at a regional level

Table 3.1: Business numbers and proportions by industry and nation

Industry	UK	England	Scotland	Wales	Northern Ireland
Agricultural crops	24,500 (11%)	21,940 (14%)	1,540 (7%)	180 (1%)	820 (3%)
Agricultural livestock	83,700 (36%)	35,240 (22%)	11,800 (50%)	12,520 (68%)	24,140 (83%)
Production horticulture	15,260 (7%)	14,100 (9%)	560 (2%)	280 (2%)	320 (1%)
Aquaculture	560 (<1%)	240 (<1%)	280 (1%)	40 (<1%)	40 (<1%)
Trees and timber	3,260 (1%)	2,080 (1%)	860 (4%)	280 (2%)	60 (<1%)
Fencing	4,140 (2%)	3,600 (2%)	340 (1%)	160 (1%)	60 (<1%)
Floristry	9,700 (4%)	8,200 (5%)	800 (3%)	420 (2%)	280 (1%)
Land-based engineering	2,260 (1%)	1,660 (1%)	240 (1%)	140 (1%)	220 (1%)
Animal care	20,240 (9%)	17,060 (11%)	1,760 (7%)	1,000 (5%)	420 (1%)
Animal technology	240 (<1%)	-	-	-	-
Equine	19,240 (8%)	18,500 (12%)	360 (2%)	280 (1%)	120 (<1%)
Farriery	2,560 (1%)	2,220 (1%)	180 (1%)	160 (1%)	20 (<1%)
Veterinary activities	4,760 (2%)	3,940 (2%)	420 (2%)	260 (1%)	140 (1%)
Environmental conservation	2,580 (1%)	2,000 (1%)	340 (1%)	160 (1%)	80 (<1%)
Game and wildlife mgt.	15,900 (7%)	11,460 (7%)	2,300 (10%)	700 (4%)	1,300 (4%)
Fisheries management	180 (<1%)	120 (<1%)	60 (<1%)	<20 (<1%)	<20 (<1%)
Hort., landscaping & sports turf	17,520 (8%)	13,760 (9%)	1,540 (6%)	1,460 (8%)	780 (3%)
Agricultural services	3,360 (1%)	2,580 (2%)	340 (1%)	280 (2%)	160 (1%)
Lantra footprint	229,960 (100%)	158,660 (100%)	23,680 (100%)	18,300 (100%)	28,940 (100%)

See Appendix C for sources

Business numbers displayed have been rounded to 20. Numbers do not sum due to rounding

Percentages have been calculated from actual figures rather than rounded figures

- Data unavailable at national level

Since 2008-09, there have been some significant changes⁵⁵ in the size of industries in terms of the number of businesses. The data indicates that there has been a 527% increase in the number of equine businesses. This however may not be the true picture for the industry and is likely to be due to the recent changes in SIC as outlined earlier in the chapter (the equine industry is now more appropriately defined by SIC).

Other industries that appear to have increased in size include production horticulture (107% increase), animal care (59%) and fencing (31%). This is likely to be the true picture for these industries as the data was obtained from the same sources as 2008 and was not affected by the changes in SIC. Diversification and supermarket investment in UK businesses has had an incremental effect on business numbers especially in production horticulture.

In contrast, there has been a decline in the number of business within the fisheries management (78%), land-based engineering (34%) and agricultural livestock industries (34%). The differences within fisheries management and land-based engineering are likely to be due to the recent changes in SIC definitions whereas the observed change within agricultural livestock is likely to be the true picture for this industry as the data was obtained from the same source as 2008 and was not affected by the changes in SIC. For the remaining industries there have been no significant changes in the number of businesses.

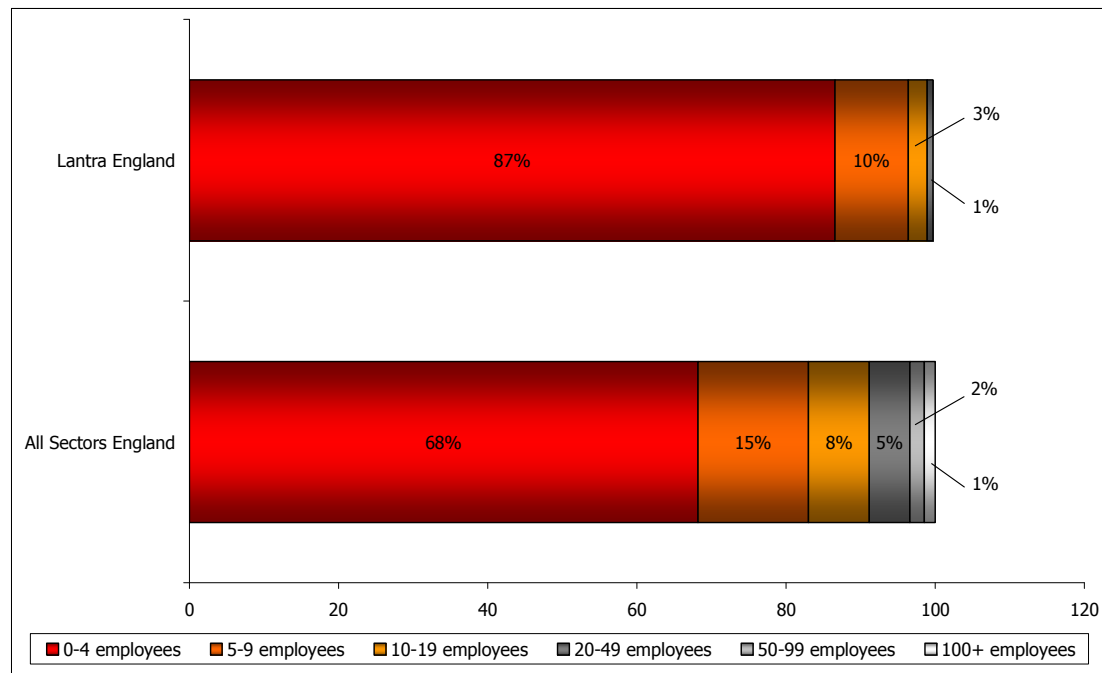
3.2 Business size

Figure 3.2 illustrates business sizes within the sector compared to all sectors in England. Generally business size has been categorised into small (0-19 employees), medium (20-49 employees, 50-99 employees) and large (100+ employees). However, as businesses within the land-based and environmental sector tend to be very small, in order to identify the differences of business size within the sector with all sectors in the UK we have split this further to identify the proportion of micro-businesses (0-10 employees).

Micro-businesses predominate across the sector, as 97% of the businesses employ fewer than ten people. Linked to this, self-employment is a key feature of the business population within the sector (see Chapter four).

⁵⁵ Details have been provided when the change in business numbers is greater than 25%. Further industry specific details will be provided in the Industry LMI Factsheets

Figure 3.2: England business size



Source: IDBR 2010

Base: 92,840 businesses (Lantra sector England based on SIC 01, 02 and 03); 2,183,845 businesses (all Sectors England)

3.3 Employment numbers

According to official data sources based on SIC and/or SOC codes, there are 478,599 people employed within the Lantra sector, comprising 2.0% of all employment across England. Comparing this to 2008 figures (367,492 comprising 1.5% of all sectors⁵⁶) there has been a 30% increase in the number of people employed within the sector in England. However, as stated previously with the business data, this increase will be partially due to the recent move to using new SIC definitions (SIC 2007 rather than SIC 2003) which provides a more accurate coverage of the sector thereby allowing us to identify a larger proportion of employment.

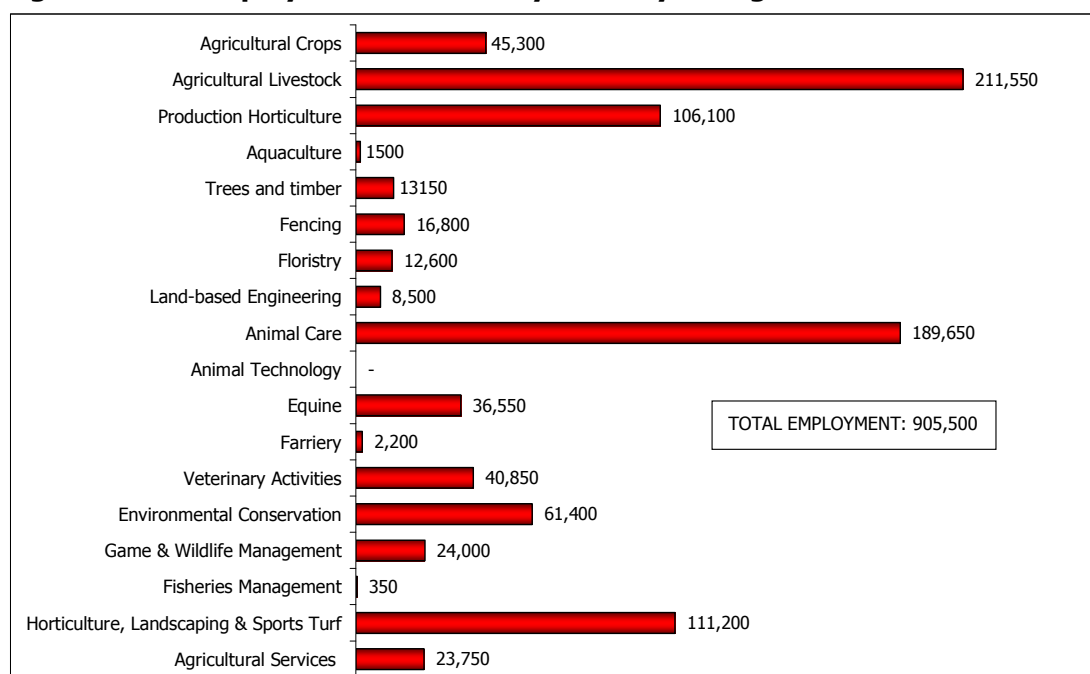
Lantra estimates that there are approximately 905,500 people employed within the sector, which is 89% greater than the figure obtained from official data.

In 2009, Lantra estimated that there were around 858,330 people employed within the sector in England. When we compare this figure to the most recent estimate of 905,500 it shows a 5% increase.

⁵⁶ LFS 2008, three quarter average to September 2008

Figure 3.3 illustrates the number of people employed within each of the industries in the sector in England based on Lantra estimates and Table 3.1 provides further detail of the proportions of people employed and comparisons with the UK as a whole and within the four nations of the UK⁵⁷. In terms of size, the sector in England is dominated by employment within agricultural livestock (23%), animal care (21%), horticulture, landscaping and sports turf (12%) and production horticulture (12%). This pattern generally mirrors that for the UK as a whole. There are however some national variations, for example, those employed within agricultural livestock make up a larger proportion of the sector in Scotland (45%), Wales (60%) and Northern Ireland (76%) when compared to England. In contrast, the proportions of those employed within horticulture, landscaping and sports turf are of much greater significance within England when compared to the other three nations. Looking at the data from a regional perspective, one fifth of employment (20%) in the sector is located in the South East.⁵⁸

Figure 3.3: Employment numbers by industry in England



⁵⁷ We have not included volunteers within the figures. Volunteers are particularly important for industries such as animal care and environmental conservation

⁵⁸ Please see Regional Factsheets for further information at a regional level

Table 3.2: Employment numbers and proportions by industry and nation

Industry	UK	England	Scotland	Wales	Northern Ireland
Agricultural crops	52,000 (4%)	45,300 (5%)	5,100 (4%)	0 (0%)	1,600 (3%)
Agricultural livestock	366,000 (31%)	211,550 (23%)	54,500 (45%)	54,100 (60%)	45,850 (76%)
Production horticulture	116,300 (10%)	106,100 (12%)	7,100 (6%)	2,500 (3%)	600 (1%)
Aquaculture	4,200 (<1%)	1,500 (<1%)	2,700 (2%)	0 (0%)	0 (0%)
Trees and timber	21,700 (2%)	13,150 (1%)	6,200 (5%)	1,950 (2%)	400 (1%)
Fencing	19,350 (2%)	16,800 (2%)	1,350 (1%)	900 (1%)	250 (<1%)
Floristry	14,650 (1%)	12,600 (1%)	1,450 (1%)	450 (<1%)	150 (<1%)
Land-based engineering	10,400 (1%)	8,500 (1%)	400 (<1%)	900 (1%)	600 (1%)
Animal care	222,850 (19%)	189,650 (21%)	16,700 (14%)	12,900 (14%)	3,600 (6%)
Animal technology	4,500 (<1%)	-	-	-	-
Equine	41,200 (3%)	36,550 (4%)	2,200 (2%)	1,550 (2%)	500 (1%)
Farriery	2,550 (<1%)	2,200 (<1%)	150 (<1%)	150 (<1%)	<50 (<1%)
Veterinary activities	47,500 (4%)	40,850 (5%)	3,500 (3%)	2,700 (3%)	500 (1%)
Environmental conservation	73,300 (6%)	61,400 (7%)	5,600 (5%)	5,700 (6%)	600 (1%)
Game and wildlife management	31,000 (3%)	24,000 (3%)	5,300 (4%)	700 (1%)	1,100 (2%)
Fisheries management	900 (<1%)	350 (<1%)	550 (<1%)	<50 (<1%)	0 (0%)
Hort., landscaping and sports turf	127,750 (11%)	111,200 (12%)	7,650 (6%)	4,900 (5%)	4,000 (7%)
Agricultural services*	26,600 (2%)	23,750 (3%)	1,100 (1%)	1,300 (1%)	450 (1%)
Lantra footprint	1,182,750 (100%)	905,500 (100%)	121,500 (100%)	90,750 (100%)	60,250 (100%)

*(this includes support activities for crop production, support activities for animal production, post-harvest crop activities, and Activities of agricultural holding companies)

See Appendix C for sources

Employment numbers displayed have been rounded to 50. Numbers do not sum due to rounding

Percentages have been calculated from actual figures rather than rounded figures

- Data unavailable at national level

Since 2008-09 there have been some changes in the size of industries in terms of the number of people employed. Likewise with the business data, only part of the employment data based on Lantra's recent estimates is directly comparable with that obtained for the 2009 England Skills Assessment.

The data indicates there has been employment growth in many industries within the sector since 2008-09; the industries with the most significant growth include environmental conservation (261%), animal care (187%), production horticulture (99%), equine (95%), aquaculture (88%) and veterinary activities (29%).

It is important to note that the vast increase in employment within the environmental conservation industry may not be the true picture, but may primarily be due to the recent changes in SIC definition. The environmental conservation industry is now partially defined by a new SIC code covering environmental consulting, therefore one would expect an increase in employment data due to this new SIC code alone. This is also the case for the equine industry that is now more appropriately defined by SIC. In addition, primary research undertaken by Lantra has enabled us to more accurately portray the size and scope of the equine industry.

For animal care, as the employment data for this industry was obtained from the same source as 2008-09 and not complicated by the changes in SIC codes, it is likely that this is the true picture for the industry. Anecdotal evidence suggests there has been recent growth in pet services such as dog grooming and walking which would explain why there has been an increase in employment. Another plausible explanation for such significant growth in employment may be due to the increased number of animals being taken in by animal welfare organisations and sanctuaries as a result of the recession and associated affordability. This in turn would lead to a greater workforce to care for these animals.

The employment growth within the production horticulture, aquaculture and veterinary activities industries, likewise with the animal care industry is likely to be the true picture of employment change as the employment data for these industries was obtained from the same sources as 2008-09 and not complicated by the changes in SIC codes. Lantra's employer engagement teams believe that this growth in production horticulture may be due to some businesses taking on more local staff; over the past year there was a shortage of fruit pickers for example. In addition, during the recent recession more people are looking for employment within the industry.

The 88% growth in aquaculture was reiterated at an aquaculture conference held in July 2010⁵⁹.

59 Hollyrood Aquaculture Conference 23rd June 2010: The Renewed Strategic Framework for Scottish Aquaculture, Keynote Speaker Roseanna Cunningham MSP

“Aquaculture has been the world’s fastest growing food producing sector, at 6-8% per annum internationally since the turn of the millennium. That growth is likely to continue. It already accounts for more than half of the fish supply for human consumption.”

Another key message was that the potential for increased production seems larger for aquaculture than other food producing technologies for the following reasons:

- The world’s population is growing quickly, from 6.8 billion people now to an estimated 9.1 billion by 2050
- Global warming is predicted to lead to water scarcity and a reduction in global productive land, therefore the UK will need to use its marine resources more effectively to feed the world’s population
- As the world’s population becomes more affluent there will be a greater demand for protein.

There are however some industries where employment has declined. The industries with the most significant decline in employment include fisheries management (80% decline), agricultural crops (63%), land-based engineering (48%), fencing (31%) and horticulture, landscaping and sports turf (28%).

Again, the observed decline in employment within fisheries management may be related to the recent changes in SIC codes. Data had previously been collected from non-official sources for this industry but as there is now a new code covering freshwater fishing, this has allowed us to portray a more accurate and reliable picture of employment within the industry. This is also the situation for the horticulture, landscaping and sports turf industry which has also been assigned a new SIC code. Similarly, the observed decline in employment within land-based engineering was somewhat expected as the SIC codes relating to this industry have been refined and are therefore more relevant to the industry⁶⁰.

The observed decline in employment in the agricultural crops and fencing industries is more likely to be the true picture for these industries as the employment data was obtained from the same sources as 2008-09 and not complicated by the recent changes in SIC codes. The decline in employment within these industries may be a result of increased mechanisation/technological change coupled with the impacts of the recent recession.

⁶⁰ SIC 2007 has been refined and now excludes manufacturing, therefore providing a more accurate description of the land-based engineering industry.

3.4 Voluntary sector

There are an estimated 500,000 regular volunteers within the environmental and land-based sector⁶¹. Lantra recently undertook research into the skills and training needs of volunteers working in the environmental and land-based sector⁶². This study has provided clear evidence of the importance of volunteering to the sector, particularly to industries such as environmental conservation and animal care.

The majority of organisations that engage with environmental and land-based volunteers would simply not be able to function without the help of volunteers. This assertion is supported by the findings of Lantra's primary research. Organisations were asked 'Do volunteers play a key role in supporting your business activity?' and almost nine out of ten organisations stated, 'Yes, a significant contribution,' and fewer than 3% of organisations answered 'No'.

The sector is popular with volunteers; within a Cabinet Office report⁶³ 18% of formal volunteers stated that 'conservation, the environment, heritage' and 'animal welfare' were the fields of interest of the organisations that they volunteered for. Putting an exact number on the number of volunteers in the sector is difficult.

Lantra's research demonstrates that there is a broad range of activities and roles which environmental and land-based volunteers assume. They not only support some tasks which are carried out by paid staff in their host organisations but they also provide invaluable assistance to operational procedures (fundraising, marketing, administration, etc.) which help to sustain the organisation they willingly donate time to.

61 National Council for Voluntary Organisations (2009)

62 Lantra, Investigation into skill and training needs of Volunteers, March 2008

63 Cabinet Office, Helping Out: 'A national survey of volunteering and charitable giving'. September 2007.

3.5 Migrant workers

Migrant workers form a significant proportion of the workforce in the sector, particularly within agriculture and production horticulture. Agriculture and production horticulture is characterised by large fluctuations in labour demand throughout the year, particularly for highly seasonal crops or where technology does not allow machinery to replace labour (e.g. fruit and vegetable production often requires hand picking). The variation in peak to low season labour demand within agriculture is one of the key reasons behind the current reliance on migrant workers. Furthermore, research undertaken by Lantra in 2007 highlighted that employers were using migrant workers because the UK workforce was unwilling to work in jobs they perceived as dirty, dangerous and demanding⁶⁴.

The sector uses migrant workers from the Accession 8 (A8), largely Eastern European nations. Workers from these countries register to work in the UK through the Workers Registration Scheme (WRS). In addition, migrant workers can also access the UK through a sector specific scheme called SAWS (Seasonal Agricultural Workers Scheme). The Government has restricted SAWS to Romania and Bulgaria in recent years.

In 2008, research for the Migration Advisory Committee (MAC) showed that 84% of all peak season agricultural workers were migrants⁶⁵, although this finding should be treated with caution, as it was based on 268 survey responses which may have been self-selecting.

The Migration Advisory Committee research highlights the importance of migrant workers in helping farmers balance on a tightrope of profitability between:

- Low price of produce (set by retailers/consumer) – since 1988 food prices have grown by 8.5% while overall price inflation by 22%
- Staff shortages – strong reliance on temporary staff to fill 'low skilled' vacancies (due to highly seasonal work patterns) and an increasingly diminutive pool of migrant workers (due to change in immigration policy and work standards).

The report concludes that:

“Demand [for temporary labour] is most likely to be met through immigration unless either the UK economy undergoes a prolonged period of recession... or UK consumers start paying more for food and retailers pass the money down the food supply-chain” (Scott, 2008: 10).

⁶⁴ A study of the business needs of those employing migrant workers in the land-based sector in England - Lantra (2007)

⁶⁵ Staff Shortages and Immigration in Agriculture, Scott 2008 for Migration Advisory Committee

In the 2007 and 2008 harvest seasons insufficient seasonal labour⁶⁶ led to a loss of crops for some businesses. The concern over the availability of seasonal labour during this period also had a damaging effect on future business confidence. Following a campaign by the industry, an increase in the number of SAWS permits was granted in December 2008. The increase in SAWS permits (21,250 permits in 2010) coupled with an increase in the availability of A8 workers (a side effect of the economic recession leading to nationals previously working in other industries seeking work in agriculture and horticulture) has meant the easing of seasonal labour concerns for the majority of fruit and vegetable businesses in the 2009 and 2010 seasons. It is recognised by the industry that this current situation could be short lived as the economy improves leading to a tightening of the labour supply situation. Accordingly a medium to long-term strategy is required for the provision of seasonal labour to maintain business confidence and allow growers to plan for the future. A new SAWS arrangement is a vital part of that medium to long-term strategy.

The current seasonal agricultural workers scheme arrangements are linked to the transitional controls on the A2 member states of Romania and Bulgaria. These transitional controls expire on the 31 December 2011 unless the UK Government decides to extend them for two further and final years as permitted under EU law. Accordingly, beyond 2013 there is uncertainty over the future of the seasonal agricultural workers scheme. The Fruit and Vegetable Task Force⁶⁷ considers that steps should be taken now to build the architecture of a new SAWS arrangement to be ready in time for when the transitional controls for the A2 member states end. The sequel to the current SAWS will be influenced by part of the wholesale reform of immigration taking place under the new Coalition Government and the cap on non-EU economic migration. However, in thinking of options there are two approaches, as a transitional scheme for workers from new accession states to the EU or a scheme open to non-EU workers.

The first possibility (a transitional scheme for workers from new accession states to the EU) is to retain the present SAWS as a scheme open to workers from countries joining the EU. The EU presently recognises as candidates Croatia, the former Yugoslav Republic of Macedonia (Macedonia), Turkey and Iceland, and further off the potential candidate countries of Albania, Bosnia and Herzegovina, Kosovo under UN Security Resolution 1244, Montenegro and Serbia. Of these, Croatia and Macedonia are seen as likely to join the EU relatively soon. However, these are small countries so although a proposal to extend the SAWS in this way would be welcomed it is currently uncertain if it could supply enough workers to fill future labour demand.

⁶⁶ SAWS quota for 2008 was 16,250 workers

⁶⁷ On 21 October 2009, the establishment of a new task force to increase consumption and production of domestic fruit and vegetables in England was announced.

Another complementary approach (scheme open to non-EU workers) would be to model a new SAWS scheme on the principles of the European Commission's proposals on circular migration. These principles are:

- Scheme open to non-EU countries
- A work permit for periods of up to nine months per year but with preference given to returning workers who are allowed to return annually for up to three years
- Workers required to return to their host countries (SAWS operators and UKBA working in partnership)
- Checks on arrival and departure
- Return agreements in place with the source countries.

Designing the sequel to the current SAWS on the principles outlined above would enable SAWS operators to secure the seasonal labour that growers need for their businesses. A scheme designed in this way should also mean a new SAWS arrangement could comfortably reside within the Government's overall immigration policy, particularly the proposal to implement a cap on permanent, non-EU economic migrants⁶⁸.

The task force also believes that more must be done to encourage British citizens to undertake seasonal work. This could include adapting the welfare system to encourage those in receipt of benefits to respond to growers' need for short-term labour as a positive step towards leaving the benefits system, without undue financial disincentives. The Government considers how to adapt the welfare system to encourage those currently in receipt of benefits to take on seasonal agricultural and horticultural work.

68 Briefing from the Fruit and Vegetables Task Force – Seasonal labour: securing a sequel to the SAWS

Chapter summary

The land-based and environmental sector is complex and diverse, covering a range of industries across England.

According to official data sources based on SIC codes, there are 116,690 businesses within the Lantra sector, comprising 5.3% of all business across England.

As official data excludes many of the industries within Lantra's footprint, Lantra estimates suggest that there are approximately 158,660 businesses within the sector; which is 36% greater than the figure obtained from official data.

Agricultural livestock and agricultural crop industries, when combined account for 36% of businesses in the sector. Other industries which make up a significant proportion of the sector in England include equine (12%), animal care (11%), production horticulture (9%), horticulture, landscaping and sports turf (9%) and game and wildlife management (7%).

One fifth of businesses in the sector in England are located in the South East.

It is difficult to ascertain the growth or decline in the number of businesses for many of the industries due to the recent change from SIC 2003 to SIC 2007 which now provides a more accurate coverage of the sector. Therefore one would expect to see a difference in the business data as a result of this change alone. However, there has been a significant growth in the number of businesses within production horticulture (107% increase), animal care (59%) and fencing (31%). In contrast there has been a decline in the number of agricultural crop businesses (34% decline).

The vast majority of businesses (97%) are micro-businesses employing fewer than ten people.

According to official data sources based on SIC and/or SOC codes, there are 478,599 people employed within the Lantra sector, comprising 2.0% of all employment across England. However, Lantra estimates that there are approximately 905,500 people employed within the sector, which is 89% greater than the figure obtained from official data.

In terms of size, the sector in England is dominated by employment within agricultural livestock (23%), animal care (21%), horticulture, landscaping and sports turf (12%) and production horticulture (12%). This pattern generally mirrors that for the UK as a whole.

Likewise with the business data, it is difficult to ascertain the growth or decline in employment for many of the industries due to the recent change from SIC 2003 to SIC 2007. However, there has been a significant growth in employment within the animal care (186%), production horticulture (99%), aquaculture (33%) and veterinary activities (29%) industries. In contrast, there has been a decline in employment within the agricultural crops and fencing industries (63% and 31% respectively).

Migrant workers form a significant proportion of the workforce in the sector, particularly within agriculture and production horticulture. They can access the UK through a sector specific scheme called SAWS (Seasonal Agricultural Workers Scheme).

Beyond 2013 there is uncertainty over the future of the seasonal agricultural workers scheme and a medium to long-term strategy is required for the provision of seasonal labour to maintain business confidence and allow growers to plan for the future.

Designing a sequel to the current SAWS would enable SAWS operators to secure the seasonal labour that growers need for their businesses. A scheme designed in this way should also mean a new SAWS arrangement could comfortably reside within the Government's overall immigration policy, particularly the proposal to implement a cap on permanent non-EU economic migrants.

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4 Workforce characteristics

This section provides an analysis of the land-based and environmental sector workforce. It looks at the structure of the workforce by working status, gender, ethnicity and age. The level of qualifications held, and occupational structure are also included.

Most of the data for this chapter comes from the Labour Force Survey 2009-10⁶⁹ (LFS) which uses Standard Occupation Classification (SOC) codes to provide socio-demographic data for the sector. Comparisons are made to the LFS 2008 where possible.

Official statistics do not capture those who work in the sector as volunteers or migrant workers. This data will be compared with industry specific data for the equine⁷⁰ and fencing⁷¹ industries collected through research conducted by Lantra in 2010.

4.1 Gender

Figure 4.1 shows that the land-based and environmental sector in England is male dominated (65%) compared to all sector workers in England (54%). There has been a rise in female employees which is a move in the right direction given the male dominance in the sector. This is evidenced by the percentage of female workers in the land-based and environmental sector rising by 2% since 2008 (35% compared with 33%). Compared to Wales, Northern Ireland and Scotland, England has the largest proportion of female workers.

Traditionally the sector as a whole is male dominated with some industries being male dominated and with others being female dominated. Primary research undertaken with the equine and fencing industries highlight industry differences within the sector.

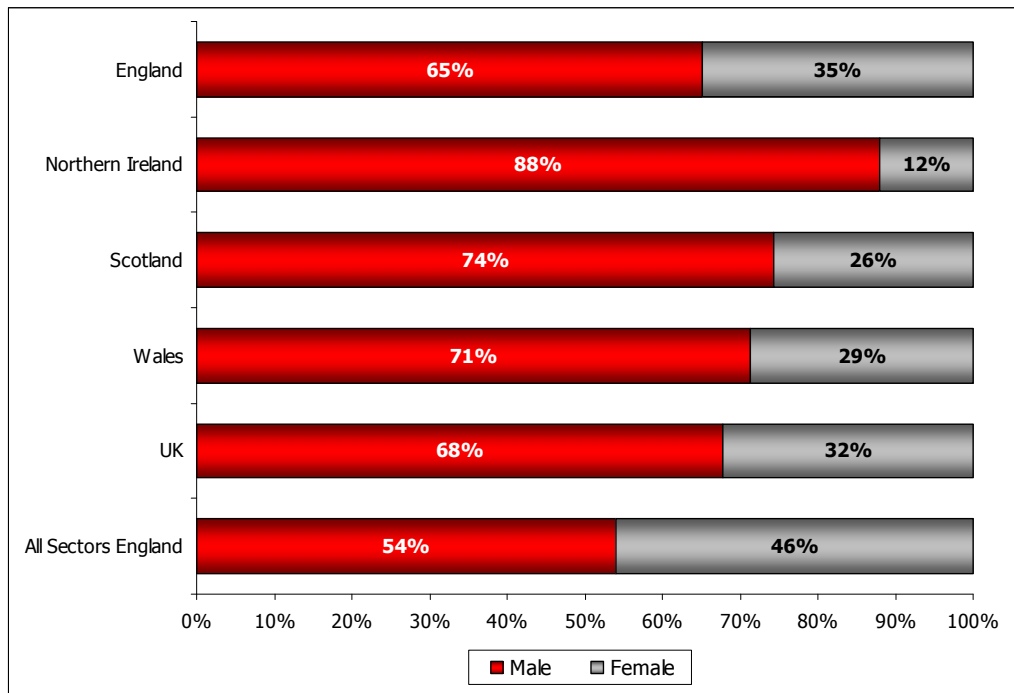
⁶⁹ See Appendix B for further details of the LFS

⁷⁰ Lantra (2010) A Study into the Business and Skills Requirements of the UK Equine Industry

⁷¹ Lantra (2010) UK Fencing Industry: Labour Market Information Research

The equine industry in England is female dominated (70% of employees) whereas the fencing industry in England is male dominated (82% of employees).

