



# Let Nature Feed Your Senses: Engaging people with nature, food and farming



## Evaluation Report for LEAF and Sensory Trust

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## Glossary

ART	Attention Restoration Theory
ASD	Autism Spectrum Disorder
BLF	Big Lottery Fund
Defra	Department for Environment, Food and Rural Affairs
DoH	Department of Health
ESI	Essex Sustainability Institute
FACE	Farming and Countryside Education
HGCA	Horticultural Growers and Cereals Association
HLS	Higher Level Stewardship
IFM	Integrated Farm Management
LEAF	Linking Environment and Farming
LNFYS	Let Nature Feed Your Senses
NE	Natural England
NFU	National Farmers Union
NHS	National Health Service
PET	Psycho-evolutionary stress reduction theory
UK NEA	UK National Ecosystem Assessment
WHO	World Health Organisation

## Executive Summary

### Let Nature Feed Your Senses: Engaging people with nature, food and farming

Rachel Bragg, Carly Wood, Jo Barton and Jules Pretty

#### Introduction

The 'Let Nature Feed Your Senses' (LNFYS) project organises sensory rich farm visits across England for community groups of all ages and abilities. Groups include older people, disabled adults and children, and adults and children from areas of deprivation. The project facilitates visits to both farms and nature reserves, providing access to a diversity of managed environments both with and without livestock.

The emphasis of LNFYS is on providing sensory rich experiences on the farm, rather than purely educational or 'care' visits. The visits are supported both through contact with LNFYS staff and through a wide variety of innovative, interactive resources designed to help hosts develop sensory rich visits.

Let Nature Feed Your Senses aligns with wider challenges facing the health and wellbeing of industrialised societies. These include a lack of opportunity to be active outdoors in everyday life, mental health issues, poor awareness of food and diet and an aging population. Many people feel isolated or disconnected from others, their local communities and wider society, and have become disconnected from the nature around us, from the food that we eat and from those who produce it.

A wide range of international research has evidenced key health benefits experienced for many people after spending time in the natural environment and a link between nature and health seems to be clearly emerging. Health benefits include reduced stress levels, improved mood and self esteem; enhanced psychological wellbeing and improved attention and concentration<sup>1</sup>. Natural places facilitate stress recovery, encourage exercise participation, stimulate development in children and provide opportunities for personal development and

sense of purpose in adults<sup>2</sup>. The need for initiatives like LNFYS was highlighted in the Government's Natural Environment White Paper<sup>3</sup>.

Research by the Sensory Trust<sup>4</sup> has shown that these benefits are less available to groups who face barriers to accessing the outdoors, including disabled adults and children, older people and people with chronic health issues. This issue is recognised by Access to Nature, the Big Lottery funded grant programme administered by Natural England and



Partaking in physical activity in natural surroundings - "green exercise"<sup>5</sup> - may also have therapeutic properties and collectively, such therapeutic approaches have been referred to as "green care". Green spaces are also ideal surroundings for outdoor learning, where engaging

with nature can lead to enhanced connectedness to nature and increased ecological literacy – "green education".

The realisation that land can provide health and wellbeing services<sup>6</sup> has provided a basis for using farming and horticulture in social care programmes, and more recently care farming. A number of recent publications have acknowledged the importance of health services from our countryside,<sup>7</sup> including the UK National Ecosystem Assessment,<sup>8</sup> which published the first analysis of the UK's natural environment in terms of the benefits it provides to society and continuing economic prosperity. Public bodies such as Natural England and charities such as the National Trust and the RSPB are actively promoting the health benefits of natural landscapes<sup>9</sup>.

<sup>2</sup> Health Council of the Netherlands, 2004

<sup>3</sup> DEFRA June 2011. The Natural Choice; securing the value of nature. Chapter 4 Reconnecting people and nature.

<http://www.defra.gov.uk/environment/natural/whitepaper/>

<sup>4</sup> Price and Stoneham 2001; Making Connections. A Guide to Accessible Greenspace, The Sensory Trust

<sup>5</sup> See [www.greenexercise.org](http://www.greenexercise.org)

<sup>6</sup> Dobbs and Pretty 2004; Millennium Ecosystem Assessment 2005; Hine et al. 2007; Defra 2011

<sup>7</sup> Economics and Funding SIG 2007; NE 2009;

<sup>8</sup> NEA 2011,

<sup>9</sup> <http://www.naturalengland.org.uk/ourwork/enjoying/linkingpeople/health/default.aspx>

<sup>1</sup> Bird 2007, Barton and Pretty, 2010, NEA 2011, Wilson 1984, Kaplan and Kaplan 1989, Ulrich 1981 - See introduction section for complete list of references

Organisations such as Sensory Trust and Natural England have highlighted both the barriers that prevent these benefits being available to disengaged groups, and ways to overcome them<sup>10</sup>, while Linking Environment And Farming (LEAF) and other farming organisations are increasing awareness of the multiple services provided by farms. For example, the huge success of LEAF's Open Farm Sunday initiative has enabled almost a million people to get out onto farms over the last seven years.