Figure 4.1: Employment by gender



Source: Labour Force Survey 2009-10 (LFS)

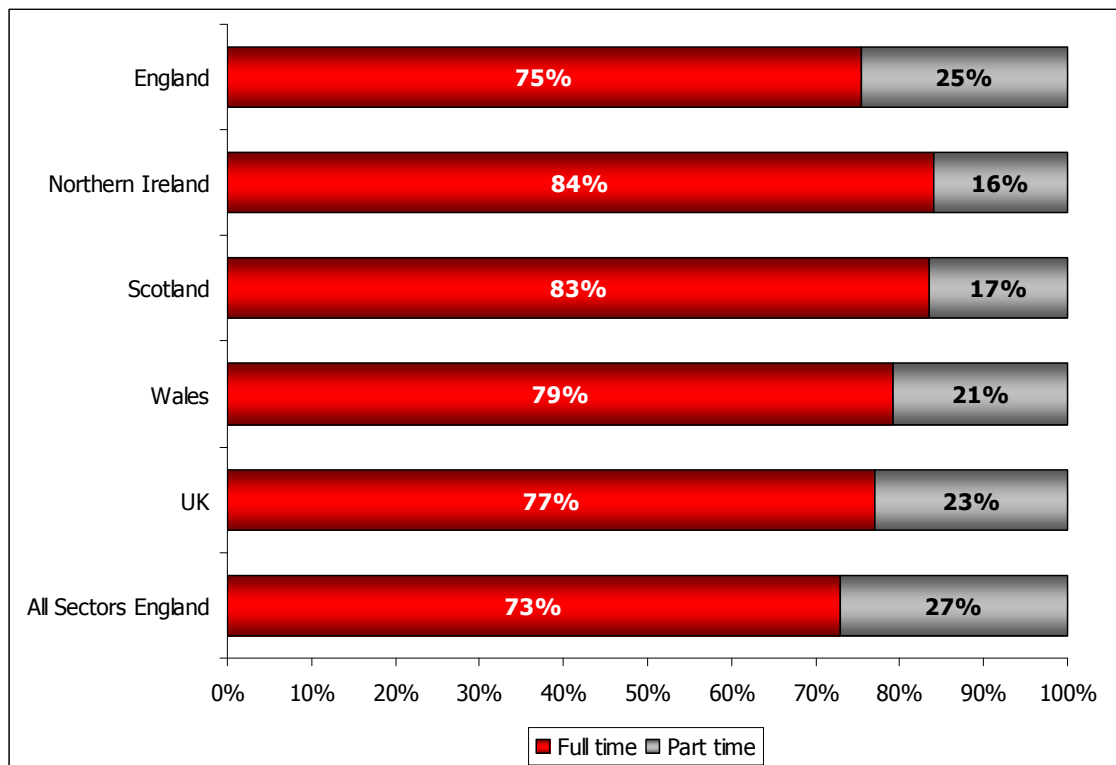
4.2 Working status

Figure 4.2 indicates that 75% of employment within the land-based and environmental sector in England is full-time. This compares to 79% in 2008, showing a 4% decrease in full-time employment. Although the percentage of full-timers in the land-based and environmental in sector in England is similar to all sectors in England, the number of full-time workers has dropped 1% since 2008 across all sectors in England. The decrease in full-time workers in the land-based and environmental sector in England may indicate that the number of available part-time jobs across the UK has increased slightly over the recent past or that more part-time jobs are being undertaken to supplement full-time workers' income.

Findings from the Office of National Statistics (ONS) suggest that 1.04 million people in the UK are working part-time or self-employed because they cannot find a full-time job⁷². England has the highest level of part-time workers of the four UK nations at 25%.

Primary research undertaken with the equine and fencing industries highlights industry differences within the sector. In the equine industry in England, 67% of employees are full-time, 8% less than the sector overall in England. This is possibly due to the size of equine businesses as many sole-trader and micro-businesses may require part-time grooms and instructors but are unable to employ these on a full-time basis. In contrast, the fencing industry in England has a high number of full-time employees at 91%.

Figure 4.2: Full and part-time employment



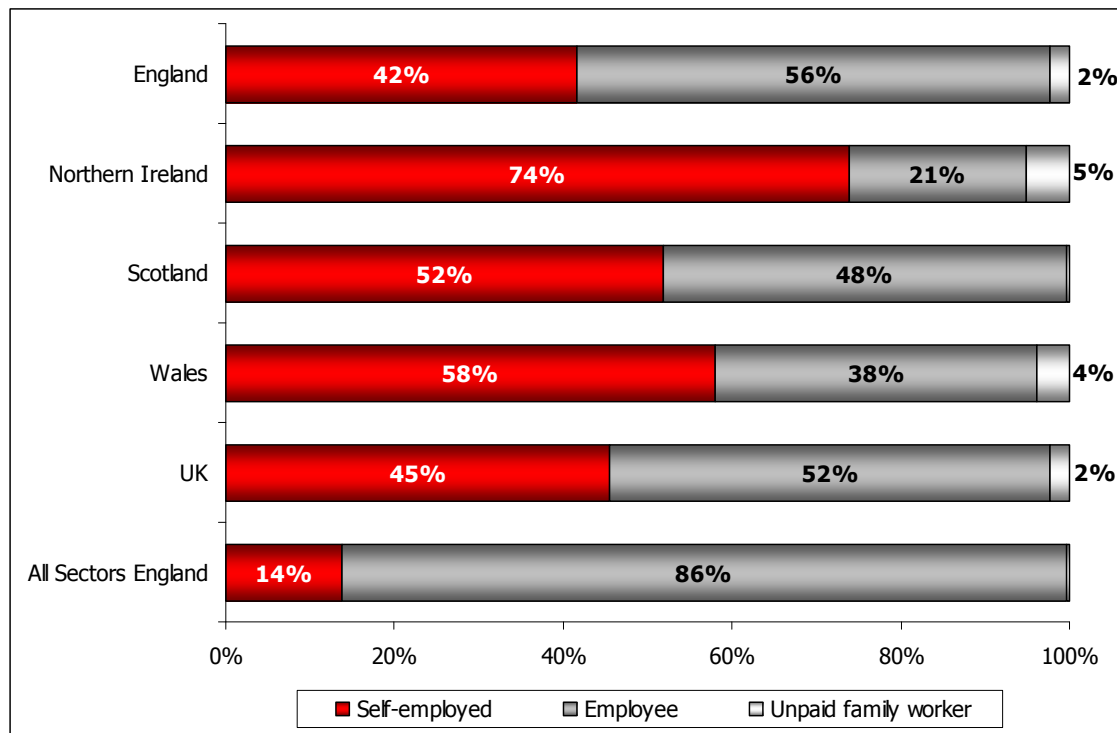
Source: Labour Force Survey 2009-10 (LFS)

⁷² ONS, Labour Market Statistics February 2010

Figure 4.3 shows that self-employment accounts for 42% of all employment in the land-based and environmental sector in England compared to only 14% in all sector employment in England. This is likely to be due to the number of agricultural crops and livestock businesses in England as these are often family run, self-employed businesses. Additionally, a large number of people who provide agricultural services, for example, are often freelance or contracted workers. The level of self-employment has increased by 3% since the LFS 2008 (42% compared with 39%).

Also interesting is the percentage of unpaid family workers (2%) in the land-based and environmental sector in England which is the third highest of the four nations. The fact that family members are working unpaid suggests that there is a need to supplement the workforce with unpaid family members as it is unviable for the business to pay workers or their own family workers. The reverse may also be true; in that family run businesses rely on unpaid family members for profitability (for example the spouse could look after the financial aspect of things rather than pay an accountant).

Figure 4.3: Self-employment



Source: Labour Force Survey 2009-10 (LFS) Figures rounded to the nearest 100%

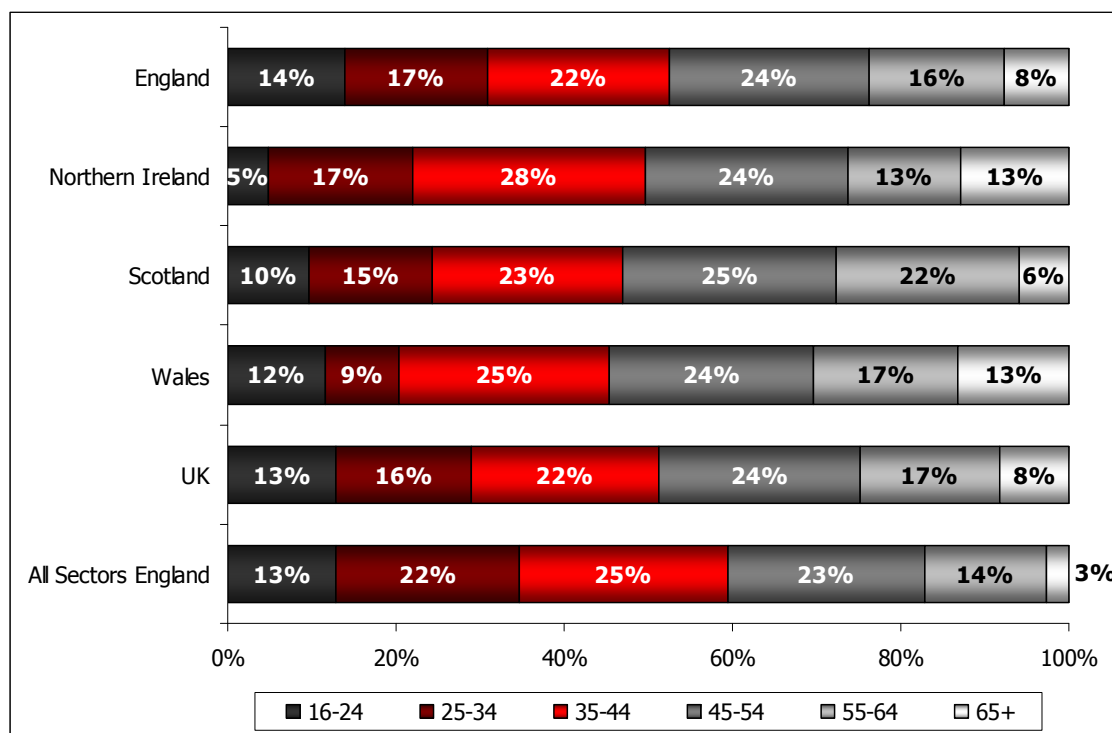
4.3 Age

The land-based and environmental sector across the four nations and the UK has an ageing workforce (see Figure 4.4). In the land-based and environmental sector in England, 24% of workers in the sector are aged 55 or over compared to only 17% for all sectors in England. Thus 24% of people, which equates to approximately 217,000⁷³ workers, are due to retire and will need replacing. Conversely there are only 14% of workers in the 16-24 age band, demonstrating the need for younger, new entrants.

Compared to 2008 data there has been no change in the proportion of over 55s and the under 24s. Thus there is a need to attract new and younger workers to be able to sustain the sector's workforce.

Again, primary research indicates differences within industries. In the equine industry, the workforce in England tends to be younger than the average for the sector overall with 9% of workers over the age of 55 and 30% in the 16-24 age group. The fencing industry in England also tends to be younger than the sector average with 11% aged 55 and over.

Figure 4.4: Employment by age band



Source: Labour Force Survey 2009-10 (LFS)

⁷³ 24% of 905,478 (Lantra's estimated current employment figure for the land-based and environmental sector in England)

4.4 Ethnicity

According to the LFS 2009-10 (see Table 4.1), the sector's workforce is dominated by people from a white ethnic group (98.3%), higher than the average across all sectors in England (89.6%).

Although it is recognised that there are other ethnicities working in the sector it may be that these employees work as volunteers or are migrant workers and are not captured by LFS data. Volunteers and migrant workers are discussed in Chapter three.

Table 4.1: Ethnicity

	England	Wales	Northern Ireland	Scotland	UK	All sectors England
White	98.3%	100%	100%	99.6%	98.7%	89.6%
Mixed	0.3%	0%	0%	0%	0.2%	0.8%
Asian or Asian British	0.6%	0%	0%	0.2%	0.5%	5.2%
Black or Black British	0.2%	0%	0%	0%	0.1%	2.5%
Chinese	0%	0%	0%	0%	0%	0.5%
Other ethnic group	0.6%	0%	0%	0.2%	0.5%	1.5%

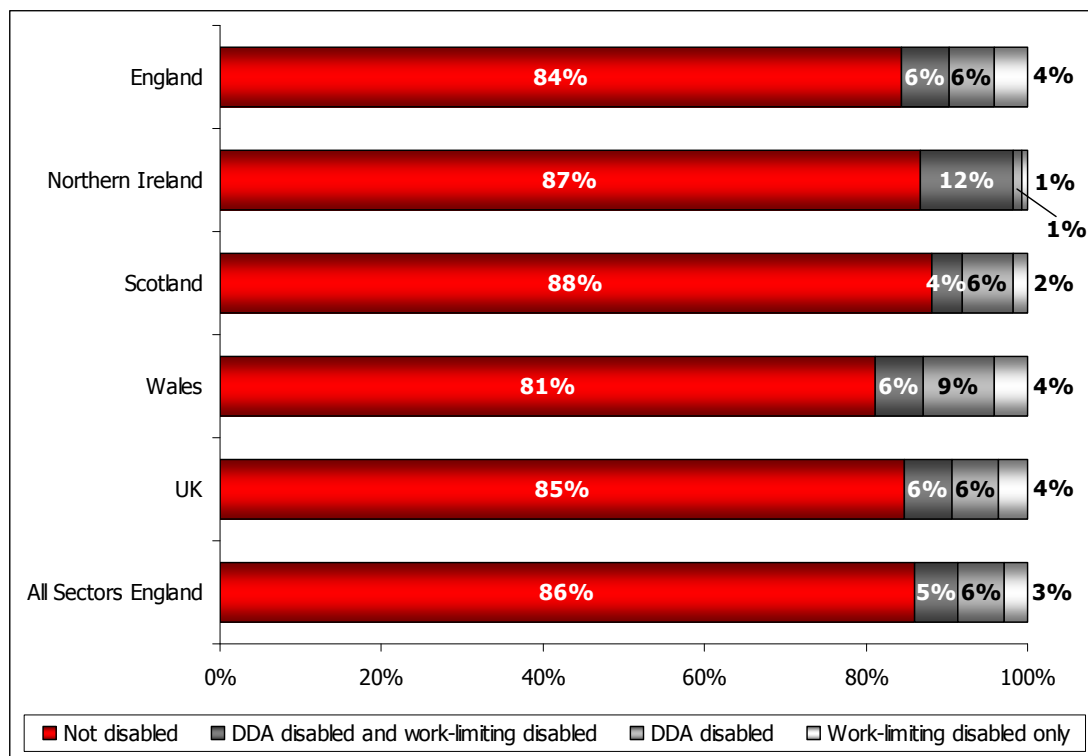
Source: Labour Force Survey 2009-10 (LFS)

4.5 Disability

Generally workers in the land-based and environmental sector tend not to have a disability (81%-88%). Data for disability was not available in 2008 and therefore this cannot be compared.

The land-based and environmental sector in England has the second highest proportion of workers with a form of disability⁷⁴ (16%) compared to Wales, Northern Ireland and Scotland and mirrors the UK figures. It also has the second highest proportion of workers defined by the Disability Discrimination Act (DDA) as disabled at 6%. Overall, this suggests that businesses in the land-based and environmental sector are inclusive of those who have a disability. Examples of this include shooting for the blind (game and wildlife) and riding for the disabled (equine).

Figure 4.5: Disability



Source: Labour Force Survey 2009-10 (LFS). * DDA – Disability Discrimination Act (2005) Figures rounded to the nearest 100%

⁷⁴ Work-limiting disabled, DDA disabled or DDA disabled and work limiting disabled

4.6 Occupation levels

The SOC definitions use nine standard classifications in order to compare occupation levels across all sectors. To give a flavour of how these are mapped to job roles across the land-based and environmental sector, the following table gives a few examples of job roles in each of the nine SOC classifications.

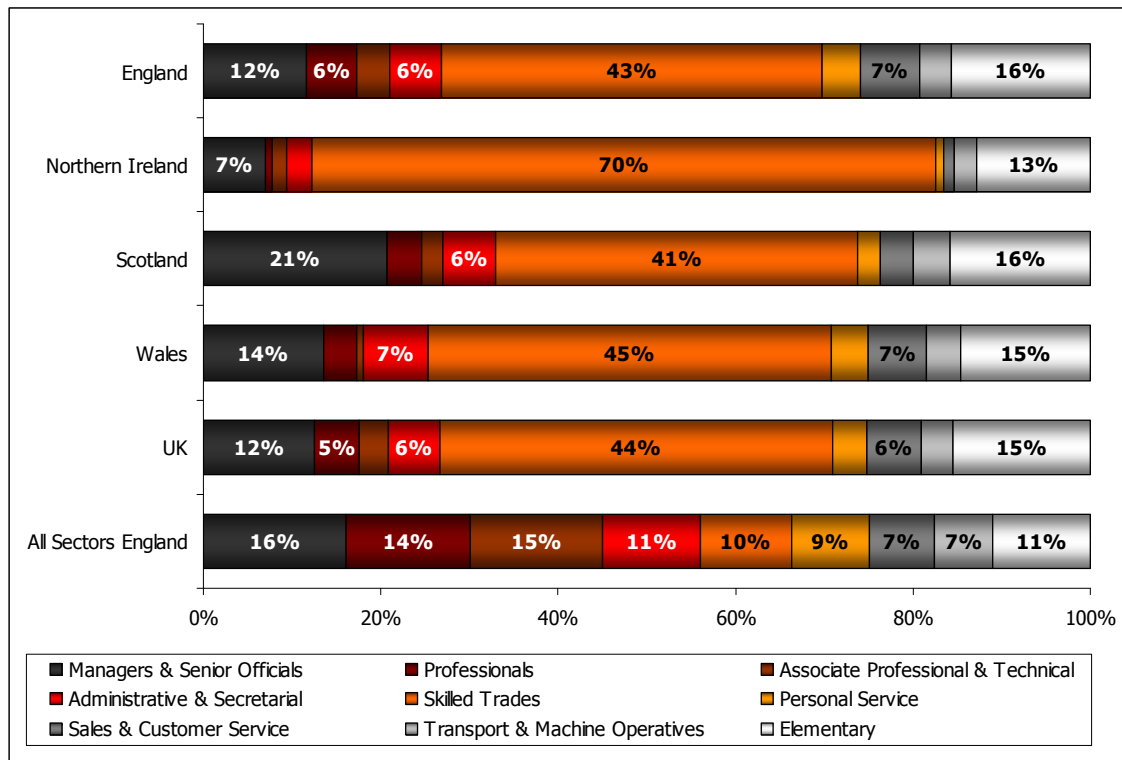
Table 4.2: Occupational areas and example job titles

SOC major occupational group	Example sector job roles
Managers and senior officials	Farm manager Conservation manager
Professional occupations	Land-based engineer
Associate professional and technical occupations	Forestry consultant Agronomist Field technician
Administrative and secretarial occupations	Administrator Farm secretary
Skilled trades occupations	Farmer Stockman Greenkeeper Groundsman Florist
Personal service occupations	Zookeeper Veterinary nurse
Sales and customer service	Shop assistant
Transport and machine operative	Forest machine operator Tractor driver
Elementary occupations	Field worker Farm worker Seasonal worker

The occupational structure of the sector differs significantly from the average across all sectors of the economy (see Figure 4.6). Whilst the structure of employment by occupation does vary by nation it is noticeable that employment is concentrated in the following areas:

- Skilled trades occupations (e.g. farmer, stockman, and groundsman) account for 43% in England. This has risen from 41% since 2008 and compares to just 10% across all sectors
- Elementary occupations (e.g. farm worker, seasonal worker) account for 16% of jobs in the sector in England (compared with 26% in 2008). This compares to 11% across all sectors in England
- Managers have risen from 11% in 2008 to 12% of employment in 2009-10.

Figure 4.6: Employment by occupation



The Skills at Work 1986-2006⁷⁵ report concludes that job skills are distributed in line with occupational expectations with those at the top of the hierarchy requiring more skills than those at the bottom.

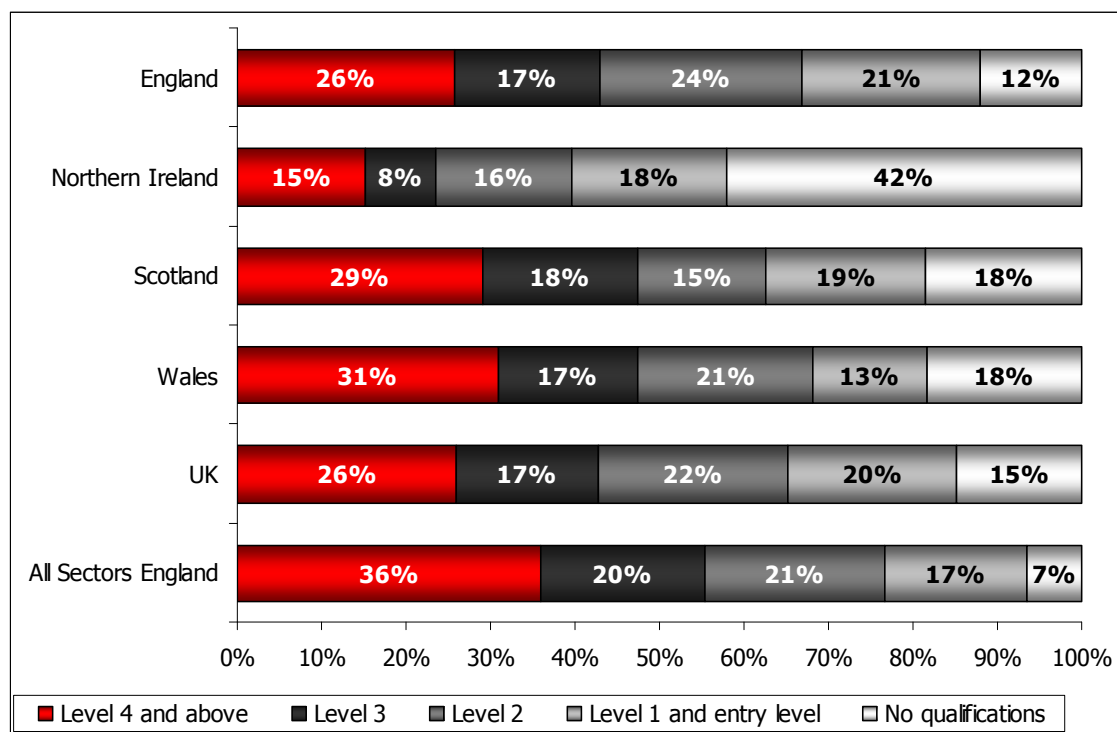
⁷⁵ Felstead et al (2007) Skills at Work 1986-2006, ESRC

4.7 Qualification levels

Throughout this report, 'qualifications' is used as a proxy measure of skill; as they can be seen to be both valuable to individuals (in terms of providing mobility in the labour market and enhancing self-esteem), employers (for providing information when recruiting workers) and for measuring the skill levels of the workforce. While use of qualifications as a measure for skills is recognised as imperfect, it is the best measure available at present – in effect, qualifications are the internationally accepted 'currency' for measuring skills.

Workers within the land-based and environmental sector are often highly skilled but can lack formal nationally recognised qualifications. A significant proportion of the workforce does not have nationally recognised qualifications – 12% in England, this figure is the same as in 2008. This finding is of concern as the drive has been to reduce the number of people without qualifications and although the level has remained constant it would have been encouraging to see the proportion of workers without qualifications go down. Compared to the England all sector figures the land-based and environmental sector has proportionately more people without qualifications. There has also been an increase (3%) in Level 4 and above programmes – 26% in 2009-10 compared with 23% in 2008. This shows the need for higher level qualifications and the increasing technological and management nature of roles.

Figure 4.7: Qualification levels



Source: Labour Force Survey 2009-10 (LFS)

The sector in England is served by a range of public and private providers covering further and higher education and training as well as work-based learning, including Apprenticeships. There are approximately 270 providers who offer a range of learning and training towards qualifications accredited into the National Qualifications Framework (NQF)/Qualifications and Credit Framework (QCF) in England, comprising private training providers, specialist colleges and general FE colleges who have some land-based and environmental provision. 34 of these are specialist land-based providers and are members of Landex⁷⁶, a membership organisation for such specialist providers working to criteria to deliver high quality learning experiences to learners and services to sector industries. There are also eight associate members in the devolved countries.

Sector industries generally have a range of entry and progression routes enabling learners to progress in sector-based learning from school to college and further education and work-based/related learning into higher education and employment, although provision at Levels 2 and 3 dominate. As well as full qualifications such as NVQs (and their QCF replacement qualification, Work-based Diplomas) together with a range of vocational qualifications such as National Certificates and Diplomas, this provision includes shorter training courses such as Certificates of Competence. These short courses are frequently undertaken to comply with legislation and therefore the take-up is greatly driven by legislative changes or health and safety requirements. Over recent years the sector has worked with learning providers and awarding organisations to develop sector-based curriculum and qualifications for learners aged 14+. This provides both a context for learning and a foundation to support entry into specific vocational provision post-16.

There were around 63,600 enrolments on sector further education and work-based learning qualifications and/or training courses during the academic year 2008/09 in England. There were 4,800 starters on sector Apprenticeship frameworks⁷⁷, and 40,800 learners enrolled on sector higher education qualifications. Therefore around an estimated⁷⁸ 109,000 learners undertook sector qualifications or training courses in England in 2008/09.

Businesses in the agriculture, production horticulture and trees and timber industries are also generally able to benefit from the Rural Development Programme for England which provides support for skills development. Training and knowledge transfer was identified as playing a significant role in each of the areas – identified as essential to restructuring and modernisation of the industries. Therefore support for training and knowledge transfer and increased innovation, collaboration and entrepreneurship is a substantial part of the budget of the programme. Funding is available for vocational training and information for people working in farming, food and forestry, including advisory services.

76 <http://www.landex.org.uk/>

77 This figure is for 2007/08 as it is the latest data available.

78 An element of double counting will occur, for example the qualifications in the component parts of Apprenticeship frameworks may be included in the FE/WBL statistics.

Although levels of formal qualifications held by the sector workforce are low, the sector is highly skilled. Due to the technical and specialist nature of jobs within sector industries, it is essential that new entrants and current workforce are trained to develop the necessary skills to safely and efficiently undertake their role. Although recognised by industry, this provision is often non-accredited and not yet part of a qualifications framework. However, given the increasing drive to professionalise the sector and to recognise and record on-going continued professional development through the development of industry specific CPD programmes and skills, it is anticipated that the qualification levels of the sector will rise. The development of national credit and qualification frameworks provides a framework for continuing professional development through the acquisition of small, bite sized units of learning reflecting the needs of the sector⁷⁹. Such qualifications include the Diploma in Environmental and Land-based Studies and GCSEs in Environmental and Land-based Science. Research evidence from Lantra's Apprenticeship research⁸⁰ points to the need for developing sector specific flexible Apprenticeships.

In order to get more detailed information about levels of qualifications, completions, and training providers please refer to the forthcoming England Assessment of Current Provision (2010)⁸¹. The skills issues are explored further in the next chapter.

79 Further information can be found in the Sector Qualifications Strategy (2007) <http://www.lantra.co.uk/Standards-and-Qualifications/Sector-Qualification-Strategy.aspx>

⁸⁰ Apprenticeships in the UK environmental and land-based sector, Lantra, Aug 2010

⁸¹ England Assessment of Current Provision, Lantra 2010

Chapter summary

The sector has an ageing workforce, with an older age profile than that found for any other major industrial sector. 24% of all workers are over 55, compared with 17% across England's economy as a whole.

The sector's workforce is predominantly male (65%) and from a white ethnic group (98%).

Employment is concentrated in skilled trades occupations (such as farmer, stockman, greenkeeper, groundsman) which account for nearly half of all employment (43%); and elementary occupations (such as farm worker) which account for 16%. There are also a significant proportion of people employed as managers (12%).

Formal qualification attainment, the Government's most favoured proxy measure for skills, indicates that there has been no change in the number of workers with no qualifications, remaining constant at 12%.

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5 Skills issues

5.1 Introducing the concept of 'skills'

This chapter will explore the concept of 'skills' and will look at both the current and future demand for skills in the land-based and environmental sector. The word 'skill' or 'skills' is used widely by policy makers, employers, learners and training providers and very few people take the time to define this.

So what is 'skill'? The term 'skill' refers to a specific ability, and is generally used where the ability is assumed to have been in some sense *developed* through experience or training. 'Skill' is one of several terms used to express the concept of 'ability' to do something, that distinguishes between a range of abilities acquired to what standard. 'Skill' is also used interchangeably with 'aptitude', 'competence' and 'proficiency', which are briefly defined below:

- 'Aptitude' implies an inherent capacity for acquiring ability, whereas 'talent' often infers ability is inborn
- 'Competence' generally suggests an ability to do something satisfactorily but not outstandingly
- 'Proficiency' suggests significant competence.

'Skills' are also often classified according to the *method* of their development, as 'formal' (derived through a process of structured training and documented assessment), 'non-formal' (training was structured but no certification issued) or 'informal' (obtained through practice, experience, self-education, etc.)⁸². The presumption is that skill enables the performance of a useful undertaking, raising questions such as 'useful to whom and how?'

5.2 Importance of skills

Skills are important to both employers and employees; for employers to increase the productivity of a business and for employees to enable professional development and career progression. For most people, career advancement only comes if new skills or technologies are learned. In addition, many people view learning new skills as an important element in getting on in life. Some workers and employers seek further training to enhance existing skills or develop new ones, with the expectation that this will lead to better jobs and a higher standard of living and businesses encourage this.

⁸² Not everything that people learn to do can be considered a 'skill' (for example, bad habits).

Training gives employers and employees an opportunity to increase their productivity in the workforce, open new opportunities for career development, and potentially increase their earnings. Improved productivity of the local labour market is indispensable for new business and thus to economic development.

5.3 Current demand for skills

In this section, the current demand for skills is examined in the context of how skills relate to productivity, how this is defined in terms of success and measured in terms of performance. This discussion leads into looking at productivity for the agricultural sector (65% of businesses in the land-based and environmental sector in England fall within agriculture) for which data is readily available. This also enables comparisons to be made at national, European and international levels.

5.3.1 Defining success and measuring performance

There are two key ways that the land-based and environmental sector can define success and measure performance⁸³. Qualifications can be used to measure how skilled the sector workforce is and Gross Value Added (GVA) can be used to measure how productive the sector is and how sector industries contribute to the economy. However both of these measures are problematic for the land-based and environmental sector.

The Government's preferred proxy measure for skills is qualifications. The highest qualification achieved is measured and used to assess how skilled the workforce is. However qualifications are not a good measure of skills for our sector. As evidenced in Chapter four, a significant proportion of the workforce does not have nationally recognised qualifications – 12% in England's land-based and environmental sector compared with 7% across all sectors in England. This does not mean that the workforce is not highly skilled. Evidence from Lantra Council members, which is made up of a large proportion of industry representatives, suggests that the sector workforce is in fact highly skilled, however this is often developed through non-accredited training methods such as short training courses and knowledge transfer activities rather than full accredited qualifications, and is therefore not officially recognised.

⁸³ High Performance Working Practice doesn't really apply to many of our industries e.g. in animal health and welfare if more pets were visiting the vets it is more an indication of an epidemic or poor animal welfare rather than HPWP. In our industries social and economic issues predominate e.g. if milk prices go up at shops, the farmer isn't necessarily getting more money for the milk.

Similarly GVA is not always a reliable measure for productivity of the land-based and environmental sector. A number of factors, in addition to skills, can impact on the measurement of productivity in the sector. For instance, within a natural system, output can vary as a result of factors not in a business' control, such as climate or disease. As such if there is bad weather and poor yields in other parts of the world agricultural commodity prices will rise and UK agricultural productivity will increase.

It is also problematic measuring the performance of all the industries that make up our sector using economic measures such as GVA. For example agriculture is well served by such measures both as a measure of performance but also this type of data is readily available from national and European sources such as Defra⁸⁴ and Eurostat⁸⁵. However certain industries within the sector such as environmental conservation are not profit driven; instead they are made up of a large number of third sector and public organisations. Therefore this type of economic measure is neither suitable nor readily available and thus is deemed inadequate.

Whilst use of qualifications as a measure for skills and GVA as a measure of productivity are recognised as problematic for the sector, they are the best measures available at the current time. Where available these measures allow for national and international comparison; qualifications are the internationally accepted 'currency' for measuring skills and GVA is an internationally recognised measure of productivity. Therefore, for the purpose of this assessment we will report these measures as indicative of the performance of the sector, but with a cautionary note on limitations of these measures as discussed earlier.

5.3.2 Productivity of agricultural crops and livestock industry⁸⁶

It is not possible to examine the performance of the land-based and environmental sector as a whole using economic performance measures as discussed above, both due to the type of organisations that make up the individual industries, and because the data is not available. Instead this section focuses on the agricultural sector, as the largest industry within the sector and due to the availability of robust official data sources for this industry.

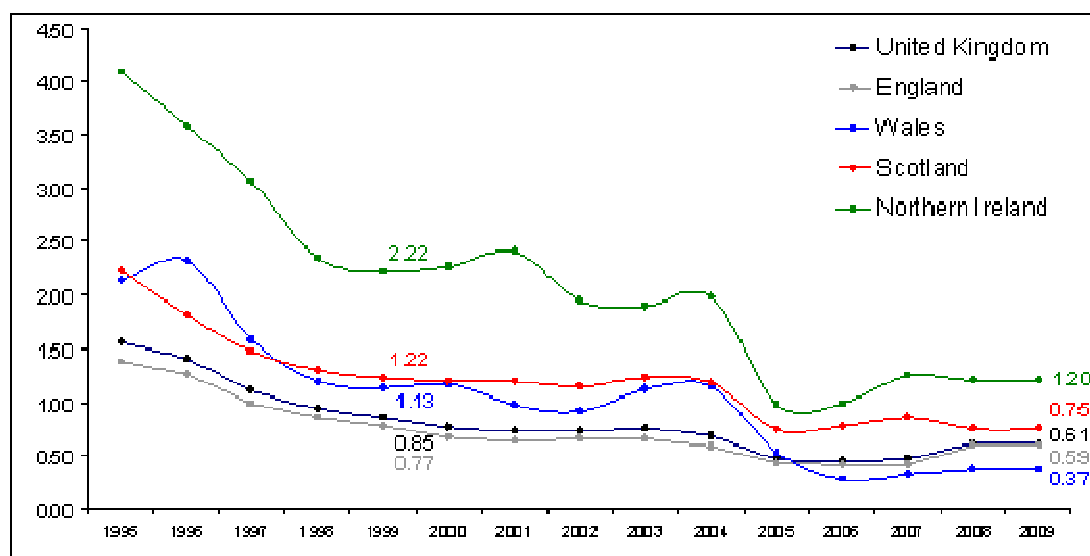
⁸⁴ www.defra.gov.uk

⁸⁵ <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>

⁸⁶ Source for GVA commentary: Agriculture in the UK 2009, Defra

Gross value added⁸⁷ (GVA) represents agriculture's contribution to national gross domestic product⁸⁸ (GDP). The Department for Environment, Food and Rural Affairs (Defra) estimates that the agricultural industry will account for around 0.59% of England's economy in 2009, measured in terms of gross value added, as shown in Figure 5.1.

Figure 5.1: Agriculture's share (%) of total gross value added at basic prices by nation



Source: Defra Statistics

For the last thirty years the overall trend of GVA for the agricultural industry in the UK has been downwards with brief periods of recovery when prices for agricultural commodities improved. Gross value added at basic prices fell in 2005 due to the introduction of the Single Payment Scheme⁸⁹, which is not linked to production and so is not included in gross value added.

Considering the UK overall, England accounted for around 83% of GVA for the agricultural industry in the United Kingdom, Scotland accounted for about 9.0%, Northern Ireland for 4.0% and Wales for 3.0%.

The measures 'Agriculture's share of total regional gross value added at basic prices' (Figure 5.1) and 'Agriculture's share of total national employment' (Figure 5.2) give an indication of the relative importance of the agricultural industry to each country in the UK. England has the lowest share of agriculture's total national employment compared to

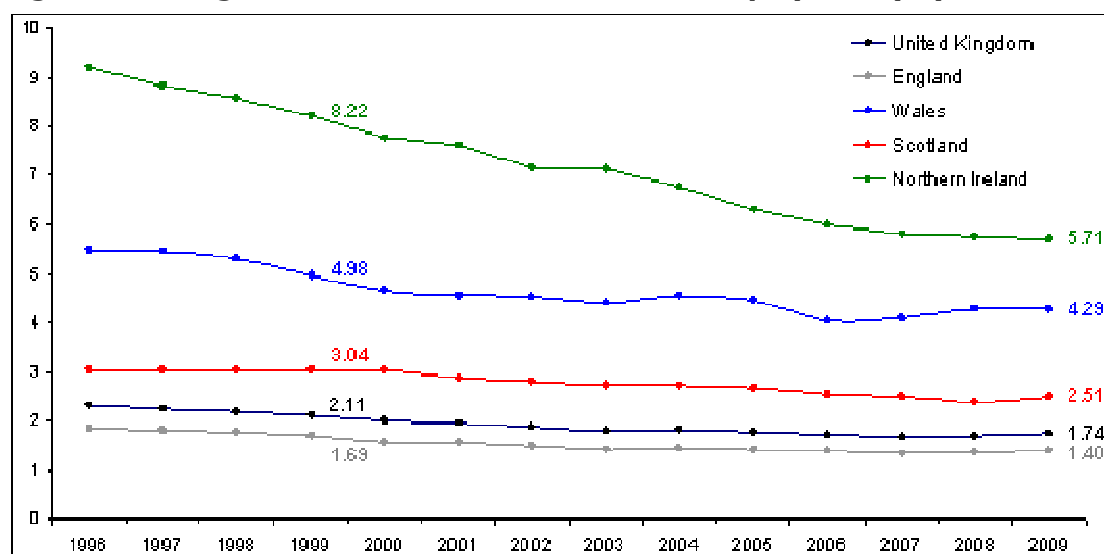
87 GVA at basic prices is output at basic prices minus intermediate consumption at purchaser prices. The basic price is the amount receivable by the producer from the purchaser for a unit of a product minus any tax on the product plus any subsidy on the product (definition by Eurostat).

88 Gross domestic product, abbreviated as GDP, is a basic measure of a country's overall economic health. As an aggregate measure of production, GDP is equal to the sum of the gross value added of all resident institutional units (i.e. industries) engaged in production, plus any taxes, and minus any subsidies, on products not included in the value of their outputs (definition by Eurostat).

89 <http://www.defra.gov.uk/foodfarm/farmmanage/singlepay/>

Northern Ireland, Scotland and Wales. Similarly, agriculture's share of gross value added was second least in England (Figure 5.1).

Figure 5.2: Agriculture's share of total national employment (%)



Source: Defra Statistics

For a discussion of the European and International dimension in comparison to the UK please refer to the UK Skills Assessment 2010, as unfortunately data for England is not available.

5.4 Current skills needs

As long as there are people who are unemployed who genuinely want to work (and that is likely to be the case in all economies, nationally and internationally), then there are always going to be applicants for a job vacancy. The issue is about the degree of match between what the candidate is capable of doing and what the job requires them to do. Rarely, even in a buoyant economy is there a perfect candidate. Thus the challenge lies in assessing the gap between the apparent capabilities of actual applicants and what is required for the role. Bearing this in mind the next section reviews current skills needs for the sector.

Evidence has been sourced from the National Employer Skills Survey (NESS) 2009⁹⁰. The definition of the sector is based on a Standard Industrial Classification (SIC) definition of the sector, which excludes a number of industries (see Appendix B for details). As such, Lantra's own primary research and industry specific evidence from trade associations and other bodies has also been used to ensure a full picture of the sector is presented.

⁹⁰ These include National Employer Skills Survey [for England] (2009), the Scottish Employer Skills Survey (2008), Northern Ireland Skills Monitoring Survey (2008) and Future Skills Wales Survey (2005)

5.5 Recruitment difficulties

Businesses in the sector can sometimes experience difficulties when attempting to fill employment vacancies. The reasons for this can vary substantially from issues concerning skills, i.e. applicants not having the necessary skills or experience, to concerns related to the nature of the job (e.g. location, poor pay and conditions, unsociable hours, or manual labour). Within this research, the latter types of vacancies are termed as 'hard-to-fill' vacancies (HtFVs).

Table 5.1 summarises the level of vacancies within the sector in England in comparison to all sectors in England. Some 3% of establishments in the sector stated that they had HtFVs (compared with 4% in 2007). This figure is the same for all sectors in England; however, when comparing the actual proportion of HtFVs, (as a percentage of vacancies) the sector has a larger percentage of HtFVs (47%, compared to 43% in 2007) than all sectors in England (22%). Within the sector it is noticeable that many vacancies are hard-to-fill due to reasons which are not skills related, such as a lack of interest or a low number of applicants. Employers within the sector, particularly in agriculture, often express the view that the sector has an out-dated image, and that individuals now prefer to work in other parts of the economy. In addition, employers frequently cite issues to do with the types of jobs they are recruiting to such as poor pay/conditions or lack of prospects. This is particularly true of lower level jobs and seasonal jobs.

Although there is a larger proportion of HtFVs and SSVs in the sector when compared to all sectors in England, it is important to note that employers within the sector will experience vacancies less frequently than most employers. Table 4.1 shows that just 7% of establishments within the sector had vacancies (as opposed to 9% in 2007) compared to 12% for all sectors in England. As evidenced in Chapter three, employers in the sector tend to be small, and because of this recruitment will be an infrequent activity for many.

Table 5.1: Summary of recruitment issues

	Lantra England	All employers England
% with a vacancy	7	12
% with a hard-to-fill vacancy (HtFV)	3	3
% with a skills shortage vacancy (SSV)	2	3
HtFVs as a % of vacancies	43	22
SSVs as a % of vacancies	32	16

Source: National Employer Skills Survey 2009

The most common reason for hard-to-fill vacancies in the sector was a 'lack of skills required' on the part of applicants, this was reported by almost one third of employers.

Lantra's primary research, for example the industry specific research on equine⁹¹ and fencing,⁹² reiterates these findings.

A subset of hard-to-fill vacancies where the reason given for the difficulty in filling the vacancy is a low number of applicants with the required skills, work experience or qualifications are known as Skill Shortage vacancies (SSVs).

Just 2% of establishments within the sector report SSVs (compared with 3% in 2007). The data for all sectors in England reports slightly higher proportions with 3% of establishments recognising vacancies as skill shortage vacancies. As with HtFVs, the actual proportion of SSVs as a percentage of vacancies was higher in the sector (32%, compared with 29% in 2007) than for all sectors in England (16%).

The volume and concentration of skills shortages vary by occupation. Employees covered by Lantra are particularly likely to be experiencing SSVs for skilled trades positions (34%)⁹³. Lantra's primary research for, example the industry specific research on equine⁹⁴ and fencing,⁹⁵ reiterates these findings.

5.6 Skill gaps

Skill gaps exist when the employer indicates that staff at the establishment are not fully proficient at their jobs. Where staff are described as not being proficient this is most commonly a temporary or interim problem caused by a lack of experience (e.g. new starter) and/or related recruitment and staff turnover difficulties. These gaps would be expected to reduce with time⁹⁶.

The following table (Table 5.2) reports data regarding skill gaps within the sector in England compared to all sectors in England. In the sector, 15% of employers report at least one member of their staff as having a skill gap (a 4% rise since 2007). In actuality, NESS data estimates that nearly 26,500 employees within the sector are not fully proficient in their current role. This equates to a rate of 6% of total sector employment, an increase of 1% since 2007.

91 A study into the business and skills requirements of the UK Equine Industry (Lantra, 2010)

92 UK Fencing Industry UK Labour Market Information Research (Lantra, 2010)

93 These include farmers (5111), horticultural trades (5112), gardeners and groundsman/women (5113), agricultural and fishing trades n.e.c (5119), floral arrangers, florists (5496); numbers in brackets are the corresponding SOC codes

94 A study into the business and skills requirements of the UK Equine Industry (Lantra, 2010)

95 UK Fencing Industry UK Labour Market Information Research (Lantra, 2010)

96 UKCES Evidence Report 23, National Employers Skills Survey for England, Aug 2010

The percentage of employers reporting skill gaps within the sector is lower than the national figure for all sectors in England. Across England, 19% of employers report the presence of skill gaps amongst their employees, whilst skill gaps affect 7% of total employment.

Table 5.2: Incidence of skill gaps

	Lantra England	All employers England
England 2009		
% of establishments reporting skill gaps	15%	19%
Number of employees with a skill gap	26,500	1,702,500
Skill gaps as a % of employment	6%	7%

Sources: National Employer Skills Survey 2009

Evidence from the National Employer Skills Survey suggests that by far the most common impact of skills gaps on an establishment is increased workload for other staff; increased operating costs; difficulty in introducing new working practices, products or services and meeting quality standards. The main cause attributed by employers for skills gaps amongst their employees is a lack of experience. A lack of staff motivation, failure to train and an inability of the workforce to keep up with change are also commonly cited. These results suggest that, given time, the majority of skill gaps can be overcome by staff gaining the necessary experience within their role. Employers most commonly react to skill gaps by increasing the amount and/or spend on training activity and there is more employers could do to expedite this process.

5.7 Skill needs

The discussion so far has centred on skills in terms of skill shortages and gaps. Essentially, it can be argued that these 'skills' make an individual 'employable' by having the ability to secure and sustain employment and progress within work^{97, 98}. So what are employability skills? The term 'employability' has been used for many years by policy-makers and researchers in the context of debates about employment and labour markets. It has been defined in different ways, with much depending on whether it refers to unemployed people or the existing workforce. However, there is agreement at a very general level that employability relates to the ability to be in employment, and, in particular, the set of characteristics that increase the chances of an individual being in work, sustain employment and to progress within work⁹⁹.

97 National Audit Office (2009) Train to Gain: Developing the Skills of the Workforce, Report for BIS and the LSC

98 UKCES, Employability Skills: A Research and Policy Briefing, March 2010

99 McQuaid R; Green A and Danson M (2006) The concept of Employability in McQuaid R; Green A and Danson M (eds) Employability and Local Labour Market Policy, Routledge, Abingdon

Employability skills according to McQuaid et al (2006)¹⁰⁰ are made up of a person's personal circumstances (e.g. caring responsibility, transport etc.), demand factors (dictated by local labour market demand and macro-economic factors) and individual factors which feature highly in being 'employable'. This is a set of basic/generic skills which includes attitudinal/behavioural characteristics that are crucial for the individual in securing, sustaining and progressing in employment. Whilst employer engagement is critical to employability it is important to be mindful that 'employer-led' provision might overlook investment in, and development of, basic and transferable employability skills among the lowest skilled workers.

Encouraging employers to develop the generic skills of their workforce, particularly among low skilled employees, remains a key challenge. This challenge may stem from reluctance among employers to provide development opportunities for employees in what they perceive as essentially transferable skills in contrast to technical skills which are perceived as more 'trainable'. Similarly, there may be a view among employers that developing basic and employability skills of individuals is the responsibility of the state and should have been provided through education before work¹⁰¹. Other potential barriers to employers providing generic skills training (both informal and formal) might include their own ability to identify and address employability problems among their workforce and more general barriers (for example information, time and resources). These barriers present challenges in terms of engaging, and in some cases expecting, employers to provide opportunities for employees to develop basic and employability skills.

Within the four national skills surveys the categories of marketing/sales skills, management and general business skills are less frequently acknowledged by employers as being in need for improvement. However, these surveys often provide a picture of the skills which employers most commonly cite as being important amongst their staff, and they may overlook the job specific skill needs within this.

Lantra's primary research¹⁰² concluded that business skills (such as marketing, sales and finance) and management skills are becoming increasingly important within the sector, especially amongst business owners and staff in management positions. In the land-based and environmental sector, softer skills including problem solving, team working, and oral communication are also frequently cited by employers as other areas requiring improvement. The skills considered most often in need of improvement within the land-based and environmental sector within each of the nations are those categorised as 'technical' or 'job specific'. The category of 'technical' or 'job specific' skills was regarded by the majority of employers as the primary skill need amongst staff within skilled trades roles and elementary roles.

100 McQuaid R; Green A and Danson M (2006) The concept of Employability in McQuaid R; Green A and Danson M (eds) *Employability and Local Labour Market Policy*, Routledge, Abingdon

101 Ipsos Mori (2009) *What Employers want from Employment and Skills Provision: a review of Literature*, A report for the DWP and BIS, London

102 Lantra (2010) Northern Ireland Lantra/DARD Survey 2010, equine and fencing research

Table 5.3: Examples of technical skills

Industry	Examples
Agricultural crops	Operating machinery/tractors Farming Spraying Service, repair and maintenance of machinery
Agricultural livestock	Operating machinery Animal husbandry Farming Animal handling/management
Production horticulture	Operating machinery Plant knowledge Tool/equipment operation
Aquaculture	Operating machinery Knowledge/care of fish
Trees and timber	Operating machinery/chainsaws Tree surgery Tree knowledge/skills
Fencing	Fence installation Operating machinery Technical drawing
Floristry	Floristry Specialist flower handling and arranging Artistic/creative
Land-based engineering	Service, repair and maintenance of machinery Mechanics/mechanical engineering Electronics
Animal care	Grooming Animal handling/management Knowledge of animals and fish
Equine	Horse management/handling Operating machinery Horse riding
Farriery	Farriery Blacksmithing Mechanics/mechanical engineering
Veterinary activities	Veterinary nursing Animal handling/management IT Anaesthetics
Environmental conservation	Operating machinery Wildlife knowledge
Game and wildlife management	Operating machinery Estate management
Horticulture, landscaping and sports turf	Operating machinery Landscaping Green keeping Tool/equipment operation

Source: Lantra Business Needs Analysis (2010)

The issue of skills is further explored in terms of differing levels of skills, i.e. basic, intermediate and higher level skills¹⁰³. Basic level skills consist of remembering previously learnt material to achieve specific tasks, often characterised as being routine and context specific. Intermediate skills are those above routine skills but below professional occupations and unlike basic skills, intermediate skills evolve as technical knowledge increases. Higher level skills build on intermediate skills but in addition enable the person to analyse, synthesise and evaluate the learnt material i.e. problem-solving skills and research and development. Thus the higher the skill the more specialised, but it is less context specific and more transferable.

The definitions above are brief and it is acknowledged that skill levels are heterogeneous in content and that the boundaries between them can be imprecise, though it was still worth making the distinction. The reason for the distinction relates back to the argument made earlier in the chapter about productivity. There is a positive correlation between the level of skill which determines growth in terms of sectoral productivity and that the three types of skills have different productivity effects.

In the next chapter basic, intermediate and high level skills are highlighted in relation to drivers for change and future skills needs.

5.8 Training and development

We now turn to look at the extent to which employers engage in formal business and training planning, and in formal human resource practices that are designed to lead to the assessment of training needs.

Almost half of employers within the sector (47%) do not have a business plan, training plan or training budget (compared to 32% across all sectors in England) suggesting a more ad hoc approach to training within the land-based and environmental industries.

Over three fifths of employers in the sector (63%) do not provide their staff with an annual performance review (compared with 33% across all sectors in England) and almost three fifths of employers (59%) do not formally assess whether their staff have skills gaps (35% across all sectors in England). Considering this, it would be interesting to know how employers decide what training is appropriate to their business needs.

¹⁰³ It is important to note here that this distinction of levels of skills related to a job and its terminology will differ from that used in relation to qualifications.

In terms of training, at the time of the survey, employers in the sector had trained 45% of their staff within the previous 12 months. Training levels in the sector were lower than average in England, however, the sector had a particularly high training expenditure relative to employment (£3,125 per employee). This expenditure per employee was higher than that of any other sectors and was almost double the national average. It is also promising that four fifths of employers (80%) said that their expenditure on training per employee has not changed as a result of the recession (compared with 71% across all sectors in England). Only 11% of employers in the sector said training expenditure per employee would decrease as a result of the recession (19% across all sectors in England).

Considering the fact that employers in the sector spend a large amount of money on training, it is somewhat surprising that over half of employers (51%) do not formally assess if the training and development has made an impact on employees' performances.

When asked whether the proportion of employees receiving training has changed as a result of the recession, 84% said the proportion receiving training had stayed the same (78% across all sectors in England), 6% reported an increase (9% across all sectors in England) and 8% reported a decrease (12% across all sectors in England).

The two main barriers to providing more training and reasons for not training are lack of funds for training/training expensive (59%) and can't spare more staff time (having them away on training) (47%).

Employers in the sector were least likely to have an awareness of and involvement with Government initiatives. For example, 51% of employers were aware of Train to Gain and only 21% were aware of the Skills Pledge (compared to 61% and 27% for all sectors in England). In terms of involvement with these initiatives, only 6% of employers are involved with Train to Gain and just 1% has made the Skills Pledge (compared to 11% and 4% for all sectors in England).

5.9 Future demand and skills needs

In the previous section the demand for current skills were explored. In order that the sector is fully prepared for the future it is necessary to understand the impact of future drivers such as employment on skills needs. This section starts by exploring possible scenarios that make for unprecedented uncertainty in today's markets for example rapid climatic change, new technology and increased competition. Having explored possible scenarios and its implication for skills, the next section of the report creates a vision of the future for the land-based and environmental sector using bespoke economic projections commissioned by Lantra. Therefore this section examines employment trends within the sector using possible future scenarios for the sector in order to anticipate the possible outcomes on skills.

5.9.1 Future scenarios

Scenarios can be used as a strategic planning method for the land-based and environmental industry to make flexible long-term plans. Scenarios provide alternative views of the future and using scenarios can help explore what the future might look like and the likely changes required for the future. Sector businesses were asked to think about possible future scenarios brought about by elements outside an employer's control, and how this would impact on skills. The following table lists three possible scenarios and the anticipated impact that these would have on skills.

Table 5.4: Future scenarios and impact on skills

Future scenarios and impact on businesses	Impact on CURRENT and FUTURE skills and business requirements
<p>Scenario 1: Effect of global warming</p> <ul style="list-style-type: none"> • Sudden increase in hot weather unlikely, but it would create new opportunities. More likely to have drastic seasonal changes e.g. a very wet autumn which will mean for example, low maize harvest • Weather extremes threaten increased flooding in both rural and urban locations across the country • Awareness of natural disasters e.g. Icelandic volcano • Industry would need to adapt to ensure that higher temperatures and water sources are managed effectively • Industry would need to look for new markets of crops and how they are harvested • The need for 'green cities' – to reduce urban heat by having for example, green roofs • Agriculture – the need for better catchment areas, carbon sequestration and anaerobic digestion • Production horticulture – impact on the growing of different crops/new species, e.g. winter wheat • Horticulture, landscaping and sports turf industry, how would water be captured, stored and used effectively? How would sports turf be managed? • Green algae diversification – use to form biofuels • Impact on ecosystem for fisheries and aquaculture. 	<ul style="list-style-type: none"> • Developing skills for environmentally sensitive land management • Improved grassland management skills • Risk management • Planning skills • Knowledge of new species/genetic modification • Research into new methods and processes • Technology transfer skills • New technologies, for example, genetic modification • Higher level technical skills for new production methods • More awareness of how this will affect businesses • Intensification rather than diversification • Skills to assess likelihood factors e.g. more likely to have wet autumn than hot summer • Skills to mitigate weather extremes requiring greater management and planning • Monitoring environmental impacts • Knowledge of new habitats.

<p>Scenario 2: Peak oil crisis and its effect on food production</p> <ul style="list-style-type: none"> • More consideration to reducing food miles and/or importing produce from global markets (e.g. increased costs of importing maize due to droughts in Russia). Therefore localisation of markets needs to be considered • In turn, producers will need to consider increasing local procurement. However, with the increasing costs of inorganic fertiliser, the agricultural and production horticulture industries will need to manage this effectively. Producers will need to consider anaerobic digestion/use of yield maps etc. • Fertiliser and fuel – direct impact on training, technology and industry will respond by changing skills for the future • There is potential for a stock market crash which brings with it commodity price fluctuations and currency volatility. 	<ul style="list-style-type: none"> • Knowledge of how to maximise crop production (e.g. knowledge and understanding of yield maps including the use of phosphorous and potassium) • Knowledge of anaerobic digestion • Awareness of business performance • Adapting existing skills for the future • Knowledge of local market needs.
<p>Scenario 3: Unexpected disease epidemic (epidemiology)</p> <ul style="list-style-type: none"> • This is closely linked with scenario one as warmer weather would generally increase the potential for disease outbreaks. Increased temperatures may also cause strains of bacteria to modify causing unforeseen outbreaks of new disease. • Pandemic flu • Bovine TB • Foot and mouth • Bio-security • Reduction of stock numbers. 	<ul style="list-style-type: none"> • Risk analysis • Increased awareness and knowledge of infectious diseases, for example, Equine Infectious Anaemia • Skills relating to animal handling and care, disease control and disease identification • Procedures for prevention of disease spread • More awareness of how outbreaks of disease affect business • Buying stock outside the area.

5.9.2 Future projections

Overall employment levels in the sector are taken as a core indicator from a skills point of view. Thus the focus is on the projected future skill needs (jobs) as measured by the number employed and the number of job openings by sector, occupation and qualification. Working Futures¹⁰⁴ 2007-2017 employment projections provide a comprehensive review of the implications of technological change, changes in Government policy and legislation and changes in other economic and social drivers for the English labour market. The Working Futures projections show that employment levels in the land-based and environmental sector in England declined by a third between 1997 and 2007 (compared to a 10% rise in the whole economy in England).

An issue with the most recently published set of Working Futures projections is their timing, as they pre-date the economic recession. However, they concentrate on the medium-term (to 2017), rather than the short-term. The 2007-17 Working Futures projections have been supplemented by the Institute of Employment Research's (IER)¹⁰⁵ Forecasting Model for Lantra's sector which is more in line with the current context and draws on updated projections, hereafter referred to as the Lantra Model for Employment Forecasting, 2010

A forward looking component of this report is especially important for the sector as it means that this document will be relevant over a number of years, and will enable a much better understanding of the dynamics of future change in the sector. However, it needs to be recognised that economic forecasting can only provide a guide as to what might happen in the future. Different forecasts and different scenarios can lead to significantly different projected figures and trends depending upon the assumptions underpinning each. The scenarios pertinent to the land-based and environmental sector were discussed earlier in this chapter. Projects at a country level need to be treated with particular caution.