The LNFYS project has actively encouraged farmers to explore the opportunities of delivering public good and to build links with groups and individuals deprived of the opportunity to experience the benefits derived from visiting farms. While much work has been conducted into the wellbeing benefits of longer-term care farming initiatives<sup>11</sup>, to date very little research has been conducted to find out the benefits of

'one-off' farm visits. This research sought to bridge this gap by recording the



impacts of sensory rich farm visits on visitors' wellbeing, confidence and understanding.

Let Nature Feed Your Senses has shown itself to be successful at a number of different levels. Over 11,800 people have had the opportunity to visit farms and nature reserves across England, many of whom didn't have the opportunity to do so before.

The research has shown that the project has had a positive impact on the wellbeing of participants, has facilitated social inclusion, has improved visitor access to and connection with nature, and has increased understanding of farming and food production, all of which are likely to contribute to healthier lifestyles. These outcomes also support Government calls to connect people with the natural environment and food production, to engage in nature and outside learning, to improve health and promote wellbeing.

LNFYS has made nature and greenspaces more interesting, appealing and accessible through focusing on the sensory experience. The rich diversity of activities undertaken on the farms and nature reserves, designed and developed to stimulate the senses, has meant that visits to all types of host sites have been rewarding. Initial concerns that farms and nature reserves without opportunities to interact with livestock could be of lesser interest and perhaps offer fewer benefits to visitors as a result, proved to be unfounded, with no significant differences identified between benefits to participants from farms with livestock and those without.

Another important accomplishment of LNFYS has been the increased understanding of food production and farming practices by visitors and for many the realisation that not all food originates in a supermarket. In times where there is a call to reconnect consumers to producers and to encourage healthy eating, these outcomes will be welcome.

### Methodology

Six 'SMART' project outcomes were identified by LNFYS and ICARUS (Natural England's external monitoring and evaluation consultants for the whole of their Access to Nature programme) for the LNFYS project. Of those, the first three are the focus for this evaluation:

- 1) Young, older and disabled people report they feel better – mentally or physically – as a result of participating in LNFYS events.
- 2) Young, older and disabled people report they have more confidence in accessing the natural environment.
- 3) Young, older and disabled people report they better understand links between the natural environment and their everyday lives.

LEAF and the Sensory Trust commissioned the University of Essex to provide an independent academic evaluation of the extent to which the Let Nature Feed Your Senses project achieved the above outcomes. The University of Essex used a mixed methods approach, utilising data derived from a variety of different sources;

- A before and after study which took place on 10 LNFYS visits at nine different farms over the period May 2010 to May 2012 with a total number of 91 people (max), to directly assess any changes occurring as a result of a LNFYS visit.

<sup>10</sup> Diversity Review. Countryside Agency, Cheltenham. 2005.

[www.naturalengland.org.uk](http://www.naturalengland.org.uk)

<sup>11</sup> <http://www.carefarminguk.org/Reports.aspx>

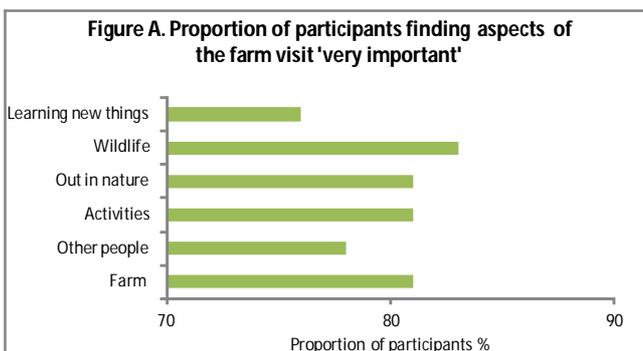
- An associated after visit group evaluation study, which was devised for participants unable to complete questionnaires. The group evaluation took place on 61 LNFYS visits on 25 farms over the same period as the before and after study with a total number of 812 people (max).
- A follow-up interview carried out by LNFYS staff, with leaders of groups that had recently taken part in a LNFYS visit. Group leaders from 38 groups were contacted to take part in the follow-up telephone interview, typically two–six months after a visit had taken place.
- A group leader focus group facilitated by the Countryside and Community Research Institute (CCRI) in January 2012, with 10 staff members from six different initiatives that had participated in LNFYS visits across the West Midlands.
- Testimonials and case study data from participants and group leaders, collated by LNFYS staff.