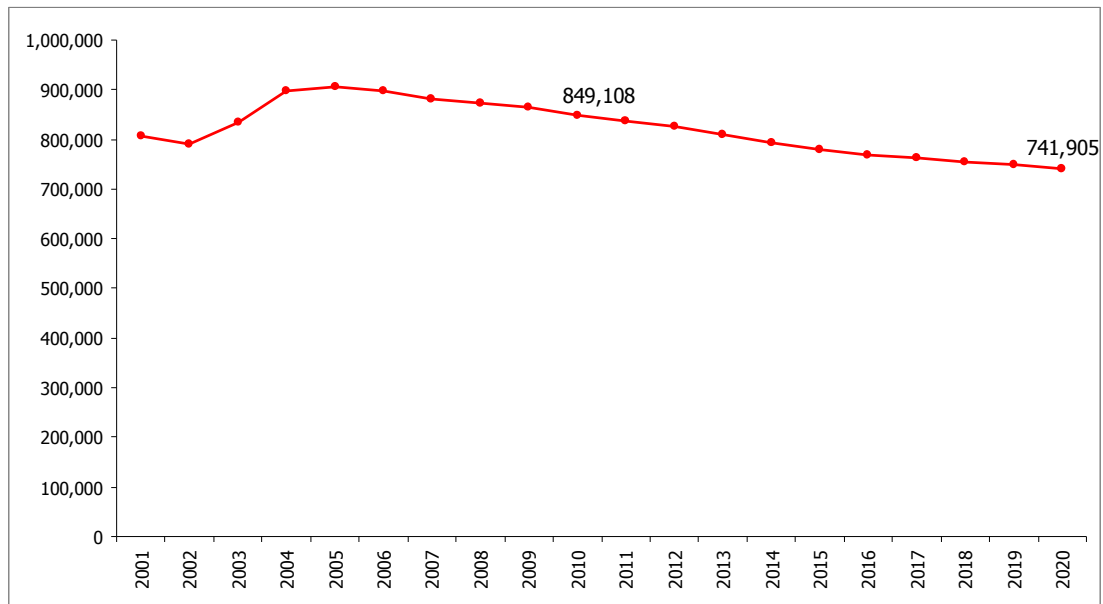
Employment projections are forecasts generated by economic models that are based on what has happened in the past. They provide a guide for what might happen in the future if employment patterns continue in the same way as they have in previous years and based on other assumptions that might impact on these trends. The projections set out in this section are based on work by the Institute of Employment Research (IER) at the University of Warwick, who were specially commissioned to develop a set of forecasts for Lantra industries.

Figure 5.3 looks at employment levels for all of Lantra's industries from 2010 with projected figures for the coming decade and confirms the continuous reduction in employment levels in the land-based and environmental sector.

¹⁰⁴ Working Futures 2007-2017, UKCES, July 2009

¹⁰⁵ Based at the University of Warwick

Figure 5.3: Change of sector employment levels, England



Source: Lantra Model for Employment Forecasting 2010

Although there was some growth in the early part of the decade with a peak in 2005 there is a general decline in employment. The overall picture is dominated by the decline in employment in agricultural livestock which makes up 22% of the land-based and environmental sector in England. That said there are some variations within the industries, for example animal care and environmental conservation show a slight positive upward trend. Between 1985 and 2006, food prices were relatively low and labour productivity continued to increase with corresponding increases in employment¹⁰⁶. Employment in agricultural livestock began to increase following the foot and mouth outbreak in 2002 and peaked at 2005 after which there has been a steady decline due to increases in fuel and oil costs, and changes in interest rates that took place in 2004 which farmers have had to pay, thus reducing spend on employment. A number of issues which have contributed to the decline from 2005 till the present (2010):

- Farms within the European Union were subsidised for their production under the Common Agricultural Policy (CAP). CAP subsidies for production have been removed, with farms now only receiving payments for undertaking environmental management measures in the form of the Single Farm Payment. The viability of smaller farms is being called into question
- Agricultural prices and incomes have fallen for many years. The recent increase in agricultural prices would have been welcomed by arable farmers (which isn't labour intensive), but will have adversely impacted on the livestock industry in the form of increased feed costs
- The sector has been beset by problems such as foot and mouth disease and Bluetongue which have added to the pressure on the livestock industry.

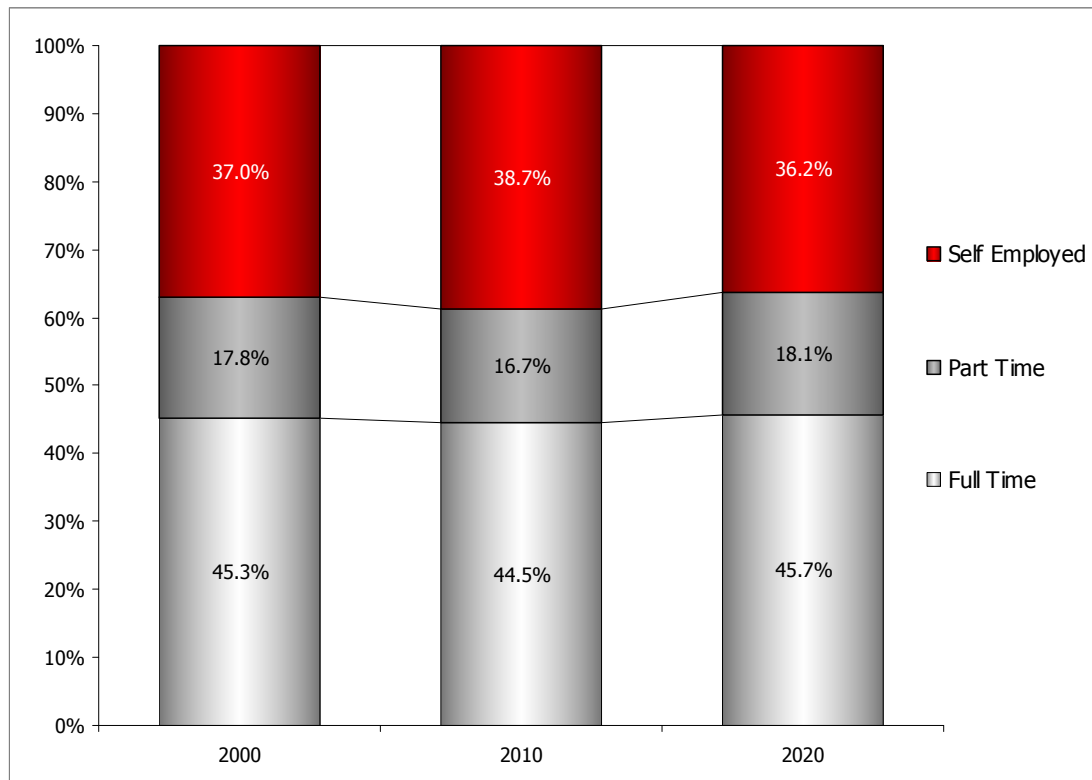
106 Burgess P J & Morris J (2009) Agricultural technology and land use futures: The UK Case, Land Use Policy 26S p 222-229

The main drivers for the decline in employment in the future (i.e. from 2010 to 2020) are seen as three fold:

- Firstly, small farms are expected to continue to close or be consolidated within larger units. Larger farms are better able to substitute labour with machines
- Secondly, there has been a diversification from food producing to other activities in the rural economy. Many who used to work in farming may continue to work in the same place, but in different activities, such as leisure and tourism
- Finally, the projections expect previous trends (such as disease outbreaks) to reassert themselves. This indicates that if the sector can become collectively better at risk management, reducing the likelihood and impact of disease outbreaks, the actual level of employment decline will be less than projected in Working Futures. 'Skills' have an important role to play within this.

Figure 5.4 shows the proportions of full-time, part-time and self-employment, historically, and in the future in England. Historically, there have been slight changes in composition in employment status with an increase in the proportion of the workforce who are self-employed (5% increase), and a decrease in part-time workers (6% decrease). This is forecast to change slightly in the future, with the number of self-employed workers declining by around 6%, and the proportion of part-time workers increasing by around 8%, to around the same proportions as in 2000.

Figure 5.4: Projections by working status, England, 2000-2020



Source: Lantra Model for Employment Forecasting 2010

Table 5.5 sets out the projected replacement demand and a net requirement for labour for the land-based and environmental sector in England for the period 2010-2020 by occupation.

Table 5.5: Replacement demand in the land-based and environmental sector by occupation in England

Occupational levels	in thousands				
	2010	2020	2010-2020		Total requirement
			Net change	Replacement demand	
Managers and senior officials	146	129	-18	53	35
Professional	50	45	-6	17	12
Assoc. Professional and technical	77	68	-9	27	18
Admin, clerical and secretarial	75	66	-9	30	20
Skilled trades	156	134	-22	51	29
Personal service	48	43	-5	19	14
Sales & customer service	156	139	-17	56	38
Process plant and machine operators	41	36	-5	14	9
Elementary occupations	98	83	-15	34	19
All occupations	849	742	-107	301	194

Source: Lantra Model for Employment Forecasting 2010

Definitions:

Net change refers to the expected expansion or contraction in overall employment levels. Employers will often need to replace those workers who leave due to mortality, retirement, career moves, or related reasons. This is known as the **replacement demand**. The sum of the net change and replacement demand is referred to as the **total requirement**.

It is important to take account of replacement demand, resulting in the need to replace those who leave their jobs because of retirement or other reasons. For the land-based and environmental sector in England, there is a projected total net requirement between 2010 and 2020 of 194,000 people. The table also indicates that all occupations are projected to have a net decline in overall numbers; the scale of expected replacement demand exceeds this implying a positive net requirement. The largest positive net requirements are expected to be for sales and customer service occupations (38,000), managerial occupations (35,000) and skilled trades occupations (29,000).

5.10 The supply of labour and skills

Projections for the land-based and environmental sector in England were discussed earlier. Together with occupational requirement, qualifications demand will also change as jobs are generally expected to become more knowledge based and skill sensitive. The analysis that follows has a long-term aim of helping identify possible imbalances and mismatches of skills. Table 5.6 sets out the projected net requirement for the workforce at each qualification level within the land-based and environmental sector in England for the period 2010-2020.

Table 5.6: Implications for qualifications for the land-based and environmental sector in England

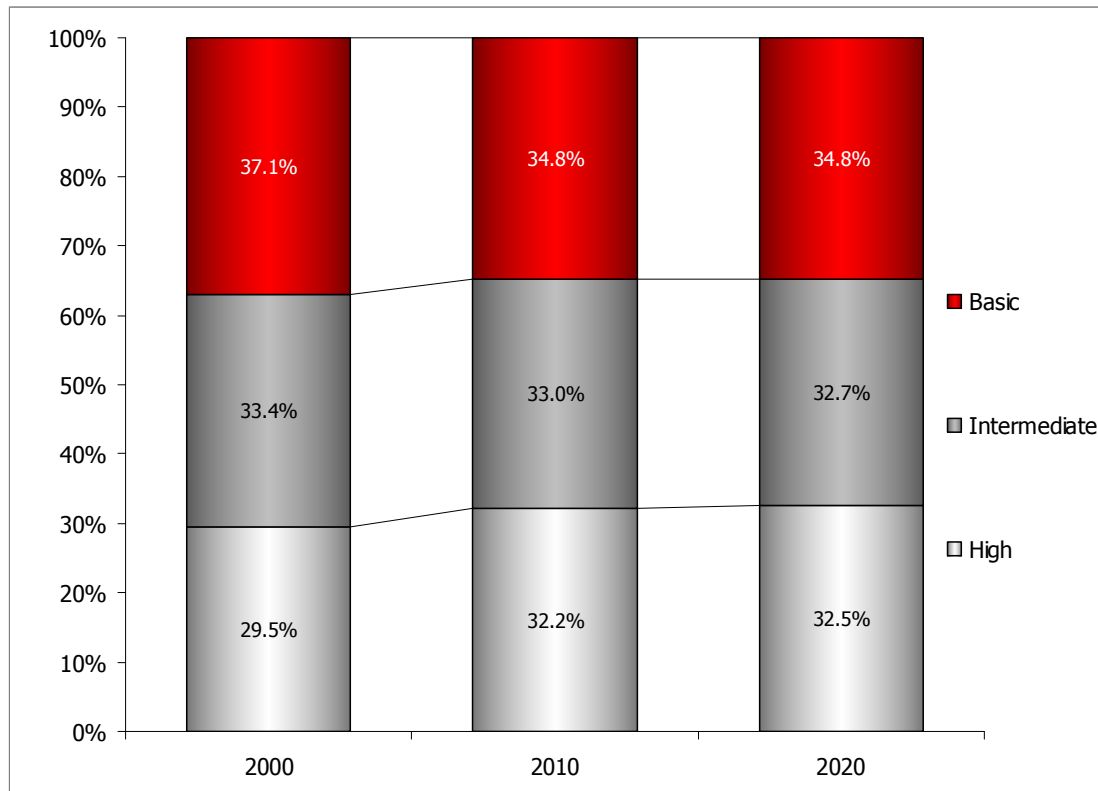
Qualification Level	Base year level	Change	Projected level	Total requirement
	2010	2010-2020	2020	2010-2020
Level 5	68	-9	59	8
Level 4	211	-27	185	34
Level 3	165	-21	144	44
Level 2	180	-23	157	47
Level 1	152	-19	133	40
Level 0	73	-9	64	21
Total	849	-107	742	194

Source: Lantra Model for Employment Forecasting 2010, numbers are in thousands

In terms of Lantra's sectors overall, there is a projected net requirement over the period 2010-2020 of 8,000 people at Level 5, about 34,000 people at Level 4 and about 44,000 people at Level 3. In relation to lower level qualifications, there is a net requirement for about 47,000 people at Level 2 and 40,000 at Level 1. Assuming that the current qualifications profile of the workforce does not change substantially, the forecasts suggest that there will also be a net requirement for 21,000 people without qualifications. This would maintain the current situation where people with no formal qualifications are working at all levels within the land-based and environmental industry. It is important that these new entrants are upskilled to meet the needs of the jobs they are going to fulfil in Lantra's sectors if they are going to increase their competitiveness.

Historically, people in high, intermediate and basic-skilled occupations appear to be distributed equally (roughly a third each) (see Figure 5.5). This trend has changed since 2000. The proportion of the workforce in basic skilled occupations has dropped by 6% from 2000 to 2010, whilst the proportion of highly-skilled occupations has increased by 9%. Looking to 2020, this proportion is likely to remain largely unchanged.

Figure 5.5: Workforce composition by occupational level, England 2000-2020



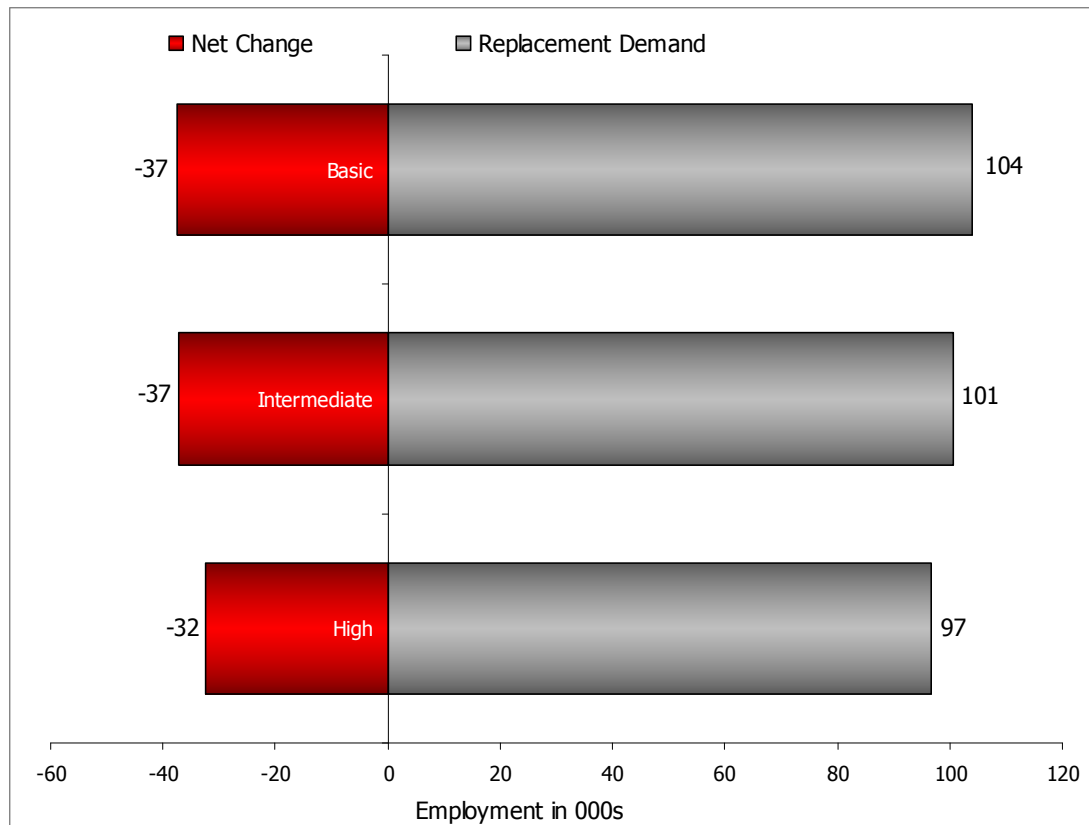
Source: Lantra Model for Employment Forecasting 2010

Figure 5.6 summarises the net change in the sector's employment levels and the employment requirements in England over a ten-year period from 2010-2020.

Over the ten-year period, the sector's workforce in England is expected to decline in employment numbers as highlighted in Table 5.5 above. Although there will be a natural shrinkage in the workforce, the sector in England still has a net replacement demand for 301,000 new workers between 2010 and 2020.

Almost a third of these (104,000) will be needed to fulfil basic skilled occupations, a third (101,000) for high skilled occupations and one third (97,000) to fill intermediate skilled occupations.

Figure 5.6: Projected employment by occupational level, England 2010-2020



Source: Lantra Model for Employment Forecasting 2010

Current skills needs for the sector essentially translate to skills demand. It is necessary to recognise, when skills demand is being considered, that demand is heavily influenced by employers' overall product/service market tactics. It is not always the case that a higher product/service (i.e. quality) requires higher level skills for effective delivery, and there are questions raised about the prevailing assumption of relentless increases in employer demand for more and more high level skills. Significant change in demand patterns would be dependent on shifts in business market positioning and work organisation.

There is a significant risk regarding the match between the supply and demand for industry specific skills for the land-based and environmental sector. So in the short-term there are improvements, but this trend is still not sufficient to meet expected future demand.

Chapter summary

In 2009, Department for Environment, Food and Rural Affairs (Defra) estimated that the agricultural industry accounted for around 0.59% of England's economy, measured in terms of GVA.

Agriculture's share of total national employment in England was 1.4%.

England accounted for around 83% of GVA for the agricultural industry in the UK.

Current demand for skills

The sector workforce is highly skilled, however this is often developed through non-accredited training methods such as short training courses and knowledge transfer activities rather than full accredited qualifications, and is therefore not officially recognised.

Recruitment activity in the sector is low and employers who report difficulties recruiting are rare. There is a low level of both hard-to-fill and skills shortage vacancies.

The most common reason for hard-to-fill vacancies in the sector was a 'lack of skills required' on the part of applicants. Lantra's primary research reinforces these findings.

Skills gaps are reported by a minority of businesses and are caused by lack of experience and the most common impact of skills gaps on businesses is increased workload for other staff, and increased operating costs amongst others.

Generic business skills together with management skills are seen to be most lacking in the workforce.

Training levels in the sector were lower than average in England, however, the sector has a particularly high training expenditure relative to employment (£3,125 per employee). This expenditure per employee is higher than that of any other sector and is almost double the national average.

The two main barriers to providing more training and reasons for not training are lack of funds for training/training expensive (59%) and can't spare more staff time (having them away on training) (47%).

Future demand for skills

In the future different types of skills will become more important. Skills associated with running a business such as marketing and sales, and financial skills such as accounts and record keeping are frequently cited as needed across the sector.

Scenarios used as a strategic planning method for the land-based and environmental industry to make flexible long-term plans include the effect of global warming, a peak oil crisis and its effect on food production and the epidemiology in terms of unexpected diseases.

The projections point to an overall net decline in numbers employed in Lantra's sector in England. Although there will be a natural shrinkage in the workforce, the sector in England still has a net total requirement for 194,000 workers between 2010 and 2020 for Lantra's sector as a whole.

The largest positive net requirements are expected to be for sales and customer service occupations (38,000), managerial occupations (35,000) and skilled trades occupations (29,000).

The sector in England has a net replacement demand for 301,000 new workers between 2010 and 2020. Almost a third of these (104,000) will be needed to fulfil basic skilled occupations, a third (101,000) for high skilled occupations and one third (97,000) to fill intermediate skilled occupations.

In terms of Lantra's sectors overall, there is a projected net requirement over the period 2010-2020 of 8,000 people at Level 5, about 34,000 people at Level 4 and about 44,000 people at Level 3. In relation to lower level qualifications, there is a net requirement for about 47,000 people at Level 2 and 40,000 at Level 1. Assuming that the current qualifications profile of the workforce does not change substantially, the forecasts suggest that there will also be a net requirement for 21,000 people without qualifications.

6 Drivers for change and future skills

In this chapter we explore the drivers for change that are affecting businesses and their implications for current and future demand for skills. This supplements the previous chapter which discusses future scenarios together with Lantra's forecasting model to enable us to forecast employee requirements for the future together with drivers for change identified in Chapter two. Each driver for change identified in Chapter two is reviewed in turn:

- Economic
- Labour supply
- Climate change/low carbon economy
- Food safety and security
- Animal health and welfare
- Energy and fuel security
- Health and safety
- Technological development.

It is becoming increasingly important for individuals in virtually all occupations to learn new skills as working practices change and the nature of work evolves. Now most employees recognise that even if they do not change jobs, they are likely to accept changes in the type of work they perform.

6.1 Economic conditions

The economic environment in England was reviewed in Chapter two. Much of the sector operates within a policy-driven framework, whether driven by UK Governments, the European Union or the World Trade Organisation. The evolution of markets both within the EU and globally and increased competition and changes in consumer behaviour means that markets for products and services are constantly being redefined. Increased consumer spending in the amenity horticulture and garden retail, countryside recreation, equine and natural heritage sectors place a greater emphasis on the provision of high quality services and the impact of the sector on social and community inclusion. The economic downturn has not affected all industries in the same way, for example, trees and timber, however, other industries have been affected where spending is discretionary e.g. floristry¹⁰⁷.

Table 6.1 shows the impact of economic drivers on businesses in the sector and how current and future skills are influenced as a result.

¹⁰⁷ Horticultural Trades Association, Garden Retail Market Analysis 2009, April 2010

Table 6.1: Impact of economic conditions on businesses and current and future skills

Impact on businesses	CURRENT skills and business requirements	FUTURE skills and business requirements
<ul style="list-style-type: none"> • Consumer spending restricted • A growing population • Implementation of Common Agricultural Policy (CAP) reform, including Cross Compliance • Urban/rural regeneration – including the social inclusion agenda and environmental enhancement • Technological change • Modernisation of rural delivery • Regional, national, UK and EU policy • Sustainability • Globalisation of markets which includes commodity and produce price volatility/fluctuations in terms of input (animal feed, agrochemicals, fertilisers) and output (wheat, barley, oilseed rape) • Diversification • Specialisation/intensification e.g. increasing the breeds of certain livestock • Community capacity building via voluntary sector • Economic downturn has led to an increase in unwanted animals due to owners having to take pay cuts or redundancy leading to added pressure on animal welfare not-for-profit organisations. 	<p>Basic skills in:</p> <ul style="list-style-type: none"> • Customer service • Sales and marketing • Managing people • Skills to add value (i.e. growth and profitability) • Understanding fixed costs • Increased industry specific skills. <p>Intermediate skills in:</p> <ul style="list-style-type: none"> • Information and Communication Technologies (ICT) • Business advice, guidance and support • Business management skills • Support to assist co-operative and collaborative business activities within the sector. <p>High-level skills in:</p> <ul style="list-style-type: none"> • Leadership and management • Business awareness so employers can contribute to local groups e.g. marketing groups/levy boards/buying groups etc. 	<p>Basic skills in:</p> <ul style="list-style-type: none"> • Customer service • Sales and marketing • Managing people • Skills to add value (i.e. growth and profitability) • Understanding fixed costs • Increased industry specific skills. <p>Intermediate skills in:</p> <ul style="list-style-type: none"> • ICT • Leadership and management • Business advice, guidance and support • Business management skills • Support to assist co-operative and collaborative business activities within the sector. <p>High-level skills in:</p> <ul style="list-style-type: none"> • ICT – technological innovations • Business awareness so employers can contribute to local groups e.g. marketing groups/levy boards/buying groups etc.

6.2 Labour supply

The issue of labour supply is closely linked to that of economic conditions described above. The sector has an ageing employment profile in an increasingly competitive job market. The expansion of the EU has provided new sources of migrant labour but also restricted seasonal schemes (e.g. tariffs placed on Seasonal Agricultural Workers Scheme uptake) as new migration policy is implemented. Young people, career changers and non-traditional groups must be attracted to the sector. In addition to recruitment problems, skill intensification has also led to skill gaps within the active workforce. The sector needs to raise its profile and that of the highly skilled jobs and career progression open to those working in the sector.

Table 6.2 shows the impact of labour supply drivers on businesses in the sector and how current and future skills are influenced as a result.

Table 6.2: Impact of labour supply on businesses and current and future skills

Impact on businesses	CURRENT skills and business requirements	FUTURE skills and business requirements
<ul style="list-style-type: none"> • Demographic profile of the sector – high replacement demand and the need to provide skills development opportunities for adult new entrants and career changers together with the need to retain and develop staff and labour management • Skills intensification of work; technological advances; diversification and commercialisation • Image of the sector – the need to engage with young people, the careers advisory services and the 14-18/19 curriculum across four countries • The supply and quality of migrant workers – recognition of their skills and experience and engagement with migration policy • Single outcome agreement • Due to an ageing population there is a need to improve practical skills of new entrants, thus securing for future needs and maintaining traditional skills associated with land-based skills and heritage conservation • The ability to deliver fit-for-purpose Apprenticeship frameworks. 	<ul style="list-style-type: none"> • Skills for effective marketing of business opportunities • Language skills • Skills to attract funding for training • Skills to enhance Apprenticeship opportunities • The ability to deliver fit-for-purpose apprenticeship frameworks • Offer Apprenticeships • Offer placement opportunities • Skills to supervise Apprenticeships • Succession planning. 	<ul style="list-style-type: none"> • Skills for effective marketing of business opportunities • Language skills • Skills to attract funding for training • Skills to enhance Apprenticeship opportunities • The ability to deliver fit-for-purpose apprenticeship frameworks • Offer Apprenticeships • Offer placement opportunities • Skills to supervise Apprenticeships • Succession planning.

6.3 Climate change

Climate change in the UK and its effect on the land-based and environmental sector was reviewed in detail in Chapter two of the UK Skills Assessment¹⁰⁸. Climate change affects how businesses manage resources to remain environmentally sustainable. The UK Low Carbon Industrial Strategy¹⁰⁹ (2009) outlines a strategic view of Britain's low carbon strengths and opportunities, detailed actions, and a basis for implementation. These initiatives affect progressively scarce water supplies, crop development and crop selection, and location. Increasingly, businesses within the sector are required to promote sustainability skills, become more accountable (e.g. in lowering carbon emissions, managing chemical usage, and reviewing energy consumption), to plan longer term to protect surrounding landscapes, and also to support biodiversity. The sector has a positive input into this agenda with the ability to not only produce non-fossil fuels but to produce sustainable alternatives and so contribute to the overall reduction in greenhouse gases (GHG). Agricultural GHG emissions fell by 1% between 2007 and 2008^{110 111}.

Table 6.3 shows the impact of climate change drivers on businesses in the sector and how current and future skills are influenced as a result.

¹⁰⁸ UK Skills Assessment, Lantra 2010

¹⁰⁹ The Low Carbon Industrial Strategy (2009) available at: <http://www.berr.gov.uk/files/file52002.pdf>

¹¹⁰ GHG calculations based on nitrogen input data from NAEI Reports Database (2009), UK Greenhouse Gas Inventory, 1990 to 2008, Common Reporting Format Tables and agricultural land use data in Defra (2009), Agriculture in the UK, Table 3.1

¹¹¹ 2009 emissions figures will not be available until 2011

Table 6.3: Impact of climate change/low carbon economy on businesses and current and future skills

Impact on businesses	CURRENT skills and business requirements	FUTURE skills and business requirements
<ul style="list-style-type: none"> • Increasing demands to demonstrate how they manage their business in an environmentally responsible manner – with specific requirements to contribute to a low carbon economy • The reduction of the carbon foot print and food-miles and local food production is going to become of increasing importance • Management of scarce resources such as water • Management of resources which can have a damaging impact on the environment such as nitrates • The need to plan the use of plants and landscapes to survive changes 20 years ahead • Along with energy prices, climate change is forcing businesses to review their use of energy and to recycle energy and use alternative sources • Biodiversity • Skills for sustainability • Global warming • Renewables • Local food supply • Biofuel from barley driving up prices • Threat of extinction of existing species • Environmental standards – CO₂ emissions and water directive • Using solar energy for farming. 	<p>Basic skills for:</p> <ul style="list-style-type: none"> • Farms having skills to mitigate climate change such as low carbon farming • Changes in pest and disease patterns. <p>Intermediate skills in:</p> <ul style="list-style-type: none"> • Minimum cultivation • Developing appropriate climate adaptation strategies for more sustainable agricultural systems • Skills to manage environmental change. <p>High-level skills in:</p> <ul style="list-style-type: none"> • Generic land manager skills • Business skills • Specific skills/re-skilling issues in relation to carbon sequestration, water management, nitrous oxide and methane production • Preventing coastal erosion and flooding • Understanding and responding to the impact of extreme weather and climate events and changing populations 	<p>Basic skills for:</p> <ul style="list-style-type: none"> • Farms having skills to mitigate climate change such as low carbon farming including soil management • Farms having to respond to changes in the climate • Changes in pest and disease patterns. <p>Intermediate skills in:</p> <ul style="list-style-type: none"> • Managing diverse business practice (holistic) skills • Minimum cultivation • Balancing food production with sustainable best practice • Developing appropriate climate adaptation strategies. <p>High-level skills in:</p> <ul style="list-style-type: none"> • Preventing coastal erosion and flooding • Understanding and responding to the impact of extreme weather and climate events and changing populations • Environmental data collection

	<ul style="list-style-type: none"> • Skills to anticipate the effects of climate change on species and replace this. 	<ul style="list-style-type: none"> • Improving and developing new monitoring techniques • Understanding the vulnerabilities of ecosystem structures and functions • Protection of natural landscapes • Using legislation and policy to deliver sustainable use of natural resources • Understanding the role of biodiversity in maintaining healthy ecosystems • Applying technology to the fields of energy provision.
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6.4 Food safety and security

Issues surrounding food safety and security in the UK and its effect on the land-based and environmental sector were reviewed in detail in Chapter two of the UK Skills Assessment¹¹². Following difficulties faced by industry in the wake of such outbreaks as Bird Flu, Salmonella and Bluetongue, the issue of bio-security has become of paramount importance amongst food consumers and producers alike. Businesses have had to become risk managers in order to satisfy the high standards and wide product ranges desired by customers. Quality assurance schemes require traceability, sustainable production and robust systems in the food chain, which impact on primary producers.

At the global level, recent research by the Smith Institute (2009)¹¹³ highlights there are long-term challenges facing the sector brought about by population growth, economic growth in key emerging economies, changing dietary patterns, finite land availability, climate change, the continuing availability of key resources, the energy challenge (including the competition between crops for biofuels and food) and a slowdown in the rate of food productivity.

Table 6.4 shows the impact of food safety and security on businesses in the sector and how current and future skills are influenced as a result.

112 UK Skills Assessment, Lantra 2010

113 The Smith Institute (2009), Feeding Britain

Table 6.4: Impact of food safety and security on businesses and current and future skills

Impact on businesses	CURRENT skills and business requirements	FUTURE skills and business requirements
<ul style="list-style-type: none"> • Consumer behaviour – demands for greater convenience, healthy lifestyles and a wide range of choice • Increasing drive for economic, environmental and social sustainability in the farming and food sector • Food quality, traceability and quality assurance • Globalisation, developments in trade and markets and (sustainable) supply chains • New approaches to land management (e.g. Glastir in Wales). Conflicting priorities for land-use/planning decisions • Local food production • GM agenda. 	<p>Basic skills in:</p> <ul style="list-style-type: none"> • Business advice, guidance and support • ICT. <p>Intermediate skills in:</p> <ul style="list-style-type: none"> • Business management skills • Risk management • Supply chain management. <p>High-level skills in:</p> <ul style="list-style-type: none"> • Contract management and negotiation • Minimising waste within production, storage, marketing and processing. 	<p>Basic skills in:</p> <ul style="list-style-type: none"> • Business advice, guidance and support. <p>Intermediate skills in:</p> <ul style="list-style-type: none"> • Business management skills • Risk management • ICT • Supply chain management. <p>High-level skills in:</p> <ul style="list-style-type: none"> • Minimising waste within production, storage, marketing and processing • Raise skills and awareness around Quality Assurance schemes • Sustainability skills such as lean management techniques; increased food production • Low carbon food production • Sense of agricultural land and food supply under demographic and environmental change • Security of agricultural land and food supply under demographic and environmental change • Protection and management of existing soil resources.

6.5 Animal health and welfare

Animal health and welfare has become increasingly important to owners, veterinary surgeons, para-professionals and animal carers, occupations involved in the livestock industry, consumers, members of the public and Governments. The Animal Welfare Act 2006 is the most comprehensive modernisation of laws on domestic and captive animals for a century and has meant modernising codes of practice applying extra pressures to sector businesses. Other developments include electronic identification (EID) for sheep, mandatory since 31 December 2009. EID enables accurate recording of animals (e.g. milk yield, lambing results, weight) and has raised significant training needs for sheep farmers. Bovine tuberculosis is a major economic and social problem. Bovine TB is a significant threat, with a growing number of cases resulting in the slaughter of thousand of animals each year. A new duty of care, together with the consolidation and review of over 20 pieces of animal welfare legislation relating to farmed and non-farmed animals has provided these industries with an array of factors affecting business performance and professional development.

Table 6.5 shows the impact of animal health and welfare on businesses in the sector and how current and future skills are influenced as a result.

Table 6.5: Impact of animal health and welfare legislation on businesses and current and future skills

Impact on businesses	CURRENT skills and business requirements	FUTURE skills and business requirements
<ul style="list-style-type: none"> • Codes of practice driving up standards in respect of duty of care and the transporting of animals • EU legislation outlining standards of practice • Bio-security • Disease identification and control • Risk management • An increase in public awareness of the risks of zoonotic diseases • Increased ownership of status dogs causing unsocial behaviour and animal welfare issues. This will lead to increased pressure on animal welfare organisations, local authorities and police • Changing attitudes in expectations regarding the management and welfare of livestock and poultry • Reduced funding to local authorities will lead to reducing resources for animal welfare enforcement for example stray dogs leading to increased animal welfare issues. 	<p>Basic skills in the:</p> <ul style="list-style-type: none"> • Development of integrated Continuing Professional Development (CPD) across all practitioners. <p>Intermediate skills in:</p> <ul style="list-style-type: none"> • Animal handling and care, disease control, disease identification and bio-security. <p>High-level skills in:</p> <ul style="list-style-type: none"> • Understanding the impact of disease vectors on human and non-human health. 	<p>Basic skills in the:</p> <ul style="list-style-type: none"> • Development of integrated Continuing Professional Development (CPD) across all practitioners. <p>Intermediate skills in:</p> <ul style="list-style-type: none"> • Animal handling and care, disease control, disease identification and bio-security. <p>High-level skills in:</p> <ul style="list-style-type: none"> • Understanding the impact of disease vectors on human and non-human health • Assessing the impact of exposure to environmental pollutants.

6.6 Energy and fuel security

Issues concerning energy consumption are increasingly influencing sector businesses. To remain competitive, businesses are needed to progressively minimise their energy efficiency (e.g. localise trade and procurement) and protect natural resources. Furthermore, the sector is at the centre of research and development searching for possible solutions to the fuel problem itself (e.g. biofuels). The sustainability of fuel and energy sources, together with their market and consumer prices, is constantly in the news. Not only are the operating costs of the sector adversely affected by this global market change but the sector is now regarded as a sector able to research and develop potential (and sustainable) solutions.

Table 6.6 shows the impact of energy and fuel security on businesses in the sector and how current and future skills are influenced as a result.

Table 6.6: Impact of energy and fuel security on businesses and current and future skills

Impact on businesses	CURRENT skills and business requirements	FUTURE skills and business requirements
<ul style="list-style-type: none"> • Rising energy and fuel costs • Alternative and renewable energy sources (biofuels, tidal and wind power) • Energy efficiency • Natural resource management • New/bio-technology • Local food procurement • More stringent requirements for waste disposal and protection of watercourses. 	<p>High-level skills for:</p> <ul style="list-style-type: none"> • Skills for research community to provide knowledge • Skills to harvest energy through micro generation on farm (water/solar/wind/anaerobic digestion) • Impacts of waste management activities • Skills and knowledge of renewable energy sources. 	<p>High-level skills for:</p> <ul style="list-style-type: none"> • Skills for research community to provide knowledge • Knowledge of agronomy of different crops • Development of biomass supply chains • Confidence to seek opportunities for large scale energy generation • Impacts of waste management activities • Environmental surveillance and monitoring • Energy security – carbon capture and storage.

6.7 Health and safety

Businesses that participated in the focus groups highlighted that legislation associated with health and safety issues is a key on-going, short-term driver for training. The Health and Safety at Work Order 1978¹¹⁴ is the key piece of legislation covering occupational health and safety across the UK. While this legislation is an issue for all industries in the sector, some industries by the nature of the work receive priority attention from the Health and Safety Executive, particularly agriculture, horticulture and forestry.

Health and safety impacts on skill development in a variety of ways, with legislation requiring staff to undertake training in a range of activities. For instance, pesticide users are required to receive formal training; courses such as the Safe Use of Pesticides (PA1) certificate have been developed, and codes of practice exist. Businesses are also required to ensure staff receive training in the use of chainsaws.

At a business level, risk assessment has become increasingly important. Businesses are required to produce risk assessments and they need the skills to do this effectively. Some Lantra Council group participants highlighted that the industry is seen as high risk due to high levels of lone working and working with animals. In addition, they highlighted the risks associated with running a family business; in particular, the Health and Safety Executive highlighted the number of deaths to children and older people as a result of machinery operation.

Table 6.7 shows the impact of health and safety on businesses in the sector and how current and future skills are influenced as a result.

¹¹⁴ See http://www.hseni.gov.uk/index/information_and_guidance/legislation.htm

Table 6.7: Impact of health and safety legislation on businesses and current and future skills

Impact on businesses	CURRENT skills and business requirements	FUTURE skills and business requirements
<ul style="list-style-type: none"> • Risk assessment – for example; lone working, working with animals, family run businesses (deaths to children and public as workplace is also the home) and ageing workforce • Legislative requirements • Recognition of competence/self-regulation • Increasing health and safety legislation and decreasing tolerance amongst the general public for risk of any kind. 	<ul style="list-style-type: none"> • Skills to raise awareness, knowledge of requirements and how to comply • Improved learning provision in terms of CPD • Compliance and recognition of health and safety competence. 	<ul style="list-style-type: none"> • Skills to raise awareness, knowledge of requirements and how to comply • Improved learning provision in terms of CPD • Compliance and recognition of health and safety competence.

6.8 Technology change and knowledge transfer

The workshops with Lantra's national Council members identified technology change, and knowledge and technology transfer (KTT) from science and research through to everyday practice as a key driver for skills and business development within the land-based and environmental industries. This, together with the importance of STEM (Science, Technology, Engineering and Maths) skills within the economy as a driver for this innovation, is very much part of the land-based and environmental industries. It is generally acknowledged that there is a continuing need to transfer the knowledge emerging from biological and agricultural research to aid the decision making of arable farmers, land managers and their advisors. During the last three decades there have been considerable changes in the routes by which knowledge is transferred from the outputs of research to the decision maker at industry level.

KTT involves the dissemination of new techniques in areas such as food production, biodiversity, marine management, animal health and welfare and environmentally sensitive land management. Specific developments, which will impact on skills in the medium to long-term were highlighted.

The UK Government Food Strategy (Food 2030)¹¹⁵ indicates there will be a doubling of food research spending. Ensuring that this research is of high quality and outcomes are transferred into training and development solutions is key to facilitate KTT. Policy should support providers to apply the research to support take up, modification and use of this knowledge by businesses. This will enable the sector to develop processes and products that will support the sustainability of sector businesses.

An increase in the amount of genetically modified (GM) products (e.g. GM potatoes) is likely due to the changes in pesticide legislation. By producing GM crops, this will remove the need for certain fungicides/pesticides.

Table 6.8 shows the impact of technological change on businesses in the sector and how current and future skills are influenced as a result.

¹¹⁵ HM Government (2010), Food 2030

Table 6.8: Impact of technological change on businesses and current and future skills

Drivers for change and impact on businesses	CURRENT skills and business requirements	FUTURE skills and business requirements
<ul style="list-style-type: none"> • Technological change • Introduction of environmentally sustainable farming practices • Anaerobic digestion/bio-energy is likely to become more popular • Cloning of animals and in particular the breeding from their offspring has become very topical • The impact of new technologies from the introduction of computers and robotics to genetic engineering • Increasing business efficiency through technical means • Precision farming – use of Global Positioning Satellites (GPS), soil mapping, yield mapping, variable rate fertilisers • New methods of crop protection/disease control. 	<p>Basic skills in:</p> <ul style="list-style-type: none"> • Business development. <p>Intermediate skills in:</p> <ul style="list-style-type: none"> • Technology transfer skills • Robotic milking • Green technology skills • Variable rate fertiliser application • Improved recording and interpretation of plant and animal growth. <p>High-level skills in:</p> <ul style="list-style-type: none"> • Research into new methods and processes, for example, anaerobic digestion • New technologies, for example, genetic modification • Higher level technical skills for new production methods • Need more agricultural engineers • Business – Improvement Techniques (B-IT skills) • Lean management systems. 	<p>Basic skills in:</p> <ul style="list-style-type: none"> • Business development. <p>Intermediate skills in:</p> <ul style="list-style-type: none"> • Technology transfer skills • Robotic milking • Variable rate fertiliser application • Nutrient budgeting • Knowledge of new species • Hydroponics. <p>High-level skills in:</p> <ul style="list-style-type: none"> • Research into new methods and processes, for example, anaerobic digestion • New technologies, for example, genetic modification • Higher level technical skills for new production methods • Need more agricultural engineers • Business – Improvement Techniques (B-IT skills) • Lean management systems.

Chapter summary

In all, eight drivers for change were identified: economic conditions; labour supply; climate change/low carbon economy; food safety and security; animal health and welfare; energy, fuel and security; health and safety and technological development.

By exploring drivers for change that impact the land-based and environmental sector and its corresponding effect, current and future skills are identified.

Increasingly, workers will be required to acquire new skills to remain competitive in the workplace. New technologies and employers searching for increased workforce productivity demand new skills. For all workers/employees, the acquisition of new skills requires an investment in time and often money, but workers in rural areas face additional obstacles in terms of the availability of useful training sites. This report has focused on helping to understand the demographics, motivations, and community factors that lead to skills training by employees in the land-based and environmental sector in England.

7 Skills needs and training solutions by industry

This chapter provides a detailed summary of the current business issues which apply to each land-based and environmental industry and the skills needed and training solutions recommended in order to address these issues. These have been developed from discussions with industry via Lantra's employer engagement teams for each industry in consultation with a range of businesses within each industry as part of a Business Needs Analysis. These Business Needs Analyses are incorporated into Lantra's action plans for each industry.

Although the industries vary greatly, there are generic business issues, skills needs and solutions that apply to many industries. These generic business issues are grouped below to provide an overview for the sector.

Issues and drivers impacting on businesses which are common to the sector can be broadly grouped as:

- Health and safety (for example ensuring all staff understand the importance of and comply with legislation)
- Climate change (for example putting in place measures for climate change mitigation, complying with legislation)
- Encouraging new entrants to the sector (for example improving perceptions of certain industries, and ensuring new entrants are trained and have the required skills)
- Combating an ageing workforce (for example mitigating against the loss of specialist and higher level skills as older workers retire)
- Bio-security (for example awareness and prevention of current diseases and identification of potential new diseases)
- Animal health and welfare (for example complying with new legislation such as the transportation of animals)
- Economic (for example cuts to public sector funding impacting on contracts, consumer spending decreasing so reduced purchasing of products, reduction in visitors, reduction in giving to charities caused by the recession)
- Diversification (for example increasing income through new products, innovative working practices)
- Advancement of technology (for example keeping up with the pace of new technology)
- Volunteers (for example ensuring that the importance of volunteers is recognised and that volunteers have the support to be fully skilled).

Skills needs which are common to the sector can be broadly grouped as:

- Business management and planning (including market analysis)
- ICT (for example for record keeping or to enable use of new technology)
- Marketing (for example to learn skills to help with the promotion of the business, product or service)
- Health and safety (for example awareness of and training to comply with legislation)
- Risk management (for example enabling businesses to anticipate and manage future events which may impact on their business)
- Management and leadership (for example to provide managers with the skills to help them to retain staff)
- Negotiating (for example to enable employees to negotiate prices or access funding)
- Customer service (for example to enable businesses to develop client loyalty and have a competitive edge)
- National Occupational Standards (NOS) and the Qualifications and Credit Framework (QCF) (for example training to enable understanding of the opportunities available through the qualifications to provide the required skills).

Solutions which are common to the sector can be grouped as:

- Bite sized, unitised learning
- Knowledge transfer activities, awareness raising
- Recognition via Continued Professional Development (CPD) schemes
- Accurate careers guidance information and resources.

The following tables show the business issues, skills needs and solutions in detail for each individual industry.

Agriculture	
Key issues	Skills needs and training solutions
<p>Staff recruitment and retention</p> <ul style="list-style-type: none"> • Farmers and growers find it hard to find motivated skilled and unskilled staff to work in the industry. Reasons for this include, lack of understanding the industry, the image of agriculture and perceptions as a career choice. • Industry has relied on migrant workers for seasonal work and increasingly now for their permanent and skilled workforce. The possible end of the Seasonal Agricultural Workers Scheme under current proposals in 2012 could lead to major labour shortages. • Management of farm staff – language barriers, communication, employment requirements, health and safety, specific training needs, performance management. Also extends to recruitment practices – ‘attracting and getting the right person, as well as keeping them’. 	<ul style="list-style-type: none"> • Training issues – specific staff management. Requirements behind employing staff and recruitment process. Communication, health and safety training. • Ensuring the Apprenticeship Qualification is fit-for-purpose and promotion of it to businesses. • Small bite sized units of learning that give key technical training. • Government back-to-work schemes are more focused/tailored to the opportunities in agriculture, and raise awareness of the opportunities. • Development, uptake and recognition of CPD schemes within the industry to demonstrate professionalism of the sector and career progression. • Migrant workers – progress the UK/EU skills passport matching called AgriPass.
<p>New entrants to farming/industry</p> <ul style="list-style-type: none"> • New entrants find it difficult to start their own farming enterprise due to limited access to resources – mainly land and finance. Also, there is less availability of starter tenancy farms for new entrants. • Many Councils have been selling farms and reducing the number of farms they let to new entrants due to economic pressures. • Lack of young people and career changers with transferable skills coming into the industry. Reasons for this include, lack of understanding the industry, the image of agriculture, poor perceptions as a career choice and opportunities. 	<ul style="list-style-type: none"> • Fresh Start Academy was established to provide business skills training and match those ready to exit with those wishing to enter the industry. • Development, uptake and recognition of CPD schemes within the industry to demonstrate professionalism of the sector and career progression. • Accurate careers information and resources available to careers advisors. Accurate information and related resources on the industry provided to schools at primary level upwards to address the image and young people’s knowledge.
<p>Climate change and the effect on agriculture</p> <ul style="list-style-type: none"> • The agriculture, forestry and land management sector is already feeling the impact of climate change and will have a significant part to play both in reducing GHG emissions and adapting to the impacts of a changing climate. 	<ul style="list-style-type: none"> • Farmers’ adaptation to climate change involves making decisions that are sustainable, made at the right time, maximising the benefits and minimising the costs. • Understanding the risks and assessing the businesses’ vulnerability.

Agriculture	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • With impacts such as hotter, drier summers and warmer, wetter winters causing greater variability in yield and quality due to these extreme and variable weather patterns. Changes in suitability of land for producing existing crops, habitats, ecosystem changes and loss of biodiversity. • More extreme events such as flooding, storms and drought causing increased damage. 	<ul style="list-style-type: none"> • Building resilience to the risks according to the significance and decision making on future action according to the risk to the business. <p>Training on:</p> <ul style="list-style-type: none"> • Climate change projections • Farm carbon accounting • Crop agronomy • New/evolved pests and diseases • Precision farming • New crops and rotations • Soils management • Home-grown feed • Protected cropping • Management of crops and livestock to suit changing weather patterns • Renewable energy.
<p>Reducing greenhouse gas emissions</p> <ul style="list-style-type: none"> • Agriculture’s contribution to a reduction in greenhouse gases includes nitrous oxide and methane, as well as carbon dioxide. Farmers will have to take mitigation action. • The proposed agricultural emissions reduction is three million tonnes of carbon dioxide per year against the 2008 baseline. <p>Farmers have control over certain factors:</p> <ul style="list-style-type: none"> • Nitrogen – in animal manures, crop residues, biological fixation, fertilisers and animal feeds, all effect nitrous oxide emissions • Livestock management systems where methane emissions are related to production efficiencies • Energy and fuel costs which contribute to carbon dioxide emissions. 	<ul style="list-style-type: none"> • Control emissions of nitrous oxide, methane and carbon dioxide • Nutrient planning and application practice • Differential application rates of fertilisers and new technologies • Arable systems manure management plans • Soil and manure testing • Resource protection initiatives on a local basis • Soil management plans • Plant varietal selection to reduce dependency on inorganic fertilisers • Changes in livestock management systems • Handling of manures, storage and spreading • Deployment of Anaerobic Digestive systems and their management • Optimal feeding programmes • Improved health through better animal welfare • Improved energy efficiency on all farm buildings and equipment • Improved design of buildings

Agriculture	
Key issues	Skills needs and training solutions
	<ul style="list-style-type: none"> • Reduction in energy usage through more efficient vehicles • Use of renewable energy on the farm • Carbon storage through increase in woodland planting • Effective management of hedges and buffer strips • Careful management of specific habitats e.g. peat land.
<p>Alternative energy sources – reducing greenhouse gas emissions</p> <ul style="list-style-type: none"> • Government policy on cutting greenhouse gas emissions, and the challenging new national targets for renewable energy supply, are creating substantial business opportunities for the farm sector. Premium prices for small-scale renewable electricity generation through a new 'Feed-in-tariff' or 'Clean Energy Cashback' from April 2010 are expected to make on-farm power production an attractive investment. <p>Wind Turbines</p> <ul style="list-style-type: none"> • Biomass – any organic material from plants or animals e.g. manure and straw can be used for renewable energy generation. This accounts for 80% of current UK renewable energy production. • Potential to increase farm profit, mitigate climate change and manage manure, slurries and waste. 	<ul style="list-style-type: none"> • Management of sustainable crop growing practices – agronomy, carbon footprint, environmental protection. • Matching supply and demand and securing long term contracts – negotiation and future market awareness. • Skilled labour to produce bio-energy – technology skills for maintenance and repair/management of technology. • Cost and complexity in obtaining a grid connection – project management, budget and financial forecasting, communications and negotiation. • Sourcing contracts for feedstock – management of feedstock, logistics and sustainability of technical skills of assessing and analysing feedstuffs and planning correct combinations for biomass. • Managing and marketing digestate as fertiliser/nutrient management planning.
<p>Water Framework Directive 2000</p> <ul style="list-style-type: none"> • About three-quarters of the land area in the UK is used for agriculture, so the implications of the Water Framework Directive (WFD) for farmers and those involved in the agricultural industry are significant. 	<ul style="list-style-type: none"> • Land management requirements to reduce nitrate leaching. • Land management to reduce soil erosion which carries phosphates, polluting watercourse and damaging water life. • Ensuring pesticide application does not risk watercourses. • Management of water and application during drought periods. • Practices to help land absorb water, and slow rate of runoff.

Agriculture	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> The WFD has implications for farming practices and land management as well as water management. Pressures associated with agriculture include diffuse pollution and water consumption. 	<ul style="list-style-type: none"> Increase organic matter, soil protection review as part of cross compliance.
<ul style="list-style-type: none"> CAP Reform 2013 – Single Farm Payment (SFP) uncertainty. Due to the Lisbon Treaty the EU Parliament will now have a full consultation on agricultural matters. The EU budget will be reviewed, which could significantly affect the future of the CAP from 2013. There is likely to be intense pressure on the EU budget and it is likely to further contribute to reducing farm pollution and environmental benefits, and may be transferred to rural development policies. 	<ul style="list-style-type: none"> Farmers will have to prepare to meet further environmental targets which may require skills acquisition in further adapting farming practices. Farmers may also need to prepare their businesses to cope with increased financial pressure if SFPs are reduced, as businesses will be more vulnerable to fluctuating markets.
<p>Health and safety on farms</p> <ul style="list-style-type: none"> Agriculture has one of the highest fatality rates of all industries and is responsible for between 15% and 20% of all deaths to workers in Great Britain each year. <p>Key issues in health and safety on farms are:</p> <ul style="list-style-type: none"> A deep-seated culture of unwise risk-taking in the industry That many farmers are resistant to officialdom and feel that the industry is unduly burdened by regulation and red tape (derived from Government departments as a whole, not just from HSE) Health and safety is not yet universally regarded as integral to good farm business management. 	<ul style="list-style-type: none"> Training to ensure understanding codes of practice and legislation for example, safety and health awareness days. The need to conduct effective risk management programmes. Example topics includes <u>workplace transport</u>; <u>maintenance work – machinery and equipment</u>; <u>preventing falls</u>; <u>handling livestock</u>; <u>workplace safety and welfare</u>; <u>pesticides and veterinary medicines</u>; <u>manual handling</u>; and personal protective equipment (PPE)
<p>Resistance and resilience in UK agriculture</p> <p>There are five categories of risks that are appropriate for use when considering the agricultural industry.</p> <ul style="list-style-type: none"> Production risks – events which make final production outcomes uncertain when production decisions are taken; pests and diseases (animal and plant), weather and water scarcity (e.g. drought, heat, severe storms) 	<ul style="list-style-type: none"> There will be a greater need for risk management and the use of risk management tools, of which skills play a major part.

Agriculture	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Market risks – uncertainties associated with prices of inputs and outputs and contract conditions • Finance risks – volatility in the costs of inputs and the price of outputs; variability of interest rates or value of financial assets and availability of credit; borrowing restrictions or tightening credit terms • Institutional risks – includes Government actions and regulations that can affect returns • Other risks – changes to pesticide regulations, water framework directive, nitrate vulnerable zones – includes health related risks and liabilities for production. • Zoonoses and health and safety have been considered but are not identified as a major concern by most stakeholders. 	<ul style="list-style-type: none"> • New skills, knowledge and expertise will be crucial in minimising the risk to agriculture. These skills could be either technical, managerial, business, financial, adapted to other industries, or a combination of these. Resilience and the professionalisation of the agricultural workforce are therefore totally inter-related. • There appears to be a lack of specific skills in risk management and business management at the level of the farm owner/operator. In this second case, this leads to a lack of ability to plan for, mitigate and manage risks. Well-managed businesses are more likely to have assessed the different risks facing their business and be taking steps to address them. The lack of business management is an indication of the lack of resilience in the industry and appears to be associated with a lack of desire to know more about risk management.
<p>From biofuel research centre</p> <ul style="list-style-type: none"> • Fuels are primarily derived from crops which may also be used as food for animals and humans. • Research in the field suggests that while it still depends on method of production, the overall greenhouse gas emission savings are positive and in some cases zero carbon production is possible as carbon emitted during the burning of biofuels is compensated by the carbon absorbed by the plants as they grow. 	<ul style="list-style-type: none"> • Agronomy of growing crops for biofuel use. • Planning and management of non-agricultural land for growing biofuel crops particularly in respect to the environment and biodiversity. • Returns and balance of supplying food crops versus biofuel crops on agricultural land.
<p>Livestock health and bio-security</p> <ul style="list-style-type: none"> • Proposed draft Animal Health Bill of plans for responsibility and cost sharing to deliver improved animal health and welfare in England. 	<ul style="list-style-type: none"> • Training requirements – bio-security farm action plans. • Bio-security is an actual term for understanding the health status of livestock, understanding what measures can be taken to improve health status, what the threats are to animal health and how they can be minimised.

Agriculture	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • On farm effect – measures requiring the livestock sector to pay for some of the animal disease monitoring and prevention costs currently met through expenditure incurred by Defra. • Future disease compensation paid to farmers will be linked to bio-security levels. 	
<p>Livestock Welfare</p> <ul style="list-style-type: none"> • Increasing demands on animal welfare standards driven by UK regulation results in higher costs of production and consequently prices. Therefore, less competitive with imported products. 	<ul style="list-style-type: none"> • Re-education of consumers on welfare standards, benefits to purchasing the product and hence the need to pay more for higher welfare, allowing better margins for farmers and invest in technology/systems to allow further competitiveness. • Farm health planning – linked to the bio-security plan. • Understanding the health status of livestock and the measures required to improve and prevent disease. • Use and application of new technology and IT (for example electronic identification of sheep).
<p>Dairy Issues</p> <ul style="list-style-type: none"> • Milk contracts need to bring greater fairness to relationships between milk producers and processors. • The impact of Nitrate Vulnerable Zones (NVZ) regulation on dairy farms. The reduction of the amount of nitrates applied will mean farmers need to have greater slurry storage (a significant cost to the business) and may need to reduce the amount of slurry and fertiliser applied to grow forage crops. • The level of inspection and regulatory burden on dairy farms. • Health and welfare – the consequences of bovine TB and Bluetongue and the welfare of the dairy cow. • Marketing milk and dairy produce in light of negative media attention on animal welfare, environmental and climate change issues. 	<ul style="list-style-type: none"> • Negotiation, communications skills, collaboration skills. • Nutrient planning and management, storage and implementation of NVZ regulations. • Compliance to inspection and regulation requirements on farms. • Comprehensive farm health planning.

Animal care	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Businesses are struggling due to a number of factors including the economic situation. • Reduction in income due to the public having little funds to donate to charities or to adopt and a reduction in the money being spent on animal welfare. • Charities are facing a rise in expenditure due to the increasing number of animals that they are caring for, increases in veterinary bills and feeding expenses, kennel repairs, increasing fuel prices etc. 	<ul style="list-style-type: none"> • Businesses need to work more effectively and efficiently and reduce costs. • Greater importance placed on business management and planning in order to ensure sustainability of the businesses in the future. • Training solutions which may help address and/or alleviate some of the issues include: business management/planning; forecasting; negotiation; marketing; advertising and fund raising on a larger scale; self-promotion; cost reduction; customer care; and innovation in the workplace.
<ul style="list-style-type: none"> • Efficiency; staffing levels kept at a minimum, lack of funds to train or employ. • Lack of facilities. 	<ul style="list-style-type: none"> • Funding for training made available. • Utilise Government funded back-to-work schemes. • Invest in the centres.
<ul style="list-style-type: none"> • Businesses need to be competitive and provide quality care and value to customers to attract new customers and retain existing ones. • Opportunity to link into the Government's 'Big Society' approach by promoting value to local community. 	<ul style="list-style-type: none"> • Customer care training • Policy guidelines • Backing from external sources • Marketing • Innovation in the workplace
<ul style="list-style-type: none"> • Ability to compete and develop. • Funding, training, and support; more needed and maintained. 	<ul style="list-style-type: none"> • Invest in staff that want further training and allow them to use new skills.
<ul style="list-style-type: none"> • Public fear of a double dip recession leading to a delay in the economic recovery of the country has led to a decrease in income, whether from payments for services or membership and donations. • Public sector cuts are leading to continued high unemployment, and reduced consumption also affects income streams. • Businesses are competing for income. 	<ul style="list-style-type: none"> • Income forecasting • Risk management • Business planning • Marketing • Cost reduction • Customer care • Innovation in the workplace.
<ul style="list-style-type: none"> • Larger organisations where there is an element of remote groups of staff need to ensure that their managers are equipped and have the right skills to manage, motivate and retain skilled staff. 	<p>ILM management qualifications implemented for existing managers:</p> <ul style="list-style-type: none"> • Team leading • Leadership • Innovation in the workplace.

Animal care	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • To ensure that businesses do not face a skills shortage in the future a pool of potential managers needs to be developed and succession planning put in place. • Leadership and management skills need to be developed. 	<ul style="list-style-type: none"> • ILM pre-management qualifications implemented for supported members of staff.
<ul style="list-style-type: none"> • Reduced costs of attending training courses. 	<ul style="list-style-type: none"> • Targeted development of e-learning opportunities including online training and assessment courses and CD based training.
<ul style="list-style-type: none"> • Professionalisation of training delivery and assessment, linking to national standards. 	<ul style="list-style-type: none"> • Accreditation of training delivery where appropriate.
<ul style="list-style-type: none"> • Increasing costs of licences required by Local Authority e.g. pet shops. These can vary widely across the country and can rise significantly each year to cover the costs of the administration and inspection visits. 	<ul style="list-style-type: none"> • Income forecasting • Risk management • Business planning.
<ul style="list-style-type: none"> • Competition from newly 'qualified' groomers who can set up and then start training with very little practical experience. 	<ul style="list-style-type: none"> • Clear comparison table required for grooming qualifications to allow new entrants, employers and business owners to assess content and development of practical experience.