## Key findings

Let Nature Feed Your Senses has shown itself to be successful at a number of different levels. Over 11,800 people have had the opportunity to visit farms and nature reserves across England, many of whom didn't have the opportunity to do so before. Activities undertaken on LNFYS evaluated visits varied, but were all designed to explore as many of the senses as possible and included:

- Harvesting, cooking or eating produce.
- Watching, handling or working with livestock, observing, handling or working with different arable crops.
- Watching, identifying or handling wildlife.
- Learning about, sitting on or riding in farm machinery.
- Taking part in creative activities using natural materials.

After the visit, participants rated the importance of a range of different aspects of the visit to the farms by giving a score of 1-5 for each aspect on an 'importance scale'. All elements scored quite highly



with the highest scoring being outside in nature, the farm environment, and activities and walk (see Figure A).

## Outcome 1. Young, older and disabled people report they feel better – mentally or physically – as a result of participating in LNFYS events.

This study included measures of three human wellbeing elements: mental wellbeing, health status, and social inclusion.

### i. Mental wellbeing

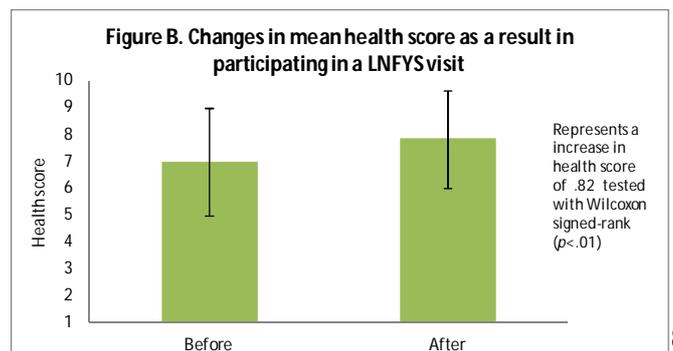
*"Visiting a farm might sound like just a nice day out, which it certainly is, but for our residents the benefit to their physical and mental wellbeing was huge. When residents have visited a farm we've seen a huge transformation with people laughing, smiling and talking. Even after the visits we've noticed that the residents seem calmer, happier and will sleep better at night."*

Comments received from group leaders and visitors relating to the impact of farm visits on visitors' mental wellbeing included a calming and therapeutic effect of being on a farm, a relaxing and stress-reducing environment, an increase in self esteem and independence of usually shy, aggressive or disempowered individuals, and improvements in memory function and reminiscence ability for older visitors.

*"The group was very enthusiastic. Some had never been on a farm before. For some, it provides a way of managing mental health."*

### ii. Health status

Participants of the before and after visit study were asked "how healthy do you feel at the moment?" both before and after their visit, on a scale of one to ten. There was a statistically significant increase in self perceived health scores as a result of the LNFYS visit with 42% of visitors recording an increase in health score (Figure B).



Furthermore, 67% of visitors who took part in the before and after or group evaluation said they were more likely to eat healthy food after taking part in a LNFYS visit. However, in the follow-up interviews only 18% of group leaders said they thought their group would be more likely to eat fresh healthy food as a result of the farm visit.

### iii. Social inclusion

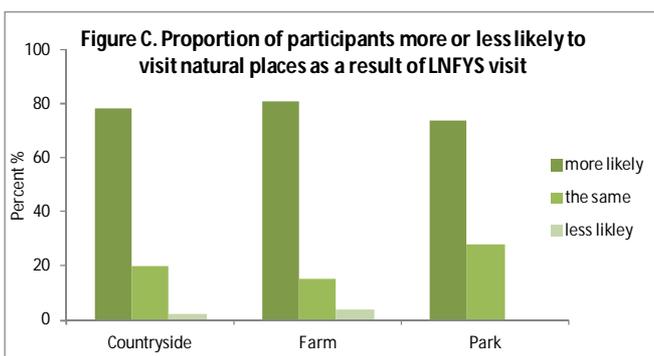
In the before and after study participant perceptions on the importance of being with other people were assessed through the question “how important is being with other people to you?” The mean scores increased very slightly after the visit compared to before, however these results were not found to be statistically significant. In the group evaluation, 78% of participants said that being with other people during the visit was ‘very important’ to them. Interestingly, in the follow up interviews, group leaders scored the importance of being with other people with a mean score of 4.68 out of 5 which was higher than the scores given by participants on the day of their visit.

Narrative and anecdotal evidence from group leaders and host farmers on social inclusion effects indicate that participants not only bonded with each other, group leaders and farm staff during their visit, but have also experienced increased communication with friends and family or with other people in a care setting since the LNFYS visits.