Animal technology	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Availability of competency training courses for animal technicians. 	<ul style="list-style-type: none"> • Access to a competency training course.
<ul style="list-style-type: none"> • The range of qualifications and courses is unclear which impacts on the ability of employers and employees to be able to easily assess the best route for their requirements. • Information should be made available as to the levels, mode of study, mode of assessment, cost and access across the range of qualifications. 	<ul style="list-style-type: none"> • A clear guide on the qualifications available for new entrants at all levels. • A clear guide on CPD provision for career progression.
<ul style="list-style-type: none"> • Access to funding for training courses. 	<ul style="list-style-type: none"> • Clear information on the potential funding sources for training at all levels.
<ul style="list-style-type: none"> • The information being made freely available for everyone on what animal technology is all about. This is key for bringing new candidates into the industry. 	<ul style="list-style-type: none"> • Guidance on what information to supply to external agencies when advertising posts and how to deliver stronger messages of the importance of the scientific work being carried out.
<ul style="list-style-type: none"> • Changes in demand of animal models from customers leading to different species being bred and cared for. This in turn leads to different unit environment and equipment being required. 	<ul style="list-style-type: none"> • Training in the care and husbandry requirements of different species. • Training in the use of additional/different equipment.
<ul style="list-style-type: none"> • Maintaining relationships with new and existing suppliers. 	<ul style="list-style-type: none"> • Changes to purchasing process. • Monitoring critical suppliers.
<ul style="list-style-type: none"> • Animal rights activity leading to increased security needs and requirements both in staffing and technology. 	<ul style="list-style-type: none"> • Train and advise staff on security issues and potential problems.
<ul style="list-style-type: none"> • New European Home Office legislation that will come into force from 2013-2017. • The impact is still to be fully explained but there will be a requirement for training to ensure that it is introduced and implemented correctly. • Investment in facilities will also be required. 	<ul style="list-style-type: none"> • There will be a national requirement for education/training and CPD but as yet it is unclear as to what this will be.

Aquaculture	
Key issues	Skills needs and training solutions
<p>Government strategies:</p> <ul style="list-style-type: none"> • Renewed Strategic Framework for Aquaculture • EU Aquaculture Strategy • Food Security/Food Policy. 	<ul style="list-style-type: none"> • Many businesses are not aware that the EU is supporting aquaculture and some awareness raising activity, perhaps through workshops, is needed.
<ul style="list-style-type: none"> • Impact of Aquaculture and Fisheries Act (Scotland) 2007. • Compliance with industry code of good practice. 	<ul style="list-style-type: none"> • Training in containment to ensure compliance with the Act. • Businesses need a better understanding of sea lice counting and recording.
<ul style="list-style-type: none"> • Changes to the planning regime resulting from the Marine Act 2010, the Town and Country Planning (Marine Fish Farming) (Scotland) Order 2007 and the Planning etc. (Scotland) Act 2006. 	<ul style="list-style-type: none"> • Training will be needed in relation to predation management. • There may be training needs resulting from the other legislation in terms of Environmental Impact Assessment (EIA) requirements.
<ul style="list-style-type: none"> • Animal health and welfare legislation – higher professional standards and duty of care now required of all people handling animals. 	<ul style="list-style-type: none"> • CPD training in animal health and welfare to develop staff competence in accordance with good practice. • Training should include raising awareness of the duty of care and the legislation. • Requirements of audit. • Record keeping.
<ul style="list-style-type: none"> • New legislation and impact on education and training issues for businesses. 	<ul style="list-style-type: none"> • Businesses need to understand the key messages from new legislation with regard to training and education.
<p>Health and safety legislative requirements:</p> <ul style="list-style-type: none"> • Safer working environment • Reduction in accidents and ill-health for staff and clients • Workload • Workforce planning issues • Bureaucracy. 	<p>Improved learning provision in terms of CPD:</p> <ul style="list-style-type: none"> • Awareness raising of legislation • Industry specific health and safety training to improve competency, knowledge and understanding • Training in risk management for business • Record keeping • Implications for working with schools/student placements.
<p>Changes in business practice:</p> <ul style="list-style-type: none"> • Globalisation • Diversification • New products • Consumer behaviour • Employment law and implications • Stakeholder involvement. 	<ul style="list-style-type: none"> • Business advice and guidance (through CPD and knowledge transfer programmes (KTP)). • Information and raising awareness of KTP schemes and available funding. • Sales and marketing. • Customer service. • Business planning and development. • Updating on industry practice.

Aquaculture	
Key issues	Skills needs and training solutions
	<ul style="list-style-type: none"> • Market analysis/economic positioning and interpretation. • Understanding of employment law. • Training needs associated with meeting the WWF standard, once it is finalised. Other standards (e.g. Freedom Foods) being used by aquaculture in addition to food quality standards, which may require awareness raising/implementation training.
<p>Environment and Biodiversity:</p> <ul style="list-style-type: none"> • Habitats directive/birds directive etc. • Waste management. 	<ul style="list-style-type: none"> • Environmental management and legislative knowledge, particularly for staff preparing site planning applications but knowledge at farm manager level is also important for audit. • Embed sustainable principles into activities and training within the various sectors. • High level communication skills, customer service skills and record keeping. • Knowledge of applicable regulation and legislation.
<ul style="list-style-type: none"> • Food safety traceability. 	<ul style="list-style-type: none"> • Knowledge of legislation. • Hazard Analysis Critical Control Point (HACCPs) and risk assessments. • Record keeping.
<ul style="list-style-type: none"> • Customer Demand. 	<ul style="list-style-type: none"> • Quality training and auditing (understanding the many different quality standards e.g. ISO, IiP). • New product development. • Financial business development and record keeping.
<p>Technological Advances:</p> <ul style="list-style-type: none"> • New products/markets • Research and development • New machinery • Investment opportunities 	<ul style="list-style-type: none"> • Technology transfer/new technologies. • Skills training for new technology and equipment including ICT. • Negotiation skills for capital investment.
<p>Recession:</p> <ul style="list-style-type: none"> • Access to finance • Business planning • Market realisation. 	<ul style="list-style-type: none"> • Economics, business studies and Cost and profitability analysis etc. • Banking industry needs to be educated – convey to them the importance of the industry.

Beekeeping	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> The increasing occurrence of loss of bee colonies through new disorders such as colony collapse disorder. 	<ul style="list-style-type: none"> Understanding the risk new disorders present to bee keepers. Information on the latest thinking and research into disorders.
<ul style="list-style-type: none"> Control of a wide range of diseases and infestations that can have a deleterious effect on hives and a loss of production. 	<ul style="list-style-type: none"> Identification of these diseases/pests Updating on latest techniques to control pests and diseases.
<ul style="list-style-type: none"> Awareness of potential new diseases that may appear due to changes in climate. 	<ul style="list-style-type: none"> Identification of these diseases and pests. Updating on latest techniques to control pests and diseases.
<ul style="list-style-type: none"> Increasing habitat loss and potential for inappropriate chemical usage. The increase in monoculture is unsupportive for bees and can often lead to poor nutrition. 	<ul style="list-style-type: none"> Effective communication and liaison with landowners and farmers. Recognition by landowners of the value of environmental schemes that increase the habitat range for bees and the take up of such schemes.
<ul style="list-style-type: none"> In the UK the vast majority of honey bee colonies are managed by amateur beekeepers who keep them as a hobby and not as a business. These hobby farmers cannot survive year on year losses so many are likely to give up the hobby. 	<ul style="list-style-type: none"> Training on management and control of the range of diseases and pests that are common and new ones that are increasing. Web information and advice on treatment of diseases and disorders. Business management skills for those who want to take the step from amateur to small business.
<ul style="list-style-type: none"> The UK imports more than 80% of all honey consumed giving UK honey a premium price and there are potential world shortages. Bee stocks therefore need to be increased. 	<ul style="list-style-type: none"> Promotion of the beekeeping industry to new entrants. Information advice and guidance for new entrants.
<ul style="list-style-type: none"> The bee is classed by the EU as a food producing animal and as such the development of products for bees comes under the Veterinary Medicines Directorate. 	<ul style="list-style-type: none"> Awareness by beekeepers of the legal status of the honey bee and the subsequent requirements.
<ul style="list-style-type: none"> There is an increasing awareness of the medicinal value of honey (e.g. Manuka from New Zealand) and the opportunity to examine the value of UK produced honey to reduce 'honey miles'. 	<ul style="list-style-type: none"> Awareness and information on the use of honey for medicinal purposes and potential market opportunities.
<ul style="list-style-type: none"> There are legal requirements in the UK affecting the extracting, processing and preparation of honey for sale. 	<ul style="list-style-type: none"> Understanding the legal requirements for processing.

Environmental conservation	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Compliance with and pro-active support for new legislation (UK and international), e.g. with reference to the Marine and Coastal Access Act and the Water Framework Directive. 	<ul style="list-style-type: none"> • Increased awareness of marine environment and its management, including appropriate conservation measures and public access. • Access to updates/‘plain English’ summaries of relevant legislation and policy information.
<ul style="list-style-type: none"> • Negative impact of economic downturn on income from visitors and new members/membership renewals. • Threat to ecology, conservation and access/recreation jobs hosted by Government departments, non-departmental public organisations, charities and local authorities (including loss of experienced staff through redundancies leading to a lower-paid workforce with reduced expertise/experience, and compounded by lack of funding to address associated training needs). • Threat to business profitability and sound environmental land management by sporting estate owners, farmers and foresters from potential cuts to public support mechanisms and reduced income from private sources. • Balancing conservation objectives/access obligations and commercial targets (e.g. income from development proposals vs. statutory access/ecological obligations in a Local Authority context); also continuing need to integrate conservation objectives with sustainable, profitable land management. 	<ul style="list-style-type: none"> • Fund-raising, wider engagement/business diversification, contract/project management and business management skills. • Knowledge of town and country planning/development control legislation and guidance. • Improved communication/engagement with planning authorities. • Potential to link sound conservation objectives and skills with development initiatives, e.g. green homes or living roofs.
<ul style="list-style-type: none"> • Extended, sometimes misleading, use of term ‘environmental’ and risk of sound environmental conservation practices being marginalised/messages being ‘diluted’. • Lack of awareness/recognition of industry’s contribution to sustainability and climate change targets. • Diverse industry with lack of strong/unified voice for environmental conservation 	<ul style="list-style-type: none"> • Support to secure improved awareness and understanding of sound environmental land management and its contribution to biodiversity, carbon sequestration, renewable energies (e.g. sustainable wood fuels), community cohesion, tourism and health/well-being • Improved awareness/understanding (including training) of wider environmental management/environmental assessment. • Marketing/communication/campaigning skills.

Environmental conservation	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Lack of support for volunteers, especially those over 25, both in terms of direct funding and support for the development of managers of volunteers (loss of experienced volunteer managers in economic downturn also an issue). • Limited awareness of volunteering opportunities and their potential positive impact on employability and biodiversity objectives (for example). 	<ul style="list-style-type: none"> • Volunteer management skills (National Occupational Standards), including health and safety. • Support to highlight value of volunteers of all ages.
<ul style="list-style-type: none"> • Limited practical species identification skills among (graduate level) recruits, impacting on businesses' (and UK) capacity to monitor biodiversity, the impact of interventions such as Environmental Stewardship, and the impact of factors such as pollution and climate change. 	<ul style="list-style-type: none"> • Field identification skills as a key component of environmental conservation/ecology courses in Further and Higher Education. • Support for field identification skills training for new entrants (including career-changers) and current staff. • Help to raise profile of the importance of field ecology skills at a national level, including monitoring impact of Stewardship interventions. • Access to wider range of relevant technical skills.
<ul style="list-style-type: none"> • Poor 'fit' of mainstream skills development, training and work-based learning with industry requirements. • Inappropriate targeting of mainstream skills development funding, e.g. prior qualifications, geographic constraints, seasonality issues and full cost of high quality delivery. 	<ul style="list-style-type: none"> • Support to improve 'fit' of provision to industry requirements, and in the interim for bespoke/project-based skills development initiatives. • Increased awareness and understanding of National Occupational Standards, Qualification & Credit Framework and Apprenticeship Frameworks.

Equine	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> Negative impact of economic downturn on income from horse owners, riding centre clients and tourists resulting in the threat to riding centres, livery yards and trekking centres. 	<ul style="list-style-type: none"> Increased awareness of business diversification opportunities and training available to support this. Training opportunities with Business Link; Is4profit provides free small business advice and information. Knowledge of how to offer Apprenticeships to give businesses a practical and effective way to develop staff without the need for expensive training courses or taking time away from the work place. Marketing, risk management, financial and business management skills.
<ul style="list-style-type: none"> Lack of awareness/recognition of industry's contribution to the economy. Diverse industry with lack of strong/unified voice. 	<ul style="list-style-type: none"> Better information collation and dissemination to secure improved awareness and understanding of the equine industry's major contribution to the economy, including; tourism, sport, leisure, trade associations (equine retail), transport, competition/events/race meetings, betting, member bodies, veterinary and health/well-being (therapies), equine para-professional services. Knowledge of reports and research completed as a result of this. Improved awareness/understanding and campaigning skills (including training) of the wider contribution individual equine businesses bring to the economy.
<ul style="list-style-type: none"> Compliance with existing legislation and the need for new legislation. 	<ul style="list-style-type: none"> Increased understanding of Vehicle Operator and Services Agency (VOSA) regulations and certification required for transporting horses. Increased awareness and understanding of the potential requirements of a licensed livery yard and equine sanctuary. Awareness of the Code of Practice for livery yards. Ensure livery yard managers are equipped with appropriate knowledge and skills.
<ul style="list-style-type: none"> Lack of funding and access to training for individuals wanting to achieve their equine specific qualifications, especially 19+. 	<ul style="list-style-type: none"> Better business management skills and campaigning skills. Training support which values employees of all ages. Utilise Government back-to-work schemes to encourage businesses to invest in new staff.

Equine	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> This can pose a range of problems for equine businesses such as riding centres where qualified BHS instructors help businesses meet HSE, licensing and insurance requirements. 	<ul style="list-style-type: none"> Ensure qualifications in demand are on the Qualifications Credit Framework to improve their chances of attracting funding. Better information dissemination on the range of funding available.
<ul style="list-style-type: none"> High staff turnover where the average age of employees is 16-34. In a recent survey, 61% of employers reported difficulties in holding on to staff. Employer vacancies are hard-to-fill mainly due to the applicants' lack of required skills and unrealistic expectations. 	<ul style="list-style-type: none"> Business management and people management skills. Promote the business benefits of the value of training staff and offering progression opportunities to employees. Bite size employer/business management courses bespoke to equine businesses covering staff development, employment law and health and safety risk management. Equine Apprenticeship.
<ul style="list-style-type: none"> Poor 'fit' of mainstream skills development, training and work-based learning with industry requirements. Inappropriate targeting of mainstream skills development funding, e.g. college diplomas not matching industry requirements. Impacts on recruitment and retention of staff. 	<ul style="list-style-type: none"> Increased awareness and understanding of National Occupational Standards, Qualification & Credit Framework and Apprenticeship Frameworks. Support to improve fit of provision to industry requirements in the interim for bespoke/project-based skills development initiatives. Student destination information needed to support evidence of this. Inform businesses and employers of courses and training opportunities available which are relevant and current and the benefits of CourseFinder.
<ul style="list-style-type: none"> Average age of proprietors and equine business managers is 45-54. 	<ul style="list-style-type: none"> Increased opportunities for new equine business owners; Business Start Up support and training. Licensing of livery yards and sanctuaries; increase opportunity for younger people with higher level skills and qualifications to gain management positions. Support to improve 'fit' of higher level provision to industry requirements.
<ul style="list-style-type: none"> Equine welfare suffering as a result of the current economic climate; horse owners are turning to cheaper 'livery' alternatives. Increase of horses being taken to sanctuaries which are becoming saturated. This is more prevalent in Northern Ireland. Racing has also been affected as horses become more difficult to sell. 	<ul style="list-style-type: none"> Access to training for finance management, business management and planning especially in relation to equine welfare charities and equine proprietors.

Equine	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • High fuel and energy costs have meant an increase in the price of feed and bedding. • Long winter and dry start to the summer (2009-10) has resulted in a potential hay/haylage shortage which will impact on cost. 	<ul style="list-style-type: none"> • Livery yard licensing; improve standards, reduce welfare issues, awareness of the Equine Industry Welfare Guidelines Compendium amongst equine business managers, horse owners and welfare officers. • Training courses required for equine welfare officers. • Equine sanctuaries would benefit from training around fundraising and marketing. • All equine businesses would benefit from bite sized, easily accessed (online or at premises) courses such as; sales and marketing, quality and continuous improvement, leadership and management, finance management, change management, customer service. • Improve knowledge of pasture management to extend the grazing periods and reduce costs in additional feeding. • Knowledge of alternative feeding systems (hydroponics).
<ul style="list-style-type: none"> • Increasing threat of exotic diseases with increased international transportation of horses and climate change. • Lack of disease management procedures in place. 	<ul style="list-style-type: none"> • Increased awareness and knowledge of Equine Infectious Anaemia, how to recognise it and procedures for prevention of disease spread. • Industry applying appropriate management practices and bio-security in order to mitigate any possible exposure. • Short courses on disease prevention and management; ensure staff are equipped with the knowledge and skills to care for horses and follow the correct procedures in disease management. • Increase awareness of Horse Betting Levy Board Codes of Practice on equine diseases.
<ul style="list-style-type: none"> • Equine businesses are facing increasingly high insurance costs due to risk of litigation. • Equine businesses also face high business rates compared to turnover making it hard to expand. 	<ul style="list-style-type: none"> • Information and training on risk management skills, health and safety; improved equine awareness for health and safety enforcement officers. • Information collation and dissemination to lobby against business rates. • Introduction of an employer representative organisation to improve support and structure of the industry as with racing.

Farriery	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • The price of raw materials such as steel, forge coke, and gas. • Price fluctuations have affected the profit margins of farriers whose prices for services tend to be set. • Additionally many do not have the storage facilities to buy in bulk. 	<ul style="list-style-type: none"> • A greater understanding of how to source the stock required. • Negotiation of prices.
<ul style="list-style-type: none"> • The price of keeping your van on the road, van insurance, and meeting health and safety regulations for your portable equipment. 	<ul style="list-style-type: none"> • Health and safety regulations and implementation. • Business management and legislation requirements as well as finance management
<ul style="list-style-type: none"> • The cost of running your forge with high business rates. 	<ul style="list-style-type: none"> • Business management. • Advice on small business rates relief/help.
<ul style="list-style-type: none"> • The amount of young farriers being trained in colleges in a time of economic hardship, and the impact it is having on the farriery circuit. • More regulations on the amount of students being allowed on college courses, including the pre-Farriery access course. 	<ul style="list-style-type: none"> • Research into the size and structure of farriery businesses. • Succession planning.
<ul style="list-style-type: none"> • Workshop health and safety regulations. • First aid in the work place. 	<ul style="list-style-type: none"> • Health and safety training courses for the small business provision. • Access to first aid courses.

Fencing	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> Confusion surrounding site managers around recognition of Fencing Industry Skills Scheme/Construction Skills Certification Scheme (FISS/CSCS) Cards (at its various levels) as the required standard for fence installing. This is leading to uncertainty with some contractors about the qualifications they require and the training they may or may not need to undertake with their current and future staff. 	<ul style="list-style-type: none"> Joint work between Lantra/Lantra Awards and industry to improve understanding of the benefits of the FISS/CSCS card scheme. Joint marketing activity to promote the above.
<ul style="list-style-type: none"> Access funding and support for training and qualifications. 	<ul style="list-style-type: none"> Diploma in Fencing Level 2 and 3 (where can you access it and what the costs are). Fencing Apprenticeship Framework – providers and costs. Plant and machinery training and Construction Plant Certification Scheme (CPCS) testing – providers and costs.
<ul style="list-style-type: none"> In a highly regulated sector like fencing a central portal for storing knowledge around skills, training and qualifications for all nations would be beneficial and prevent enquiries circulating between partners. In a recent Lantra survey 20% of businesses indicated some form of knowledge gap as a barrier to undertaking training. 	<ul style="list-style-type: none"> Co-ordinated creation of a 'Fencing Knowledge Hub' within the Lantra Fencing Group website pages to offer information around the areas of skills, training and qualifications.

Floristry	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> Businesses are not making full use of IT, especially websites, at the same rate as consumers are using the internet to order products. 	<ul style="list-style-type: none"> Management IT training, or the confidence to delegate the task to another member of staff.
<ul style="list-style-type: none"> The recession is reducing the amount of disposable income, which is having a direct effect on business turnover, some reporting up to 30% reduction, while others are going out of business (at one stage between two/three businesses per week). 	<ul style="list-style-type: none"> The need to identify new potential customers or diversify to additional products.
<ul style="list-style-type: none"> Sector is made of many small/micro-businesses, which are generally independent. There is one membership organisation and a number of relay companies, but essentially all businesses are on their own with little sense of a support/information mechanism and a general lack of communication between businesses. 	<ul style="list-style-type: none"> Regional hub meetings are being set up by both the BFA (British Floristry Association) and the FWTA (Floristry Wholesalers Trade Association) for knowledge transfer.
<ul style="list-style-type: none"> Competition from supermarkets, which are taking a higher percentage of the market due to reduced costs and have no challenge to wastage of product affecting their profit margin. 	<ul style="list-style-type: none"> Businesses need to be more innovative in looking at new markets and better at marketing the unique skills of the floristry industry.
<ul style="list-style-type: none"> Recruitment of staff with the relevant skills beyond just floral design, especially customer care, retail and communication skills are essential to ensure business success. 	<ul style="list-style-type: none"> The majority of businesses ensure these skills are introduced during induction to ensure new employees are able to add to the business's income at an early stage.
<ul style="list-style-type: none"> Many business managers lack the management, marketing skills and innovation to ensure sustainability in these difficult times. 	<ul style="list-style-type: none"> It is this area that the BFA is trying to encourage business managers to attend workshops.
<ul style="list-style-type: none"> The supply chain for cut flowers is open to very easy disruption e.g. volcanic ash cloud, which affected import of flowers around the world rapidly affected businesses. 	<ul style="list-style-type: none"> Ability to identify other sources of products is essential and requires the use of the internet. The use of IT is essential to a successful business.

Game and wildlife management	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • There is a lack of young people/new entrants to the game and wildlife industry. • The industry needs to recognise and develop a clear career pathway to encourage new entrants to the industry, including the rewards of working in the sector. 	<ul style="list-style-type: none"> • Develop a career pathway route showing a range of job titles with progression through vocational/academic qualification routes and examples of remuneration packages. • Identify and produce case studies. • Identify industry specific skills ambassadors to promote career opportunities through careers services and schools. • Consider broader approach to advertising vacancies.
<ul style="list-style-type: none"> • Employers consider the changes in qualification structures/frameworks confusing. • Current Apprenticeship schemes are still putting too much emphasis on the abstract delivery and examination of key/functional skills to which trainees, employers and training providers cannot relate. 	<ul style="list-style-type: none"> • Need for employers/industry to contribute more effectively in review process and influence development of qualifications. • Consider setting up regional focus groups.
<ul style="list-style-type: none"> • The industry's contribution to the enhancement of conservation interests and the general good condition of the countryside is not generally sufficiently appreciated. 	<ul style="list-style-type: none"> • Increase skills in order to increase promotional opportunities.
<ul style="list-style-type: none"> • The industry generally needs to improve the marketing of its products. 	<ul style="list-style-type: none"> • Best practice marketing and sales skills guides. • Marketing and skills courses.
<ul style="list-style-type: none"> • Lack of awareness of health and safety requirements. • Employers need to understand the need for, and carry out risk assessments to reduce risks of accidents and deaths. 	<ul style="list-style-type: none"> • Knowledge transfer activities to understand Codes of Practice and Best Practice guidance. • Health and safety training examples: use of rodenticides, quad bikes, gas cylinders on the rearing field, chainsaws. • Targeted first aid e.g. First Aid in Rural Medicine (FARM); lone worker provision.
<ul style="list-style-type: none"> • Importance of the third sector • There is a need to recognise the value of the volunteer sector within the game and wildlife industry. 	<ul style="list-style-type: none"> • Ensure volunteers are aware of Codes of Practice and Best Practice guidance. • Consider a process of recording of CPD and source funding to support CPD.

Game and wildlife management	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Impact of new wildlife, animal health and welfare legislation; need to ensure that training on the new snaring legislation is available and delivered. • Issues raised in Wildlife and Natural Environment (W&NE) Bill in Scotland e.g. issues of 'competence' in deer management will require good deer sector involvement. • Lead ammunition; outcome could have serious implications to the continued use of lead ammunition; effectiveness of alternative ammunition; cost of alternative ammunition; could affect the economics of the shooting industry; potentially increased food safety; changes in legislation. 	<ul style="list-style-type: none"> • Development of a common standards approach by industry. • Awareness of Codes of Practice and Best Practise guidance. • Develop new integrated training and assessment and a registration process to implement legislation. • Understanding the principles of a flock health and welfare plan. –
<ul style="list-style-type: none"> • To ensure the game and wildlife industry continues to operate efficiently and effectively it must keep up-to-date with technological advances. 	<ul style="list-style-type: none"> • Ensure training is available and systems developed/maintained to meet needs of individuals involved in i.e. game carcass traceability. • Raise awareness of benefits of mapping GPS/GIS skills related to wildlife management i.e. locating medicated grit boxes using GPS. • Raise awareness of benefits of IT and signpost to training opportunities.
<ul style="list-style-type: none"> • Biodiversity; public and social benefits e.g. hill track regime. • Controlled Activity Regulations/Scottish Environment Protection Agency (CAR/SEPA) regulations. • Integrating public access. • Salmonid and other riverine SAC National & Environmental targets OK though less likelihood of funding in the short term. Knock on effects of changes in policy for targeting of CAP monies. • Climate change increases focus on alternative, renewable energy sources. • Open access areas including the coastal path could impact on shooting opportunities. • Managed realignment of sea defences may remove shooting opportunities for coastal shooting interest. 	<ul style="list-style-type: none"> • Specific best practice guidance in each area; best practice guidance. • Focused economic support to deliver actual biodiversity benefits. • Awareness of opportunities/challenges in local situations and in public awareness. • Conflicting land use management objectives.

Game and wildlife management	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Lack of burning in some parts of the uplands could be a conservation issue as increased risk of large uncontrolled fires. • EU biodiversity target of halting loss of biodiversity by 2020 is an opportunity for shooters to provide additional conservation benefits for society. • Opportunities for developing the sector linked to wildlife tourism – Land Rover safaris etc. • Awareness of where funding mechanisms could be mutually beneficial or where compliance with restrictions on shooting/game management activities may be required. 	
<ul style="list-style-type: none"> • Muirburn Code i.e. W&NE bill • This is still a current issue since the W&NE Bill in Scotland has a specific recommendation to review the Code. In addition, there should be some relaxation of the restrictions currently affecting Muirburn, especially in September. 	<ul style="list-style-type: none"> • Consider changes to legislation and code.
<ul style="list-style-type: none"> • Financial implications of CAP reform in 2013 and impacts on the single farm payment and environmental schemes in home countries. • The implementation of cross compliance requirements post 2013. • Agri-environment schemes provide financial funding for effective environmental land management in the UK. Changes to the schemes will impact on shooting (e.g. new Welsh scheme Glastir planned in 2013, present scheme closed). 	<ul style="list-style-type: none"> • Lower funding to landowners will have knock on effects to game shooting as it decreases opportunity to apply for funds so financial management and planning skills will become more important. • Cross compliance knowledge needs to be increased and updated. • Game shooting activities have to complement or be supported by the schemes e.g. planning for game cover as set aside. • Improved business management skills to understand and implement new farming practices required under the new CAP regulations. • Developing skills for environmentally sensitive land management. • Increased learning provision in terms of initial and continual professional development. • Developing skills for sustainable development.

Game and wildlife management	
Key issues	Skills needs and training solutions
	<ul style="list-style-type: none"> • Higher level technical skills for new production methods. • An integrated business advice and guidance structure to meet the needs of industry.
<ul style="list-style-type: none"> • Competence testing within the deer industry in Scotland, which will be reviewed in 2014 if not implemented by then. 	<ul style="list-style-type: none"> • Industry needs to develop a common standards approach. • Ensure relevant training is available.

Horticulture, landscaping and sports turf	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> Public sector: financial cuts on top of already tight budgets, resulting in staff reductions with potential knock on effects for service provision. Parks are not a mandatory service and therefore do not have protected budgets. 	<ul style="list-style-type: none"> Managers will need to market the importance and relevance of their services.
<ul style="list-style-type: none"> Many areas that depend on paying visitors for income are seeing a reduction in visitors, which will undoubtedly lead to a reduction of staff or more becoming part-time. This is also true for some sports facilities that depend on paying members to keep the club financially sound. Loss of membership now means that these clubs have to look at other means to bringing in the required finance or face closure. 	<ul style="list-style-type: none"> The innovative marketing of these facilities is essential.
<ul style="list-style-type: none"> Research has indicated that the sector has an aging workforce, with the average at 50+ years. This is producing a blockage in the system for promotion resulting in a lack of young managers coming through the system and gaining the skills for sustainable management. 	<ul style="list-style-type: none"> This is beginning to show with the loss of skills, when the older employees retire. The introduction of technical NOS at levels 4 and 5 are essential.
<ul style="list-style-type: none"> The traditional inability to measure the contribution of the 'green infrastructure' (parks, gardens, sport facilities etc.) to the public health, environmental conservation, climate mitigation, community inclusion etc. has resulted in the lack of priority for the sector. This in turn has generally resulted in a poor perception of the sector, which has been transferred to the low take up in formal education and skills. 	<p>In the 'Grow Strategy' the main skills gaps for managers were:</p> <ul style="list-style-type: none"> Marketing and promoting sites Fundraising Planning for sustainability and climate change IT professional skills Working with community, volunteers and communicating green space matters Change management.