### **Outcome 2. Young, older and disabled people report they have more confidence in accessing the natural environment.**

*“This is such a valuable experience for our pupils; many never experience life outside of the home, never mind being able to engage with nature. It is such a grounding and rewarding experience.”*

Visitors who took part in the before and after study or the group discussion were asked if their farm visit would make them more or less likely to visit various types of natural places. Results show that



participants felt that they were much more likely to visit a local farm (81% of participants), the countryside (78%) or local parks and greenspaces (74%) as a result of their visit. The responses from the group evaluation also supported these findings with 636 participants (89%) agreeing that they would like to visit the countryside more often.

However, there appears to be a difference between intention to increase contact with nature (through questionnaires completed on the day of the visit) and actual change (group leader interviews two–six months after a group’s visit), as in the follow up interviews with group leaders, 32% said that changes to their group’s frequency of contact with nature had occurred as a result of their farm visit. Some group leaders cited group members wanting to go outside more often, some said that group members were going independently to re-visit the farm, while others said that they were planning other trips to different natural places. 24% of group leaders also said that there had been changes in the types of nature visited by group members, with examples cited including bringing nature inside the home, going for more walks outside, and reduced misgivings and worries about accessing nature.

When asked if the group had any plans to visit the farm again in the future, 30 out of the 38 group leaders (79%) interviewed replied that they did plan to revisit for a variety of different reasons including to see the seasonal changes on the farm, to bring back the feeling of being out in the open for people who usually spend their time inside, to enhance wellbeing and self esteem, and because participants enjoyed the first LNFYS experience.

Visitors who took part in the before and after study were also asked if they felt confident to visit local green space. The number of participants who said they felt confident to visit local green spaces before their LNFYS visit was 59% compared to 83% afterwards. The majority of participants in the group evaluation (72%) also said that they felt confident to visit local greenspaces.

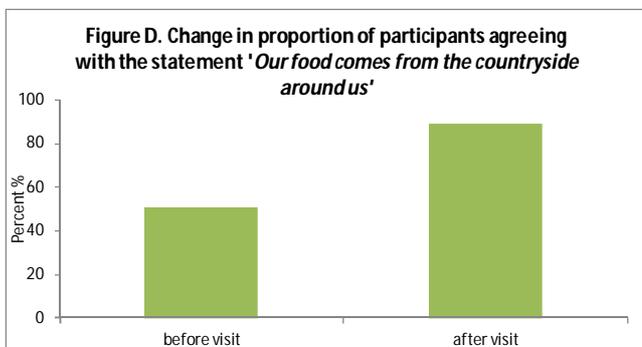
*“The residents have been talking about the visit for weeks. They discuss how the baby beef cattle will have grown, the interesting things they learnt from the farmer and they have fond memories of the afternoon tea and homemade cake. We are wanting to bring another group of residents as they are keen to get out having heard and seen so much of the visit from their housemates.”*

### Outcome 3. Young, older and disabled people report they better understand links between the natural environment and their everyday lives.

*"It's real life, sometimes we have to stage things, but this is real life. That is what is so important. All about nature, how food gets to the table. That sausage is in front of them but they wouldn't have thought about how it has got to them – has provoked a lot of discussion."*

When participants of the before and after study were asked if they agreed with the statement "farmers work together with nature to produce our food", the proportion of participants agreeing or strongly agreeing to this statement rose from 66% before the farm visit to 89% afterwards. 655 participants (91%) of participants in the group evaluation also agreed that farmers work with nature to produce our food.

When comparing participants' of the before and after study level of agreement with the statement "our food comes from the countryside around us", there was a statistically significant increase in the extent of agreement before the farm visit compared to afterwards, with 51% of participants agreeing or strongly agreeing to the statement before the farm visit compared to 89% afterwards (see Figure D).



Furthermore, 78% of the before and after study participants said that the visit had changed their views of farming and farmland, with the main changes being a better understanding of food production processes (livestock, dairy, arable and vegetables), how farmers work alongside nature, and where food comes from.

### Conclusions

It is clear from the findings discussed above that the LNFYS experience has contributed significantly to a range of important outcomes for the beneficiaries, for the project and for the wider communities of agriculture, green care and education.