Horticulture, landscaping and sports turf	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • This low take up of training has further transferred itself to the gradual reduction in training provision or access, especially that linked to public funding. 	
<ul style="list-style-type: none"> • This sector is traditionally renowned for its Apprenticeship schemes. After a period of real lack in training take up, the process started to change, resulting in a number of organisations, especially public park departments, initiating Apprenticeship schemes. • This has also been encouraged by some financial assistance from various organisations (e.g. CABE Space for parks departments). • However, linked with point four, some optimism has been lost due to the lack of training providers to meet the training and assessment requirements. 	<ul style="list-style-type: none"> • There is a need for a co-ordinated approach across each region to meet the needs of horticulture training.

Land-based engineering	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Lack of competent and skilled staff within the LBE business with technical and management and leadership skills. • Shortage of general engineers of 15 to 20% which produces a very aggressive poaching of engineers in some areas of the country. • The cost to those businesses that have taken the plunge to invest in training an apprentice or staff member is very high, only to be poached by an independent business that does not invest in training and developing staff. 	<ul style="list-style-type: none"> • Train and upskill industry supervisors and managers to improve understanding and management, and leadership and business skills, thus improve working conditions and people management skills. • Dealership principle development. • Strategic business leadership and team management including business management and leadership Level 4-5. • Managing me, managing others (MEMO).
<ul style="list-style-type: none"> • Businesses support/employ only small numbers of employees yet these employees require very high level skills and continuous updating to support the new technology that is being introduced into the industry. 	<ul style="list-style-type: none"> • Industry is now able to access short courses and relevant training units linked to QCF and national occupational standards for industry. • Increased access to regular technology transfer events that cover subjects such as: engine maintenance; hydraulics; transmissions; mechatronics.
<ul style="list-style-type: none"> • There is an ageing workforce across the industry with many individuals both at management and intermediate level that lack up-to-date knowledge and recognisable management and technical qualifications. • This could lead to a potential skills shortage in the future. 	<ul style="list-style-type: none"> • Promote need for industry to engage with relevant CPD training programmes that include these areas of need: <ul style="list-style-type: none"> • Dealership management • Financial management • Sales and marketing • Managing people/team leadership and management • IT.
<ul style="list-style-type: none"> • Challenge for organisations such as independent dealers with less opportunity for their staff to access technical updating as the larger manufacturers are able to give and offer the latest technical skills support to their own dealerships. 	<ul style="list-style-type: none"> • Engage with colleges to influence availability of short course provision that is not tied directly to a manufacturer but is available for all dealers and their staff to help with access to industry accreditation scheme (LTA).

Land-based engineering	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Downturn in purchasing power from businesses and local authorities that are supplied by land-based engineering businesses across sectors such as trees and timber, horticulture, landscape and sports turf, production horticulture and agriculture will mean that all businesses will have to be more business focused and improve their business practice to make up for the short fall from reduced sales activity, income and profitability. 	<ul style="list-style-type: none"> • Potential training solutions to help alleviate the issue are: • Business planning • Forecasting • Innovation in the workplace • Negotiation • Cost reduction • Customer care • Sales and marketing.
<ul style="list-style-type: none"> • Businesses do not see the true value of technicians' skills and do not charge enough for their skills in the open market. 	<ul style="list-style-type: none"> • Knowledge transfer to raise awareness of LTA scheme developed by industry to promote professional skilled staff and businesses to target farmers and growers. • Better business skills needed for established owners/managers to help market their staff and their business.
<ul style="list-style-type: none"> • Many businesses have to adapt to changing markets by providing services for new and growing technologies such as precision farming, low carbon and alternative energy driven vehicles. • Charge out rates of technicians should be increased to reflect the growing skills levels. 	<ul style="list-style-type: none"> • Better trained sales staff and technicians to promote and service the new hardware and software. Technical updating on new products and new technologies; robotics; cybernetics; diagnostics.
<ul style="list-style-type: none"> • Funding for training apprentices through both work based and college based programmes is not adequate as provision is so generic that resulting graduates are limited to skills base and technical competence while industry level of technology is racing ahead. • Manufacturers and importers cannot get the training necessary from some current providers as they are not up-to-date and do not have the resources to apply new technology. 	<ul style="list-style-type: none"> • Industry to understand the new NOS and National Frameworks linked to QCF so they understand the opportunities available through the new qualifications to provide the required skills.

Land-based engineering	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Health and safety legislation has a huge impact on the land-based engineering sector in terms of working practice. 	<ul style="list-style-type: none"> • Training: • Fork lift operation • Tractor driving and handling • Sprayer operator and maintenance • Trailer brake testing • Mobile Equipment Work Platform (MEWP) or Cherry Pickers • Mobile air conditioning qualifications (C&G & IMI) • NSTS National Sprayer Testing Scheme (voluntary initiative to support applications of sprays: see AEA website for more details).
<ul style="list-style-type: none"> • Lack of local and regional support for national Apprentices for horticulture, turf care and agricultural industry means that industry cannot readily take on Apprenticeships and therefore numbers may be challenged. • Cost of employing apprentices means extra costs when trainees have to travel long distances to attend provision. 	<ul style="list-style-type: none"> • Promotion to increase regional and local work based learning activities in support of industry, manage the development of apprentices and help to increase the numbers of young people engaging with industry Apprenticeships. • Work with local and regional provision to develop specialist centres which will be supported by industry to deliver quality technicians.
<ul style="list-style-type: none"> • Working to environmental best practice in terms of waste management and recycling. 	<ul style="list-style-type: none"> • Training for new legislation in relation to environmental management and safe practice such as effective installation, best practice and waste management.
<ul style="list-style-type: none"> • Maintaining best practice in relation to employment law and health and safety. 	<ul style="list-style-type: none"> • Continuous updating on new legislation relating to health and safety and employment law.

Production horticulture (both ornamental plant and food production)	
Key issues	Skills needs and training solutions
<p>Food production</p> <ul style="list-style-type: none"> • Levels of home produced (UK grown) vegetables have reduced by 24%, while imports have increased by 51%. • The amount of home produced fruit has remained steady, while imports have increased to meet demand. • The UK on balance is not benefitting from the increased demand, therefore losing market share. 	<ul style="list-style-type: none"> • Increased uptake of skills in food production at all levels of business is required.
<p>Food and ornamental production</p> <ul style="list-style-type: none"> • Lack of Government recognition for this sector, as a priority for investment in development, research and skills. • The skills provision is generally dictated by regulatory requirements or those demanded by 'assurance schemes', very often the same. • Qualification achievement in this sector is reported as one of the worst. 	<ul style="list-style-type: none"> • Small unit training is required, as previous NVQ/SVQs were not fit for purpose. • However, the level of specialist skills is high, as no business can afford not to have skilled operators. The recognition of these skills on a national basis is the challenge.
<p>Food production</p> <ul style="list-style-type: none"> • The low demand for qualifications, due to a number of reasons, has resulted in a drastic reduction in the training provision to this sector. 	<ul style="list-style-type: none"> • Qualifications designed by employers via the Qualification and Credit Framework (QCF), especially in small sizes are ideal.
<p>Food production</p> <ul style="list-style-type: none"> • Production horticulture traditionally employed many seasonal and part time members of staff. This is gradually reducing due to the vast increase in technology and mechanisation (less people to do the job), rotation of crops (moving staff around) and more protected crop production, which results in all year round production. Staff are therefore more highly skilled in specialist areas, which do not fit in with the traditional qualification routes. • Also, of the seasonal staff only 16% are British born, with 81% coming from within the EU and 3% from outside the EU, this is also a barrier to qualifications. • The majority of training is now done in the work place. 	<ul style="list-style-type: none"> • The QCF scheme is ideal for the food production sector, as specific skills can be identified and delivered, in some areas to a very high standard. It would be ideal if these individual units were funded, rather than full qualifications, as it is the individual units that are required. • Many colleges are unable to meet this demand on a cost basis.

Production horticulture (both ornamental plant and food production)	
Key issues	Skills needs and training solutions
<p>Food production</p> <ul style="list-style-type: none"> The control of retailers to dominate the price of produce has resulted in very tight budgets for growers, often with a high level of insecurity due to short term contracts. This results in the inability to make long term investments. 	<ul style="list-style-type: none"> Only short specific skills courses (QCF) are required to meet immediate demands.
<p>Food and ornamental production</p> <ul style="list-style-type: none"> All sectors are beginning to report a reduction of technical expertise at the higher and specialist levels, due to retirement and fewer replacements, and the lack of newly qualified individuals coming into the sector from HE establishments (this is tied into the point below). Areas of skills shortage are: <ul style="list-style-type: none"> Information technology Intensive production techniques New business management techniques and skills Climate change challenges (water, fuel and waste efficiency management) Practical production and related specialist tasks Plant and soil science/management Crop protection Organic systems. 	<ul style="list-style-type: none"> These are high level skills that, in many cases, are carried out by different individuals in large businesses, but SMEs require individuals to be multi-skilled or possibly bring in the specialists on a consultancy basis. Short seminar/workshop type of knowledge transfer is an ideal way of keeping businesses up-to-date with new methods of operating.
<p>Food and ornamental production</p> <ul style="list-style-type: none"> External perception of the industry is not one of high technology etc. This is clearly reflected in the decrease in demand of students taking up HE studies within the subject areas. 	<ul style="list-style-type: none"> A real need to produce cross sector agreement for the production of good information, advice and guidance (IAG).
<p>Food production</p> <ul style="list-style-type: none"> The industry needs to attract competent individuals to the sector from other backgrounds, who have the generic skills to communicate along the whole food chain, from producers through retail outlets to customers. 	<ul style="list-style-type: none"> Promotion of the diversity of opportunities across the sector.
<p>Food production</p> <ul style="list-style-type: none"> Climate change and altering weather patterns have resulted in many businesses wanting to develop production in a protected environment to ensure consistent levels of production. However, regulatory burdens such as planning permission are often preventing this, especially at local Government level. 	<ul style="list-style-type: none"> The sector does need to make itself heard at national level and gain the support if food security is to become a reality.

Production horticulture (both ornamental plant and food production)	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • The lack of priority for food production still further enhances the challenge of overseas production and procurement by the supermarkets to these markets. 	
<ul style="list-style-type: none"> • Ornamental plants • In many ways this has remained rather recession proof due to the increase of demand for gardens to look better and owners to spend more time at home rather than going abroad for holidays. Also the demand in home grown food has increased. • The main challenge has been the poor summer weather during the previous two years. 	<ul style="list-style-type: none"> • It is difficult to react quickly to customer influences due to the growing times of plants, hence the ability to identify potential change in trends well ahead of time.

Trees and timber	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Safety – it is well recognised that the trees and timber industry is a hazardous occupation. 	<ul style="list-style-type: none"> • Business owners need to understand the codes of practice and legislation as well as recognised hazard identification and risk assessment as this underpins all of the work activities undertaken. • Training solutions include: risk assessment; preventing galls; child and public safety; workplace safety and welfare; noise; vibration; treework; working at heights.
<ul style="list-style-type: none"> • Within forestry there is an aging workforce with a potential skills shortage looming. Many of those employed through the contracting structure are self-employed, single operators who are therefore either unable or unwilling to take on apprentices, particularly those aged under 20. • Greatest potential uptake for Apprenticeships is through the Forestry Commission and bids are being presented to increase the number of apprentices the commission takes on. 	<ul style="list-style-type: none"> • Suitable Apprenticeship programmes, appropriately funded, which are flexible enough to cope with the diversity of the industry. • There is a need for the training programmes, Apprenticeships etc. to have common content to allow transferability of staff across the home nations. The new English Apprenticeship has flexibility, but the structure being proposed in Scotland will be different as SVQs have been retained north of the border. Funding also becomes an issue where there is a greater emphasis on places for 16-19 year olds and yet both arboriculture and forestry will recruit a good number of staff at 19-25 years. • Training solutions; Apprenticeships.
<ul style="list-style-type: none"> • Changes in legislation and training requirements. 	<ul style="list-style-type: none"> • Periodic updating of skills and on the development of new techniques. This will include felling techniques and aerial rescue (in arboriculture). • Clear suite of training courses, so that firms (and individuals) can remain compliant with current legislative requirements. The Utility Arb Group of the Arboricultural Association is currently working with awarding bodies to devise suitable qualifications to meet their requirements.

Trees and timber	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> Attracting candidates of suitable age and background into forestry work. 	<ul style="list-style-type: none"> There is an aging demographic in the forestry industry and the need to attract new staff. Short retraining courses (six-eight week) rather than 12 month programmes would enable people to move from one career into another.
<ul style="list-style-type: none"> Climate change – potentially the changing climate will alter the range of tree species being grown for timber in different regions in the UK. 	<ul style="list-style-type: none"> Short course training on the cultivation, management, harvesting and marketing of timbers from the range of species being considered for planting. <p>Training solutions:</p> <ul style="list-style-type: none"> Cultivation, management, harvesting and marketing of timbers Arboriculture, clearing and cutting Training on climate change projections to help businesses understand the implications of our changing climate (UKCIP website for more info).
<ul style="list-style-type: none"> Management skills, those centred on the role as project manager. 	<ul style="list-style-type: none"> Contract management and long-term planning/forecasting, as well as some IT skills, need to be provided as updating or upskilling for those progressing in the forestry industry. Training solutions; business planning, business management, ICT, communication, negotiation skills, project management, budget and financial forecasting, cost control.
<ul style="list-style-type: none"> Improved foundation/key skills and a raised awareness in the new entrants into the industry of their importance for forestry and arboriculture. 	<ul style="list-style-type: none"> Employers, employer groups and providers have all indicated that there are a good number of entrants into the industry (at all levels) who are dyslexic. There are others that simply have poor literacy, communication and number skills. In addition to good training provision and support there is a need to communicate to careers advisors that these skills are important for those entering the trees and timber professions. Training solutions; literacy, numeracy, ICT.

Trees and timber	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Bio-security – increasing incidence of disease outbreaks and the ever increasing threat of new diseases is beginning to become a real issue. The skills and knowledge of how to identify and then deal with these diseases is lacking and there is a serious economic risk to forestry businesses as a result. Confor has identified that 70% of all their queries from members are now linked to handling diseases and pests. 	<ul style="list-style-type: none"> • Need for new ways of getting knowledge and technology transfer into the industry in relation to the threat posed by new disease outbreaks. This needs to be at differing levels from specialist knowledge transfer events to advice and support services. • Training solution: disease identification and management.
<ul style="list-style-type: none"> • Forestry is a long term investment. Businesses bear long-term costs before seeing a return. The businesses face increasing competition from imported timber in terms of value, quality and consistency of supply. The timber market is volatile and UK forestry businesses exist within a global commodity market and the price variations make business planning difficult. 	<ul style="list-style-type: none"> • Training solutions: • Business planning • Business management • Cost management • Marketing • Negotiating • Budget and financial forecasting.
<ul style="list-style-type: none"> • The industry has experienced difficulty in widening the recognition of the role of forestry and generating income from non-market uses e.g. carbon capture, flood mitigation, landscape value, water capture, green infrastructure for leisure and health etc. 	<ul style="list-style-type: none"> • Training Solutions: • Business planning • Marketing.

Veterinary practice and veterinary nursing	
Key issues	Skills needs and training solutions
<ul style="list-style-type: none"> • Changes to veterinary nursing training scheme: • Uncertainty of the new role of assessors employed in practice under the new scheme • Staffing levels due to uncertainty over college attendance for the new training 	<ul style="list-style-type: none"> • Training on the role of a Clinical Coach (RCVS role). • Clear information on the new training scheme, how it can be accessed by apprentices and employed staff.
<ul style="list-style-type: none"> • Competition from other retailers for diets, linked sales and medication, includes online, supermarkets and pet stores. 	<ul style="list-style-type: none"> • Marketing • Customer care • Website design • Suitably Qualified Person for dispensing of medication.
<ul style="list-style-type: none"> • Funding of training for all practice staff. 	<ul style="list-style-type: none"> • Clear information on the funding routes available to practices and providers in support of training for all practice staff but in particular student veterinary nurses.
<ul style="list-style-type: none"> • Provision of out-of-hours (OOH) services. Practices have traditionally provided out-of-hours services to their own clients but there has been an increasing trend for practices to group together in an area with OOH work being shared between premises and staff. A new development is the growth of OOH service providers with dedicated staff. Both challenge the concept of client loyalty and return custom. 	<ul style="list-style-type: none"> • Marketing • Customer care • Website design.
<ul style="list-style-type: none"> • Competition from neighbouring practices and development of specialised practices – this may be by species, referral or 'chain'. 	<ul style="list-style-type: none"> • Business planning • Marketing • Customer care.
<ul style="list-style-type: none"> • A longer range concern is the potential for changes to the Veterinary Surgeons Act and the opening up of procedures/roles currently protected as acts of veterinary surgery to a wider 'veterinary team'. 	<ul style="list-style-type: none"> • None as yet but potential for qualification development related to the role of RVNs and practice staff as para-professionals.
<ul style="list-style-type: none"> • Recruitment and retention of qualified veterinary nurses. • Recruitment of student veterinary nurses and lay-staff remains easy for the majority of practices. However, for some practices the recruitment of qualified RVNs is challenging. For others involved in training, RVNs often change job after qualifying. 	<ul style="list-style-type: none"> • Potential for development of targeted CPD units to allow career progression for RVNs. • Continued work to promote the role of the RVN as bringing value to the practice team if allowed to work to the full potential e.g. nurse clinics and linked sales.

The Business Needs Analysis (BNA) of each industry is supplemented by Industry LMI fact sheets¹¹⁶ and the industry specific career fact sheets¹¹⁷.

Lantra both supports and provides a range of solutions to address the skills needs and training solutions for the sector. The Qualifications and Credit Framework (QCF)¹¹⁸ has been specifically designed to accredit modules and show how these can be combined to both facilitate entry and progression within work as well as be combined to form full qualifications. However the true flexibility of the QCF has yet to be realised due to funding restrictions and the continuing development of large qualifications which are rarely suitable for those already in the labour market.

Lantra supports a unit-based approach to Lifelong Learning and Continued Professional Development (CPD). Skills mapping tools such as Lantra's Skills Manager¹¹⁹ allow individuals to assess their current skills and plan what skills they need to enter or progress in work. Based on National Occupational Standards, Skills Manager enables businesses to determine skills needs and ensure that training investment is targeted on those skills and competencies required.

The Rural Development Programme is jointly funded by the EU, through the European Agricultural Fund for Rural Development, and the Government in each of the home nations. Support for training and knowledge transfer is a substantial part of the Rural Development Programme budget for each nation. In Wales (Farming Connect¹²⁰) and England (Landskills¹²¹), Lantra manages the RDP Skills Development Programmes. Although slightly different for each nation and region, in general subsidised training activities could include: seminars; business clubs; workshops and farm demonstrations; support and mentoring; technical and management information; formal/accredited training; or support for knowledge and technology transfer networks.

Lantra's new website provides high quality careers guidance¹²², information and resources for entry and progression within the land-based and environmental sector.

116 www.lantra.co.uk/research.aspx

117 www.lantra.co.uk/careers.aspx

118 <http://www.qcda.gov.uk/qualifications/60.aspx>

119 <http://www.lantra.co.uk/Business/Skills-Manager.aspx>

120 <http://wales.gov.uk/topics/environmentcountryside/farmingconnect/?lang=en>

121 <http://www.lantra.co.uk/landskills/>

122 <http://www.lantra.co.uk/Careers/Career-Finder.aspx>

8 Key findings

This chapter draws together the key considerations raised in the report, based on primary evidence and that collated from secondary research by Lantra, and presents an analysis in terms of their impact on sector businesses and the supply and demand for skills across sector industries. Under common themes identified as relevant to the sector in each nation of the UK, interventions which support the provision of appropriate education, skills and business development opportunities for the sector are outlined. Given Lantra's role, key activities which are already underway or those required in partnership with national skills systems to support the priorities identified, are also outlined.

From Lantra's primary research it is seen that, despite the differences between industries or their geographic location, businesses in the land-based and environmental sector are faced with a range of generic issues and the key drivers for change across the sector and throughout the UK are remarkably similar. Similarities also exist with regard to barriers to skills development.

Key drivers for the sector; economic conditions and labour supply, climate change and a low carbon economy, food safety and security, animal health and welfare, energy and fuel security, health and safety, and technological development, indicate continuous changes and updating requirements for industries and professions across the sector. Future scenarios have been developed and discussed with industry representatives to enable the future skills needs to be explored and anticipated. Business needs analyses undertaken with key employers across the UK have enabled this information to be drilled down to an industry-specific level.

The industries and professions comprising the land-based and environmental sector across the UK share many common characteristics, such as a high predominance of micro-businesses and a high proportion of working owners. For those business with vacancies, or those engaged in succession planning, the impact of the recession and the reduced availability of employment opportunities in traditional industries such as construction and landscaping has gone some way to alleviate recruitment problems in agriculture-related vacancies. The sector is now viewed as having more employment options, with hard-to-fill and skills shortage vacancies at relatively low levels.

The apparent low incidence of businesses providing training and using qualifications may indicate a lack of understanding of qualifications and awareness of the available specific training support. However, businesses are also identifying future skill requirements and, with increasing importance, the need for other qualifications or skills recognition and CPD systems. Business owners cite the financial cost and the loss of time associated with training as the most common reasons preventing them from providing more training, despite sector businesses being seen to have the highest spend on training per head. The National Employer Skills Surveys for 2007 and 2009 show that employers in this sector invest more per employee in skills than any other sector in England.

The set of drivers that are impacting on the sector suggest that tomorrow's farmers, growers, those caring for our environment or those involved in animal health and welfare will need to have a mix of high-level technical skills as well as business management skills to be sustainable businesses and to cope with increasing environmental and legislative demands driven by consumers, technologies and policy. The degree of change occurring within the land-based and environmental sector is significant. This suggests that skills relating to managing change are essential to the running of a successful business. In their totality these changes provide a driver for the increased professionalism of the sector.

There is strong evidence that jobs are becoming increasingly skilled within the sector. Businesses have been able to become more efficient, developing new methods and applying new technologies, leading to a decline in the number and proportion of lower-skilled roles. This presents a significant challenge in upskilling the existing workforce both because of the economic outlook when finance for training may be scarce and because of the attitudes to training highlighted in the report.

There are a number of priorities for action, based on the findings outlined in this report, set out under the following headings:

- Supporting entry to employment for new entrants, adults and career changers
- Promoting lifelong learning and continued professional development
- Supporting careers information, advice and guidance.

8.1 Supporting entry into employment

Supporting the entry of young people into employment, particularly through Apprenticeships, is a key element of the Government's skills policies. Governments continue to co-invest in entry to employment programmes for young people as a central way of ensuring the UK's continuing economic well-being. The sector predominantly has an ageing workforce with difficulties in the recruitment of young people/new entrants into the sector due to unclear career pathways. Image and attractiveness of the sector are also an issue. Providing clear information about career entry, progression and professional development opportunities for potential and recent entrants into the sector supports the supply of new entrants and appropriately skilled workers of all ages.

The age profile of the sector indicates that almost a quarter of the workforce (24%) is 55 years of age or older, which is much older than that across England as a whole (17%). The ageing workforce is coupled with 12% of the current workforce who have no formal qualifications, almost double than for England as a whole (7%). Given the age profile, it is envisaged that over the next ten years there will be a high replacement demand as owners and older workers retire. The sector therefore needs to attract the right quantity and quality of new entrants to replace those retiring from the sector.

There is a need to ensure appropriate and flexible learning opportunities are available and that individuals have access to high quality careers information, advice and guidance, so that they can make informed choices about the sector and their careers.

Apprenticeships could provide a solution for encouraging and developing new entrants of all ages to the sector. However, take-up of publicly funded Apprenticeships remains low in the sector with 66% of UK sector businesses unaware of the programmes, with the exception of veterinary nursing and farriery where this is the regulated entry route. There are two key factors which suggest that there is potential for an expansion of publicly funded Apprenticeship frameworks. Firstly, a large proportion of the workforce in England has low levels of qualifications (33% of the sector below Level 2) with employers identifying that there is a skills gap when they are recruiting. Secondly, the sector has an ageing workforce and potential for growth in response to new national strategic priorities, indicating a need for succession planning and training of new entrants.

However, a number of features of the sector present challenges to the expansion of publicly funded Apprenticeship frameworks. The fact that the majority of the sector in England is comprised of very small businesses (97% employing fewer than ten people) is potentially a barrier, as the take up of Apprenticeships is seen to be much lower amongst this group. The fact that England's National Apprenticeship Service (NAS) does not target small businesses in their push to expand Apprenticeships, due to the challenges that small businesses face in providing apprentices with the relevant skills and range of training experiences, exacerbates the situation. Low awareness in the sector of publicly funded Apprenticeship frameworks and a perception that the range of frameworks available is limited, are barriers that need to be addressed in order to increase uptake within the sector.

Research in the UK by the Small Firms Enterprise Development Initiative (SFEDI) has shown that one in three land-based students expressed an interest in being self-employed or starting their own business. As this Skills Assessment shows, however, business management and entrepreneurial skills are much needed within the sector. Lantra has a number of initiatives already running to support enterprise and management.

Whilst 'embedding' of enterprise education and skills into new and existing programmes may be appropriate for full-time learners, the sector needs to consolidate and expand programmes for those already in or near work, such as 'Fresh Start' in agriculture in England. To further support those in work Lantra has also developed 'Enterprise Essentials' which uses Lantra's Skills Manager skills recording and development system with dedicated sets of Enterprise Standards.

It is important to consider what Lantra has been doing in order to address the issues mentioned above. Lantra has:

- Developed a Sector Qualification Strategy (SQS) which sets out how current and future skills for the sector will be met through improving qualifications and training
- Supported the development of curriculum and qualifications for learners aged 14 plus to provide more information about the sector including the Environmental and Land-based Diploma in England
- Worked with Ofqual¹²³ to ensure that qualifications in the land-based and environmental sector are reviewed, updated and regulated to meet expected standards
- Reviewed the appropriateness, content and delivery of Apprenticeships across the UK and made recommendations to Governments as to flexibilities required for the sector
- Raised industry specific awareness of skills requirements via the development of National Occupational Standards (NOS)
- Promoted QCF units and qualifications incorporating business and enterprise knowledge and skills through 'Qualify with a Business'
- Developed the National Student Database which helps align skills development in land-based learners (and potential new entrants) to employer demand
- Developed 'Enterprise Essentials' with the enterprise standards from Small Firms Enterprise Development Initiative (SFEDI) which allows a self-diagnosis of small business management skills to help identify skills 'gaps' and signpost to provision. This diagnosis of skills can be tailored to any stage of the business entrepreneurial cycle i.e. thinking about, planning for or running a small business
- Developed Skills Manager – a range of skills assessment and recording systems for sector-based businesses.

8.2 Promoting lifelong learning and continued professional development

Employers want skills and development which add value to, and support the sustainability of, their businesses by retaining and raising skills of existing staff as well as recruitment of new staff. In training terms this largely means sector approved, NOS-based vocational and occupational qualifications for (younger) new entrants and smaller unit-based provision, rather than 'full' qualifications, for all other learners. Secondary research evidence indicates that when employers in the sector invest significantly in skills acquisition it directly meets their and their workers' needs.

¹²³ For England, Wales and Northern Ireland

Businesses appear to value skills that are learned on-the-job rather than taught through formal courses and recognised through formal qualifications. When recruiting for vacancies it is evident that there is currently a lack of value placed on qualifications and training, and the role such on-going development of individuals' and businesses' training plays in the skills development of the current workforce. Those in employment need to be appraised of the skills development opportunities, not just in terms of complying with legislative and supply chain requirements, but also in respect of knowledge and technology transfer and business development.

Respondents to primary research often associate the word 'training' with formal courses or those leading to recognised qualifications and do not take into account more informal methods such as manufacturer's updates, advice from technical experts, learning through discussion/business clubs or technology transfer events. To have training and development forming an integral part of a business planning process is seen as a desirable goal for the sector. The most commonly cited reasons by businesses for not training were cost, time taken up by training and that staff did not require any training. A lack of information on the courses that are available and the appropriateness and quality of training provision were also factors identified by survey respondents.

Lantra's business needs analyses conducted with key employers to ascertain new and developing working practices, consequential skills needs, and whether there is sufficient learning provision to meet demand highlighted very specific, 'niche' requirements. In those areas where provision is not available Lantra is stimulating providers to develop the new provision. In many cases, this learning is delivered by suitably trained professionals in the sector (e.g. veterinarians) rather than traditional providers.

Lantra can demonstrate that the European Rural Development Programmes (RDP) provide more flexible learning against business needs, drive up private investment, and offer an effective delivery model. If adopted by Government for mainstream skills programmes, the RDP model would focus a lower level of public spending on increased acquisition of economically valuable skills.

The chief characteristics of these schemes include:

- Co-funding of all learning and development with variable intervention rates depending on the criticality of the training undertaken
- Local and regional priorities determined by employer panels
- Specialist, integrated advice based on whole farm needs
- Skills utilisation enhanced by linking development to business needs
- Quality assured learning provided through a wide range of providers including veterinarians and agronomists
- Skills and learning recognised against Lantra's Skills Manager.

This unique model of delivering skills is enhanced by the links that Lantra has with the research bodies, levy bodies, learning providers and industry partners. Through the Agri-Skills Strategy, these organisations aim to increase the professionalism of the workforce and ensure that high productivity and environmental standards are met. The RDP quality-assured skills providers reach beyond colleges direct to vets, soil experts and farm managers, providing specialist development. The potential development of CPD systems for agriculture's sub-industries as part of the AgriSkills Strategy will recognise and capture such skills development.