A combination of attributes, needs and other factors are likely to affect any scaling up and mainstreaming of this type of initiative to more farms, target groups and natural worked landscapes in the UK and beyond:

- The dissemination of a combination of quantitative and anecdotal evidence of the success of this LNFYS project in terms of personal outcomes, social aspects and understanding of food and farming - in order to convince potential beneficiary groups, partners and funders.
- Resources – finances (longer-term funding), time, trained staff to support host farmers and nature reserve managers.
- Political will to facilitate more such initiatives to connect the UK population to the natural environment and the food that we eat in order to reap the health and wellbeing rewards - there is still limited acceptance of therapeutic value of the outdoors (both rural and urban) for delivering physical and mental health and wellbeing – 'green care'.

Participating in the Let Nature Feed Your Senses project has been a profound experience for many of the participants involved. The majority of visitors will leave the farms and nature reserves with a legacy of enhanced wellbeing, a confidence and desire to access nature more frequently and a better understanding of nature and the food that we eat. Those responsible for improving quality of life, encouraging healthier lifestyle choices and facilitating access to nature for vulnerable or disengaged groups should consider these multiple wellbeing benefits to participants in nature based initiatives such as LNFYS, when commissioning and funding services.

*"A lot haven't had opportunity to go out before now. The visit has helped with confidence. They left passionate and inspired."*

# 1 Introduction

## 1.1 The role of LEAF and Sensory Trust<sup>12</sup>

The 'Let Nature Feed Your Senses' (LNFYS) project represents a partnership between two charities LEAF and the Sensory Trust, connecting disengaged groups and individuals with nature and the countryside, through food and farming. Currently the Let Nature Feed Your Senses project is majority funded by Natural England (80% - through its 'Access to Nature' grants scheme which is part of the Big Lottery funded Changing Spaces programme), with further funding from Syngenta and Children in Need.

### 1.1.1. LEAF

LEAF works to "inspire and enable prosperous farming that enriches the environment and engages local communities". LEAF develops management tools and sets up demonstration sites to show farmers the principles behind Integrated Farm Management (IFM) and how profitable farming and nature conservation go hand in hand. LEAF also gives the public an insight into sustainable production and consumption through farm visits and in the market place with LEAF Marque, which provides a strong independently verified food quality assurance scheme that takes the consumer right back to the provenance of their food and gives farmers the recognition for their environmental commitment.

LEAF works nationwide with over 70 demonstration sites, hosting visits to invited groups, and attracting some 14,000 visitors annually. With 21 years of experience identifying sites and farmers to engage with the general public, LEAF is well placed to ensure relevant and enjoyable encounters with nature. LEAF takes every opportunity to 'connect' with the general public. LEAF's 'Open Farm Sunday' is now the farming industry's annual open day. In 2012, 335 farms welcomed a massive 150,000 people to experience a taste of farming and the countryside.

### 1.1.2. Sensory Trust

Sensory Trust is a UK organisation promoting and supporting inclusive environmental design and management to build richer connections between people and the natural world. The Trust's multi-disciplinary team combine expertise in environmental management, community engagement, training delivery, site access review and planning, communications and information design.

Sensory Trust is experienced in addressing the barriers to access that prevent use of the outdoors by socially excluded communities, particularly older people, disabled people and families and carers. All aspects of accessibility are covered, from physical access and site design, through information and interpretation, to education and policy issues. In reality, access improvements and engaging through the senses benefits a wide range of people, for example people with mobility impairments, young children, older people and people with chronic health conditions. These improvements also benefit families, friends and carers.

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<sup>12</sup> This section taken from <http://www.letnaturefeedyoursenses.org/letnature/home/project.eb>

## 1.2 Project overview<sup>13</sup>

### 1.2.1 Background

The Big Lottery Fund's (BLF) Changing Spaces programme comprises 4 open grants programmes: Access to Nature; Community Spaces; Community Sustainable Energy; Ecominds and Local Food. The 'Access to Nature' programme manages an open grant scheme funding environmentally-orientated projects aimed at helping many people to understand, access and enjoy the natural environment.

The outcomes for the Changing Spaces scheme as a whole include:

- Increasing access to the natural environment with more people enjoying and experiencing nature and benefiting from resultant improvements in mental and physical wellbeing;
- Creating better community spaces and improving local environments, open spaces and countryside;
- Creating a greater sense of community ownership of the local environment, with better collaboration between communities and the voluntary and statutory sector
- Reducing stigma and discrimination towards marginalised groups within local communities (resulting in less social exclusion, society treating people with experience of mental distress fairly, positively and with respect);
- Improving employment prospects for all participants, resulting in more socially, economically and environmentally sustainable communities.

Access to Nature (administered by Natural England) aims to achieve this through the delivery of a range of environmentally based projects and activities.

### 1.2.2 Let Nature Feed Your Senses project<sup>14</sup>

One of these environmentally based projects is the 'Let Nature Feed Your Senses' (LNFYS) project, which is a flagship project 80% funded by Access to Nature, engaging people with nature, food and farming on a network of farms and nature reserves across England.