It is important to consider what Lantra has been doing in order to address the issues mentioned above. Lantra has:

- Developed, in conjunction with industry representative organisations, the AgriSkills Strategy (Towards a New Professionalism) which supports the UK Government's Food 2030 policy and calls for the professionalisation of agriculture and horticulture with the introduction of CPD and associated registration schemes
- Supported the upskilling and reskilling elements of the Rural Development Programme, such as the LandSkills programmes in England, for businesses to access skills and knowledge and technology transfer
- Facilitated engagement between university academics, industry and levy companies with a specific focus on innovation and technological change
- Encouraged the uptake of leadership and management skills through funded programmes such as RDP and Women in Work and through brokerage programmes such as Business Forward in Cornwall
- Signposted relevant provision through the use of CourseFinder which enables individuals to locate appropriate provision, providing access to training and development for sector businesses
- Developed in partnership with the Small Firms Development Initiative (SFEDI) the tool, 'Enterprise Essentials', to support the promotion and take up of management and leadership skills and training
- Worked with the new Qualifications and Credit Framework (QCF) to develop smaller bite sized learning units which can build into a nationally recognised qualification to support professional development
- On-going development and maintenance of National Occupational Standards (NOS) for Lantra's industries to ensure the requirements for skills, knowledge and understanding in tasks and for occupations is both current and reflects best working practices
- Developed Skills Manager – a range of skills assessment and recording systems for sector-based businesses.

8.3 Supporting careers information, advice and guidance (IAG)

The Government recognises that the present system for delivering IAG and careers services, especially in England, is not fit-for-purpose. They intend to move towards a system where high quality information on careers, the economic return on skills investment, and better information on learning provision are readily available to the individual regardless of age or employment status echoing systems in other home nations. Individuals will then be better informed and empowered to make decisions which materially affect their livelihoods.

Given the need to support entry to employment for all ages and at a variety of levels, employer demand is high for Lantra's work on careers and IAG, even though we are not presently core-funded for these activities. At the request of industry, Lantra delivers a broad range of sector-specific, impartial careers information and training choices. In producing materials both for new entrants and those in or re-joining the workforce and by linking to industry and organisation specific information, new (or potential new) entrants can access a range of information which demonstrates the opportunities and learning available and illustrates careers progression. The output of these activities has also been strongly supported by various careers advisory services.

Lantra has demonstrated (through the Adult Advancement Careers Service (AACCS) LMI project and Jobs4U) that we are able to produce accurate, industry approved and up-to-date labour market and occupational information. Lantra already supports IAG with a range of products including Skills Manager, the National Student Database, Coursefinder and Job Shop where clients can identify skill gaps, produce development plans, signpost to solutions and match skills to jobs. Lantra's new careers website makes clear the skills that employers require within each job role, career progression routes, earning potentials, and the various qualification and training pathways to achieve these.

It is important to consider what Lantra has been doing in order to address the issues mentioned above. Lantra has:

- Developed a recruitment, image and careers strategy as a framework in which to guide its activities to raise awareness, promote opportunity and engage businesses in the sector
- Produced high quality and contextualised labour market information for IAG (as evidenced by the work for AACCS in England) and produced careers fact sheets for England and specific industries
- Engaged with the careers services in England to ensure industry specific information relating to land-based and environmental industries is available
- Undertaken careers events promoting sector careers to young entrants and adult career changers. These events engaged schools, higher education institutions and further education colleges

- Developed a specific section on Lantra's website to provide information on jobs, careers and progression and courses in the land-based and environmental sector
- Developed Lantra's CourseFinder which has free and easy access to almost 10,000 courses from around 900 training providers
- Raised profile of land-based and environmental sector careers via press releases and articles
- In partnership with industry developed specific careers websites such as the horticultural initiative Grow Careers to address recruitment issues
- In partnership with industry developed the AgriSkills Strategy, a key strand of action being support for recruitment and retention
- Supported the development of occupational studies¹²⁴ to provide more information about the sector including the Environmental and Land-based Diploma in England.

As is evident, the degree of change occurring within the land-based and environmental sector is significant. The requirements for individuals and businesses to have a profile of skills and competencies which mixes high level technical skills with business management skills is essential for sustainable businesses and to cope with increasing environmental and legislative demands driven by consumers, technologies and policy.

From the solutions identified in this set of key findings it is clear that the sector is making in-roads into the skills agenda but that it requires flexibility from England's skills system to maximise the impact. Lantra has demonstrated that by increasing engagement with businesses and providing access to a range of products and services tailored to the needs of individuals and businesses in the sector, substantial impact can be achieved.

In partnership with employers, trade representative organisations, learning providers, awarding organisations and Governments, Lantra will continue to promote the needs of this essential sector of the economy in England. Lantra's provision of an on-going evidence base, the England Skills Assessment and associated UK report together with industry and region specific factsheets, present the underpinning evidence required to support investment in skills to support individuals and sector businesses.

¹²⁴ This relates to the 14-19 curriculum

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Appendix A SIC/SOC footprints

SIC 2007	Description	Lantra Industry
01.11/0	Growing of cereals (except rice), legumes crops and oil seeds	Agricultural Crops
01.12/0	Growing of rice	Agricultural Crops
01.13/0	Growing of vegetables and melons, roots and tubers	Production Horticulture
01.14/0	Growing of sugar cane	Production Horticulture
01.15/0	Growing of tobacco	Production Horticulture
01.16/0	Growing of fibre crops	Agricultural Crops
01.19/0	Growing of other non-perennial crops	Agricultural Crops
01.21/0	Growing of grapes	Production Horticulture
01.22/0	Growing of tropical and subtropical fruits	Production Horticulture
01.23/0	Growing of citrus fruits	Production Horticulture
01.24/0	Growing of pome fruits and stone fruits	Production Horticulture
01.25/0	Growing of other tree and bush fruit and nuts	Production Horticulture
01.26/0	Growing of oleaginous fruits	Production Horticulture
01.27/0	Growing of beverage crops	Production Horticulture
01.28/0	Growing of spices, aromatic, drug and pharmaceutical crops	Production Horticulture
01.29/0	Growing of other perennial crops	Production Horticulture
01.30/0	Plant propagation	Production Horticulture
01.41/0	Raising of dairy cattle	Agricultural Livestock
01.42/0	Raising of other cattle and buffaloes	Agricultural Livestock
01.43/0	Raising of horses and other equines	Equine
01.44/0	Raising of camels and camelids	Agricultural Livestock
01.45/0	Raising of sheep and goats	Agricultural Livestock
01.46/0	Raising of swine/pigs	Agricultural Livestock
01.47/0	Raising of poultry	Agricultural Livestock
01.49/0	Raising of other animals	Multiple Coverage: Animal Care Animal Technology Game and Wildlife Management
01.50/0	Mixed farming	Multiple Coverage: Agricultural Crops Agricultural Livestock Production Horticulture

SIC 2007	Description	Lantra Industry
01.62/9	Support activities for animal production (other than farm animal boarding and care) n.e.c.	Multiple Coverage: Agricultural Livestock Equine Farriery
01.63/0	Post-harvest crop activities	Multiple Coverage: Agricultural Crops Production Horticulture
01.64/0	Seed processing for propagation	Agricultural Crops
01.70/0	Hunting, trapping and related service activities	Game and Wildlife Management
02.10/0	Silviculture and other forestry activities	Trees and Timber
02.20/0	Logging	Trees and Timber
02.30/0	Gathering of wild growing non-wood products	Trees and Timber
02.40/0	Support services to forestry	Trees and Timber
03.12/0	Freshwater fishing	Fisheries Management
03.21/0	Marine aquaculture	Aquaculture
03.22/0	Freshwater aquaculture	Aquaculture
46.61/0	Wholesale of agricultural machinery, equipment and supplies	Land-based Engineering
47.76/0	Retail sale of flowers, plants, seeds, fertilizers, pet animals and pet food in specialised stores	Multiple Coverage: Floristry Animal Care
64.20/1	Activities of agricultural holding companies	Multiple Coverage: Agricultural Crops Agricultural Livestock
74.90/1	Environmental consulting activities	Environmental Conservation
75.00/0	Veterinary activities	Veterinary Activities
77.31/0	Renting and leasing of agricultural machinery and equipment	Land-based Engineering
81.30/0	Landscape service activities	Horticulture, Landscaping and Sports Turf
91.04/0	Botanical and zoological gardens and nature reserves activities	Multiple coverage Environmental Conservation Animal Care
93.19/1	Activities of racehorse owners	Equine

SOC 2000	Description
1211	Farm Managers
1212	Natural Environment and Conservation Managers
1219	Managers in Animal Husbandry, forestry, fishing n.e.c.
2216	Veterinarians
3551	Conservation and Environmental Protection Officers
3552	Countryside Rangers
5111	Farmers
5112	Horticultural Trades
5113	Gardeners and Groundsmen/women
5119	Agricultural and Fishing Trades n.e.c
5496	Floral Arrangers, Florists
6131	Veterinary Nurses
6139	Animal Care Occupations n.e.c
8223	Agricultural Machinery Drivers
9111	Farm Workers
9112	Forestry Workers
9119	Fishing and Agricultural Occupations n.e.c

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Appendix B Sources of Secondary Data

<p>Inter-departmental Business Register (IDBR)</p>	<p>The Inter-Departmental Business Register (IDBR) is a list of UK businesses maintained by the Office for National Statistics (ONS). The IDBR covers businesses in all parts of the economy, missing some very small businesses operating without VAT or PAYE schemes (self-employed and those with low turnover and without employees) and some non-profit making organisations.</p> <p>The main administrative sources for the IDBR are VAT trader and PAYE employer information passed to the ONS by HM Revenue & Customs; details of incorporated businesses are also passed to ONS by Companies House. This is supplemented by ONS survey data and survey information from:</p> <ul style="list-style-type: none"> • Department of Enterprise, Trade and Investment – Northern Ireland (DETINI) • Department for Environment, Food and Rural Affairs (Defra) farms register
<p>Labour Force Survey (LFS)</p>	<p>The Labour Force Survey (LFS) is a quarterly survey of households living at private addresses in Great Britain and Northern Ireland that provides information about people's employment status and conditions. It asks individuals about their current and previous jobs, as well as enquiring about related topics such as training, qualifications, income and disability. Four quarters should be averaged to create a full year figure to adjust for seasonal trends.</p> <p>Its purpose is to provide information on the UK labour market that can then be used to develop, manage, evaluate and report on labour market policies. The questionnaire design, sample selection, and interviewing are carried out by the Social and Vital Statistics Division of the Office for National Statistics (ONS) on behalf of the Statistical Outputs Group of the ONS.</p> <p>NB: Asks for respondents' main job, so misses out any part-time/seasonal workers which are an important proportion of our sector workforce.</p>
<p>Annual Business Enquiry (ABI)</p>	<p>ABI data for England and the UK is provided by the Office for National Statistics (ONS) and refers to employment in workplaces. As the ABI figures on employment excludes those self-employed and casual labour, they are likely to under-estimate the total number of people working in the sector. Therefore, employment estimates from the Labour Force Survey will tend to be higher for Lantra's sector than the corresponding data from ABI.</p> <p>Focuses on large businesses with the majority of businesses surveyed</p>

	employ 250 or more staff, also excludes agriculture therefore it is unsuitable to use for the skills assessment.
Working Futures	<p>Working Futures 2007-2017 is the latest in a long series of projections produced by IER in collaboration with Cambridge Econometrics (CE). It focuses upon the future patterns of demand for skills as measured by occupation. The results covered the National (UK) picture, as well as detailed sectoral and spatial results.</p> <p>The projections were the most detailed and extensive ever produced for the UK. Over 1/2 a million time series were consistently projected just for employment. The results take account of new data from the Census of Population 2001 and other sources including the Annual Business Inquiry and the Labour Force Survey.</p>
National Employer Skills Survey (NESS)	<p>This survey covers England only. It covers the incidence, extent and nature of skills problems facing employers, in terms of skill-shortage vacancies, skills gaps and the likelihood that employees will need upskilling. It examines employer training activity and training spends, as well as employer product market strategies.</p> <p>Analysis is carried out by size of organisation; sector, defined by both Standard Industrial Classification and Sector Skills Council footprint; and English region.</p>
Northern Ireland Skills Monitoring Survey	<p>The survey covers Northern Ireland only. The NI Skills Monitoring Survey 2008 was designed to provide a comprehensive snapshot of current skill needs of NI employers in the non-agricultural sectors. The primary purpose of this report was to update the findings of the previous surveys conducted in 2002 and 2005 and give account of useful comparisons. This report provides a detailed analysis of the findings from the survey to include information connected with vacancies, recruitment difficulties, skill-shortages, retention difficulties, skill gaps, recruitment of graduates and training from an employer's perspective. In addition to looking at longitudinal trends, the report also seeks to describe differences against key variables such as industry, size of establishment and occupation.</p>
Scottish Employer Skills Survey	<p>The survey covers Scotland only. It covers recruitment (vacancies, hard-to-fill vacancies and skill shortages) and workforce development (skill gaps and training)</p>

<p>Future Skills Wales Sector Skills Survey</p>	<p>The survey covers Wales only. The specific measures which the survey covers are as follows:</p> <ul style="list-style-type: none"> • The incidence of vacancies among employers and the proportion of vacancies which are proving hard-to-fill because of a lack of suitable skills; • Which occupations and which skills are affected, and what actions have been taken to deal with them; • The number of employers that are encountering skill gaps among the workforce: the extent and nature of these, which occupations/ skills are affected, what is their impact and what actions are taken to deal with them; • The incidence of off-the-job training activity, which occupational groups are receiving training and, where applicable, the reasons why off-the-job training is not currently arranged.
<p>June survey of Agriculture and Horticulture (Also called the June Agricultural Survey)</p>	<p>The June survey of Agriculture and Horticulture is an annual survey conducted within each of the four Nations of the UK. It collects detailed information on arable and horticultural cropping activities, land usage, livestock populations and labour force figures. This is a compulsory survey conducted under EU legislation and helps provide hard evidence on the condition of the agricultural industry.</p> <p>The survey data has many uses, from assisting with animal disease control processes to providing information which is used for management of the EU cereals markets. It is also used heavily by environmental policy makers who assess the impact of CAP reform on the agricultural industry and the landscape. As it is such a large survey, the data can be used to provide low level statistics i.e. at county level, which makes it a powerful tool for researchers and anyone interested in local features.</p> <p>Survey Methodology by Country</p> <p>England</p> <p>Out of a total of approximately 216,000 holdings the June Survey was sent out to around 40,000 holdings in England. Final results were based on approximately 27,000 responses (a 67% response rate). Holdings were sampled using a stratified random sample based on the farm size using Standard Labour Requirements (SLRs) to determine the size of the farm. The SLR indicates the typical number of full-time workers required on the holding. Small farms were sampled at a low rate with the sampling rate increasing with SLR size to minimise the burden on farmers whilst maximising the coverage.</p>

Wales

The Welsh population currently stands at around 38,500 holdings of which approximately 10,645 were sampled in June 2009. Returns were received from 69% of these. Focused sampling has enabled the sample size to be reduced by several thousand since 2002 thus reducing the burden on farmers.

Scotland

In Scotland the survey consists of a census of main holdings (out of 26,600 census forms 19,500 were received, 73%). This year data on land use were obtained from the Single Application Form (SAF) for 24,700 holdings claiming Single Farm Payments. These data have been combined with land use data from all other holdings, collected through June Census forms, to generate overall 2009 June Census results. The use of SAF data has resulted in a step change in some of the land use results for 2009, especially for rough grazing and grass. This means that trends between 2008 and 2009 for these land use categories do not represent genuine changes in land use, but do represent differences in the way this data has been reported between the 2008 June Census and 2009 SAF. These trends should be treated with caution.

Northern Ireland

The Northern Ireland survey covers all farms categorised as small or large and approximately half of those categorised as very small. A total of 20,616 forms were sent out in 2009 and final estimates are based on 14,235 returned forms (69%). Data for the cattle section is a complete census coming from the APHIS extraction.

Appendix C Business unit and employment sources

This annex provides details of the sources used to develop the business and employment numbers quoted in this publication. Lantra uses Official Statistics wherever possible. Official Statistics used include the Inter Departmental Business Register (IDBR), Labour Force Survey (LFS) and the June Agricultural Survey. Data has been collected based on SIC and SOC codes where possible (see Annex #)

Official Statistics can not be used for industries which cannot be defined in terms of SIC code. For these industries we use a mix of sources. The most common source used for these purposes is the Experian National Business Database.

All of the figures quoted by Lantra have gone through a rigorous quality assurance process. A variety of sources are used to triangulate evidence where there are gaps in Official Statistics. All of the figures have been discussed and sense checked with Lantra's industry advisory groups

Industry	Business Data Source	Employment Data Source
Agricultural Crops	<p>For ENGLAND, SCOTLAND and WALES: IDBR 2010, for SIC 0111, 0112, 0116, 0119, 0150 (part), and 0164 NB. Mixed farming (SIC 0150) has been divided between crops, livestock and production horticulture based on the proportions of each industry at a National and regional level.</p> <p>For NORTHERN IRELAND: June Agricultural Census 2009 NB. 'Mixed' and 'Other' farming has been divided between crops, livestock and production horticulture based on the proportions of each industry</p>	<p>June Agricultural Surveys 2009 for England, Northern Ireland, Scotland and Wales (Government Agricultural Departments)</p> <p>Each survey provided a total employment figure which included those working within agriculture and horticulture. For England, Scotland and Wales, the total employment figure was allocated proportionately to the 3 industries, guided by the proportions as evidenced in the Labour Force Survey (LFS) 2008-09 (LFS) For Northern Ireland the total employment figure was allocated proportionately to the 3 Lantra industries (Agricultural Crops, Agricultural Livestock and Production Horticulture) based on the proportions of holdings within each industry, also calculated from the survey.</p>
Agricultural Livestock	<p>For ENGLAND, SCOTLAND and WALES: IDBR 2010, for SIC 0141, 0142, 0144, 0145, 0146, 0147, 0150 (part)</p> <p>NB. Mixed farming (SIC 0150) has been divided between crops, livestock and production horticulture based on the proportions of each industry at a National and regional level.</p> <p>For NORTHERN IRELAND: June Agricultural Census 2009 NB. 'Mixed' and 'Other' farming has been divided between crops, livestock and production horticulture based on the proportions of each industry</p>	<p>June Agricultural Surveys 2009 for England, Northern Ireland, Scotland and Wales (Government Agricultural Departments)</p> <p>Each survey provided a total employment figure which included those working within agriculture and horticulture. For England, Scotland and Wales, the total employment figure was allocated proportionately to the 3 industries, guided by the proportions as evidenced in the Labour Force Survey (LFS) 2008-09 (LFS)</p>

Industry	Business Data Source	Employment Data Source
		For Northern Ireland the total employment figure was allocated proportionately to the 3 Lantra industries (Agricultural Crops, Agricultural Livestock and Production Horticulture) based on the proportions of holdings within each industry, also calculated from the survey.
Production Horticulture	<p>For ENGLAND, SCOTLAND and WALES: IDBR 2010, for SIC 0113, 0114, 0115, 0121, 0122, 0123, 0124, 0125, 0126, 0127, 0128, 0129, 0130, 0150 (part)</p> <p>NB. Mixed farming (SIC 0150) has been divided between crops, livestock and production horticulture based on the proportions of each industry at a National and regional level.</p> <p>For NORTHERN IRELAND: June Agricultural Census 2009 NB. 'Mixed' and 'Other' farming has been divided between crops, livestock and production horticulture based on the proportions of each industry</p> <p>Data for Garden centres/retailers has also been added to all Nations using membership details from the Horticultural Trades Association (HTA) as of 2010</p>	<p>June Agricultural Surveys 2009 for England, Northern Ireland, Scotland and Wales (Government Agricultural Departments)</p> <p>Each survey provided a total employment figure which included those working within agriculture and horticulture. For England, Scotland and Wales, the total employment figure was allocated proportionately to the 3 industries, guided by the proportions as evidenced in the Labour Force Survey (LFS) 2008-09 (LFS) For Northern Ireland the total employment figure was allocated proportionately to the 3 Lantra industries (Agricultural Crops, Agricultural Livestock and Production Horticulture) based on the proportions of holdings within each industry, also calculated from the survey.</p>
Aquaculture	- IDBR (2010) covering SIC 0321, 0322	LFS Jul09-Jun10, 4 QUARTER AVERAGE for SIC 0321, 0322
Trees and Timber	- IDBR (2010) covering SIC 0210, 0220, 0230, 0240	LFS Jul09-Jun10, 4 QUARTER AVERAGE for SIC 0210, 0220, 0230, 0240 (Data Excludes Arboriculture)

Industry	Business Data Source	Employment Data Source
Fencing	- Experian National Business Database (2010) for Fencing Contractors	- Experian National Business Database (2010) for Fencing Contractors
Floristry	<p>- Experian National Business Database 2010 for Floral & Plant Displays, Florists, Florists – Wholesale & Supplies</p> <p>NB: Data has been sourced from Experian National Business Database 2010 for Floral & Plant Displays, Florists, Florists – Wholesale & Supplies rather than using the IDBR data for the new SIC code 4776. This SIC code covers Animal Care AND Floristry retailers and is difficult to split unless we have knowledge of the proportions of these two industries relative to each other. We therefore feel data from Experian is more reliable for this industry</p>	<p>LFS Jul09-Jun10, 4 QUARTER AVERAGE for SOC 5496 Floral arrangers and Florists</p> <p>NB: Data has been sourced from the LFS for SOC 5496 Floral arrangers and Florists only rather than using the IDBR data for the new SIC code 4776. This SIC code covers Animal Care AND Floristry retailers and is difficult to split unless we have knowledge of the proportions of these two industries relative to each other. We therefore feel data by SOC is more reliable for this industry</p>
Land-based Engineering	IDBR (2010) covering SIC 4661, 7731	LFS Jul09-Jun10, 4 QUARTER AVERAGE for SIC 4661, 7731 (Data excludes Retail Dealerships)
Animal Care	- Experian National Business Database (2010) for Animal Carrier Services, Animal Welfare Organisations, Bird Breeders, Boarding Kennels & Catteries, Breeders & Dealers - Cats, Breeders & Dealers - Dogs, Dog Clipping & Grooming, Dog Training, Pet Services, Pet Shops & Pet Supplies, Rabbit Breeders, Wildlife Parks & Farms, Zoos	- Experian National Business Database (2010) for Animal Carrier Services, Animal Welfare Organisations, Bird Breeders, Boarding Kennels & Catteries, Breeders & Dealers - Cats, Breeders & Dealers - Dogs, Dog Clipping & Grooming, Dog Training, Pet Services, Pet Shops & Pet Supplies, Rabbit Breeders, Wildlife Parks & Farms, Zoos
Animal Technology	Institute of Animal Technology (IAT) licensed businesses (2008 data has been included as 2010 data is not accessible to the public – Lantra is working with the Animal Technology Industry to source more recent data)	Institute of Animal Technology (IAT) licensed practitioners (2008 data has been included as 2010 data is not accessible to the public – Lantra is working with the Animal Technology Industry to source more recent data)

Industry	Business Data Source	Employment Data Source
Equine	IDBR (2010) for SIC 0143 PLUS Experian National Business Database (2010) for Riding Schools, Livery Stables & Equestrian Centres, Livery Companies, Horse Trainers	A Study into the Business and Skills Requirements of the UK Equine Industry, Lantra 2010
Farriery	Farriers Registration Council (2010) Register of Farriers (all Farriers have to be registered by law)	Farriers Registration Council (2010) Register of Farriers (all Farriers have to be registered by law)
Veterinary Activities	IDBR (2010) for SIC 7500 NB: Data has also been obtained from RCVS (2010) for a comparative study and is discussed within the Veterinary Activities factsheet	LFS Jul09-Jun10, 4 QUARTER AVERAGE for SIC 7500 NB: Data has also been obtained from RCVS (2010) for a comparative study and is discussed within the Veterinary Activities factsheet
Environmental conservation	Experian National Business Database (2010) for Environmental Consultants, Conservation Organisations NB: Although Lantra has been assigned the new SIC code, 'environmental consulting activities' SIC 74.90/1, IDBR data only goes to 4 digit SIC, therefore it does not supply the data for this specific 5 digit code. We have therefore had to use Experian data only	LFS Jul09-Jun10, 4 QUARTER AVERAGE for SIC 7490/1 PLUS SOC 1212 Natural environ & cons managers, 3551 Conservation & environmental protection officers, 3552 Countryside and park rangers
Game and Wildlife Management	British Association for Shooting and Conservation, Shooting Sports – Findings of an economic and environmental survey – PACEC 2006 Note: Businesses defined as providers who operate for business reasons	British Association for Shooting and Conservation, Shooting Sports – Findings of an economic and environmental survey – PACEC 2006 Note: Employment numbers are Full Time Equivalents.

Industry	Business Data Source	Employment Data Source
Fisheries Management	IDBR (2010) for SIC 0312 PLUS Experian National Business Database (2010) for River Authorities	LFS Jul09-Jun10, 4 QUARTER AVERAGE for SIC 0312 PLUS Experian National Business Database (2010) for River Authorities
Horticulture, Landscaping and Sports Turf	IDBR (2010) for SIC 8130 PLUS Experian National Business Database (2010) for Garden Design, Water Garden Services	LFS Jul09-Jun10, 4 QUARTER AVERAGE for SIC 8130 PLUS Experian National Business Database (2010) for Garden Design, Water Garden Services

Appendix D Postcode English Regions

England

Area	Postcode Prefix	Region / Nation
Derby Derbyshire Midlands	DE	East Midlands
Leicester Leicestershire	LE	East Midlands
Lincoln Lincolnshire	LN	East Midlands
Nottingham	NG	East Midlands
Northampton	NN	East Midlands
St. Albans	AL	Eastern
Cambridge	CB	Eastern
Chelmsford Essex	CM	Eastern
Colchester Essex	CO	Eastern
Hemel Hempstead Hertfordshire	HP	Eastern
Ipswich Suffolk	IP	Eastern
Luton Bedfordshire	LU	Eastern
Norwich Norfolk	NR	Eastern
Peterborough Cambridgeshire	PE	Eastern
Stevenage Hertfordshire	SG	Eastern
Southend on Sea Essex	SS	Eastern
Watford Hertfordshire	WD	Eastern
Bromley Greater London	BR	London
Croydon Surrey	CR	London
London East London	E	London
London East Central London	EC	London
Enfield	EN	London
Harrow London	HA	London
Ilford London	IG	London
Kingston Upon Thames London	KT	London
London North Greater London	N	London
London North West London	NW	London
Romford London	RM	London
London South East London	SE	London
Sutton London	SM	London
London South West London	SW	London
Twickenham Surrey	TW	London
Uxbridge Middlesex	UB	London
London West London	W	London
London West Central London	WC	London
Durham County Durham	DH	North East
Darlington Durham	DL	North East
Newcastle on Tyne Tyne and Wear	NE	North East
Sunderland Tyne and Wear	SR	North East
Teesside (Middlesbrough) Cleveland	TS	North East
Blackburn Lancashire	BB	North West
Bolton Greater Manchester	BL	North West
Carlisle Cumbria	CA	North West
Chester Cheshire	CH	North West
Crewe Cheshire	CW	North West
Fylde (Blackpool) Lancashire	FY	North West

Area	Postcode Prefix	Region / Nation
Liverpool Merseyside	L	North West
Lancaster Lancashire	LA	North West
Manchester Greater Manchester	M	North West
Oldham Manchester	OL	North West
Preston Lancs	PR	North West
Stockport Manchester	SK	North West
Cheshire west and cheshire	SY14	North West
Warrington Cheshire	WA	North West
Wigan Manchester	WN	North West
Brighton Brighton and Hove	BN	South East
Canterbury Kent	CT	South East
Dartford Kent	DA	South East
Guildford Surrey	GU	South East
Medway (Rochester) Kent	ME	South East
Milton Keynes Buckinghamshire	MK	South East
Oxford Oxon	OX	South East
Portsmouth Hampshire	PO	South East
Reading Berkshire	RG	South East
RedHill Sussex	RH	South East
Slough Berkshire	SL	South East
Southampton Hants	SO	South East
Tunbridge Wells Kent	TN	South East
Bath Avon	BA	South West
Bournemouth Dorset	BH	South West
Bristol Bristol	BS	South West
Dorchester Dorset	DT	South West
Exeter Devon	EX	South West
Gloucester Gloucestershire	GL	South West
Plymouth Devon	PL	South West
Swindon Wiltshire	SN	South West
Salisbury Wiltshire	SP	South West
Taunton Somerset	TA	South West
Torquay Dorset	TQ	South West
Truro Cornwall	TR	South West
Birmingham Birmingham	B	West Midlands
Coventry West Midlands	CV	West Midlands
Dudley West Midlands	DY	West Midlands
Hereford Hereford and Worcester	HR	West Midlands
Stoke On Trent Staffordshire	ST	West Midlands
Shropshire	SY1	West Midlands
Shropshire	SY10	West Midlands
Shropshire	SY11	West Midlands
Shropshire	SY12	West Midlands
Shropshire	SY13	West Midlands
Shropshire	SY2	West Midlands
Shropshire	SY3	West Midlands
Shropshire	SY4	West Midlands
Shropshire	SY5	West Midlands
Shropshire	SY6	West Midlands
Shropshire	SY7	West Midlands
Shropshire	SY8	West Midlands

Area	Postcode Prefix	Region / Nation
Shropshire	SY9	West Midlands
Telford Shropshire	TF	West Midlands
Worcester Hereford and Worcester	WR	West Midlands
Walsall West Midlands	WS	West Midlands
Wolverhampton West Midlands	WV	West Midlands
Bradford West Yorkshire	BD	Yorkshire and Humber
Doncaster South Yorkshire	DN	Yorkshire and Humber
Huddersfield West Yorkshire	HD	Yorkshire and Humber
Harrogate North Yorkshire	HG	Yorkshire and Humber
Hull Humberside	HU	Yorkshire and Humber
Halifax West Yorkshire	HX	Yorkshire and Humber
Leeds West Yorkshire	LS	Yorkshire and Humber
Sheffield South Yorkshire	S	Yorkshire and Humber
Wakefield West Yorkshire	WF	Yorkshire and Humber
York Yorkshire	YO	Yorkshire and Humber

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Lantra

Lantra is the Sector Skills Council supporting skills, training and workforce development for businesses in the environmental and land-based sector. We are committed to helping everyone access the training, qualifications, skills and knowledge they need for business success and to develop their career.

We are an independent, UK-wide organisation that is owned and managed by our industries, which are grouped around land management and production, animal health and welfare and environmental industries.

We lead the way in understanding our industries' future skills and business needs. We work together with trade organisations, unions, training providers, governments and many more to maximise investment in skills.

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