The LNFYS project involves a programme of activities and events throughout England, aimed at getting young people, disabled groups and older people out onto farms, nature reserves, education centres and city farms, to experience nature and the countryside in their everyday lives. Across England there are over seventy five farmers and nature reserve managers hosting LNFYS visits. Every farm and nature reserve is unique and activity on each site varies from week to week, season to season. The hosts are passionate about encouraging a love of nature through food and farming and want to share this with groups who have found accessing the outdoors a challenge. The hosts are keen to adapt their visits so that everyone gets a chance to participate. The project is working with people that currently cannot or do not access the countryside because of age, ability or social situation.

Let Nature Feed Your Senses specific beneficiary groups are as follows:

- People who have a disability
- People who live in an area of high social deprivation (10% most deprived Super Output Area, regionally)
- People aged 65 or over

<sup>13</sup> Adapted from LEAF/ST ToR 2009

<sup>14</sup> Adapted from LEAF/ST ToR 2009 and <http://www.letnaturefeedyoursenses.org/letnature/home/project.eb>

- Schoolchildren who either have a disability, live in an area of high social deprivation or attend a school that has been unable to previously access farm visits

Activities are based around regional networks established throughout England. Innovative learning materials, complementary information, farm visits and nature walks have been developed, specifically designed to help these diverse groups make long lasting connections with the natural world around them.

### **1.3 Purpose and aims of the research**

#### **1.3.1 Evaluation of the LNFYS Project**

The evaluation of the LNFYS project involves three main stakeholders, who have been working together with participants to provide a full evaluation of the project. The three stakeholders are: the LNFYS team; the University of Essex (as independent evaluators commissioned by LEAF and ST to assess health and behavioural effects on LNFYS participants); and ICARUS (Natural England's external monitoring and evaluation consultants for the whole of their Access to Nature programme)

Six key 'SMART' project outcomes have been identified by LNFYS and ICARUS:

- 1) Young, older and disabled people report they feel better – mentally or physically – as a result of participating in Let Nature Feed Your Senses events.
- 2) Young, older and disabled people report they have more confidence in accessing the natural environment.
- 3) Young, older and disabled people report they better understand links between the natural environment and their everyday lives.
- 4) Host site managers (farmers and nature reserves managers) have the requisite skills and knowledge to lead LNFYS events with target groups.
- 5) The benefits and facilitation of sensory rich experiences are better understood by host sites, group leaders and those attending training.
- 6) Host site managers and beneficiary groups will have developed relationships, working practices and collaborative delivery mechanisms.

In order to achieve these outcomes, the evaluation process represents a partnership between the LNFYS team, the farmers and land managers, the visitors and the evaluators.

#### **1.3.2 Specific aims of the University of Essex evaluation of LNFYS**

The purpose of the University of Essex research was to carry out an analysis of the LNFYS project in terms of the first 3 of these 6 key 'SMART' outcomes i.e. to provide quantitative and qualitative data on the wellbeing of participants; and levels of confidence in accessing and understanding nature as a result of taking part in the LNFYS project (See Appendix E).

Aims of the LNFYS evaluation:

- To examine changes in beneficiary well being as a result of participation in LNFYS
- To determine any changes in feelings of connection to self, nature and other people as a result of participation in LNFYS
- To determine likely perceived/ actual changes in lifestyle behaviour for beneficiaries as a result of participation in LNFYS in terms of: i) healthier eating habits and ii) healthier lifestyle indicators

- To examine whether there been any perceived changes in beneficiary confidence to connect with nature and attitudes to personal access to nature as a result of participation in LNFYS
- To examine the changes in beneficiary lifestyle resulting from participation in LNFYS in terms of i) frequency of accessing nature in everyday life and ii) social capital
- To determine what changes in the understanding of the interdependencies of our everyday lives (food, farming and nature) have occurred as a result of participation in LNFYS

#### 1.4 Green Exercise Research Team at the University of Essex

The **Green Exercise** team involved in this study forms part of the Essex Sustainability Institute (ESI) at the University of Essex. There is growing empirical evidence to show that exposure to nature brings substantial mental health benefits<sup>15</sup> and at the same time, physical activity is known to result in positive physical and mental health outcomes. Over the last 9 years at the University of Essex, we have combined these ideas into a programme of research on 'green exercise' (activity in the presence of nature) and 'green care' (therapeutic applications of green exercise). These address current concerns about the adverse health effects of modern diets, sedentary lifestyles and a disconnection with nature, along with growing evidence that stress and mental ill-health have become substantial health problems for many people in industrialised societies.



This cross-disciplinary University of Essex project team is engaged in primary research on i) the health benefits of green exercise – investigating the mental and physical health benefits of physical activities under exposure to different rural and urban environments and ii) evaluating a wide variety of green care options in varying contexts (including care farming, facilitated green exercise, ecotherapy and wilderness therapy); and is currently leading research in this field<sup>16</sup>.

The Essex sustainability Institute is also a leading authority on the use of Participatory Appraisal and Action Research to assess the needs and opinions of communities. With over 25 years experience of participatory assessment we have worked with a wide variety of organisations and target groups including work with Housing Associations, countryside management projects, Village Appraisals, Healthy Living Centres, Health Needs Assessments, sex and relationship education, local authority planning and urban regeneration both within the UK and internationally. The ESI has developed innovative techniques that engage communities as active participants and this approach encourages community ownership of outcomes so that they are self-sustaining in the longer term.

<sup>15</sup>Pretty et al, 2003, 2004, 2005, 2006, 2007; Pretty, 2007; Peacock 2007; Mind, 2007; Hine et al. 2007a,b; Hine et al. 2008a,b, c; Hine 2008; Hine et al, 2009; Hine 2010; Barton et al. 2009; Barton and Pretty 2010; Pretty et al. 2009.

<sup>16</sup>See <http://www.greenexercise.org/> for more details of this research

## 2 Nature, farming and wellbeing

### 2.1 The challenges

There are many challenges facing the health and wellbeing of industrialised societies, particularly a lack of physical activity in everyday life, mental health issues, poor diets and an increasingly aging population. Many people are marginalised and feel isolated or disconnected from others, their local communities and wider society. We have become disconnected from the nature around us, from the food that we eat and from those who produce it. In addition there are increasing climatic and economic pressures facing those who work with the land, in farming and in nature conservation.

#### 2.1.1 Health and wellbeing issues

The health of the UK population is suffering as a result of our increasingly sedentary lifestyles, poor diets and the prevalence of mental illness. Physical inactivity is one of the leading causes of death in developed countries, responsible for nearly a quarter of coronary heart disease and is a contributing factor in colon cancer, diabetes, strokes and breast cancer<sup>17</sup>. Inactivity not only has consequences for health, it also places a substantial cost burden on health services, as well as the increasing costs of social care arising from the resultant impairment of functional capacity. The annual costs of physical inactivity in England are reported to be approximately £8.3 billion<sup>18</sup>, excluding individuals who are obese due to inactivity, which contribute a further cost of £2.5 billion per year to the economy<sup>19</sup>. These figures incorporate both costs to the NHS and associated costs to the economy (e.g. from work absenteeism). The health status of the UK population has become a pressing concern for Government, and promoting increased participation in physical activities is now a public health priority<sup>20</sup>.

In the last 50 years, the diets of most people in the UK have undergone enormous changes<sup>21</sup>. On average, individuals now consume more food calories than they burn, and increasingly they consume more processed, convenience food full of sugars and an excess of salt. The incidence in obesity (a recognised risk factor for a range of conditions, including Type II diabetes, cardiovascular disease, specific cancers and diminished life expectancy) is rising rapidly. In 2010, over a half of adults and a third of children were classified as either obese or overweight in England<sup>22</sup>. Childhood obesity also greatly increases the likelihood of acquiring Type II diabetes in adulthood<sup>23</sup>. Obesity causes over 30,000 deaths a year in England and estimations concerning the costs of obesity suggest that it cost the NHS 2.3 billion a year (reported figure from 2007), contributes to 18 million days of sickness per year and has an overall cost of up to £4.2 billion a year in England<sup>24</sup>.

It is believed that during any one year, one in four British adults will experience at least one diagnosable mental health problem and one in six individuals' will experience this at any time<sup>25</sup>. Mental ill health can severely compromise an individual's quality of life and it is a leading cause of disability. Mixed anxiety and depression is the most common mental disorder in Britain<sup>26</sup> and by

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<sup>17</sup> WHO 2002

<sup>18</sup> DoH 2004, NICE 2009

<sup>19</sup> As 13

<sup>20</sup> Barton et al 2009, DoH 2004, DOH 2011

<sup>21</sup> Popkin, 1998, 1999; Pretty, 2002

<sup>22</sup> British Heart Foundation 2007

<sup>23</sup> NHS Information Centre 2012

<sup>24</sup> DoH, 2004, National Audit Office 2001, Foresight 2007

<sup>25</sup> WHO 2001; ONS 2001, 2009; Mental Health Foundation 2012. In the UK it is more, in 2007 23% of people had at least one psychiatric disorder

<sup>26</sup> ONS 2001

2020 it is predicted that depression will be the second most common cause of disability in the developed world<sup>27</sup>. Mental illness also inflicts additional economic and social costs both directly (health and social care; human cost) and indirectly (through output losses) and it is estimated that the total costs of mental illness in England in 2009-10 were approximately £105.2 billion<sup>28</sup>. The majority of these costs fall mainly on those who experience mental illness and their families but it also generates sizeable costs for taxpayers and for business. According to a study in 2003 mental health problems carried a bigger cost to society than crime<sup>29</sup>.

In addition, we have an increasingly aging population and addressing dementia is a growing challenge within our society, with increasing numbers of people living with the condition<sup>30</sup>. The importance of promoting dementia care and enabling sufferers to live 'well with dementia' was highlighted with the publication of the Government's National Dementia Strategy<sup>31</sup> in 2009 which raised the profile of dementia within health and social care sector.

Tackling major public health issues such as the rise in inactivity levels and poor diets (with the related problems of obesity) together with addressing mental ill health and dementia are therefore high priorities on the policy agenda.

### 2.1.2 Disconnections

Modern lifestyles have unfortunately also resulted in a number of disconnections, where individuals are isolated from other people; adults and children have become disconnected from the natural environment and are increasingly unaware of the origins of their food and who produces it.

Our mental wellbeing is affected by how connected to other people we feel, the links to, and support from our families, friends, local communities and the wider society. This social capital has a positive effect on our health and happiness<sup>32</sup>. Levels of social interaction can also be directly influenced by nature<sup>33</sup>, and green space can facilitate social contact and give rise to stronger neighbourhood ties<sup>34</sup>. Sadly these days many adults and children are disconnected from other people, feel isolated and lonely. Social exclusion is related to a reduced quality of life and is unfortunately can often be associated with older people, the mentally ill, disabled, impoverished and disaffected members of society and can contribute to a vicious cycle of inequality. Developing social capital both for individuals and for communities can therefore contribute to reducing health inequalities associated with social exclusion.

Our disconnection from nature is also having an effect on the UK population. For adults this decreased time in nature has meant spending more time indoors, both in our working and leisure environments and has contributed to the rise in sedentary lifestyles and to the obesity epidemic. One in eight of the UK population now works a 48 hour office based week or more<sup>35</sup> and in 2005, the average British adult watched over 2 hours of television per day, compared to 10 minutes of sport or outdoor activity<sup>36</sup>. The phrase 'Nature Deficit Disorder' has been coined to describe the human costs of alienation from nature such as diminished use of the senses, attention difficulties and higher rates

<sup>27</sup> World Bank 1993

<sup>28</sup> The Centre for Mental Health 2010

<sup>29</sup> Sainsbury Centre for Mental Health 2003

<sup>30</sup> Alzheimer's Society, 2007

<sup>31</sup> Department of Health, 2009

<sup>32</sup> Cooper et al 1999, Pevalin and Rose, 2003, Morgan and Swan 2004, Bird 2007

<sup>33</sup> Coley et al., 1997, Ward Thompson, 2002, NEA 2011

<sup>34</sup> As above with the addition of Kuo et al., 1998b

<sup>35</sup> TUC 2007

<sup>36</sup> ONS 05

of emotional and physical illnesses<sup>37</sup>. The term was used for children originally but more recently it has been used to refer to adults as well.

With large numbers of older people living in residential and care homes, opportunities for contact with nature are often very limited thus enforcing a disconnection from nature. Young people too are becoming more and more disconnected from nature and as a result are currently making fewer visits to the countryside than ever before. Only 10% of children today play in natural places such as woodlands, countryside and heaths, when compared to 40% of children thirty years ago<sup>38</sup>. This loss of connection between children and nature is termed by many as the 'extinction of experience' – where each generation passes on less experience of the natural environment. This continuing loss of ecoliteracy and connection to nature means that when these young people then become the policy makers and environmentalists of the future, they lack the understanding of nature and consequently its value<sup>39</sup>. Supporting adults to reconnect with nature and engaging children with nature from a young age can therefore encourage them to participate in more outdoor exercise and make to more frequent countryside visits throughout adulthood which means accessing the health and social capital benefits associated with contact with nature<sup>40</sup>.

In addition to a disconnection with nature, the UK population has become distanced both from the food that they eat and from those who produce it. A survey in 2010 showed that 26% of under 16s believe bacon comes from sheep and that 29% think that oats grow on trees<sup>41</sup>. British farmers have had to face a number of challenges in the last twenty years. BSE, Foot and Mouth disease, TB and bluetongue have caused real problems for farmers and together with export bans, late subsidy payments, volatile market prices and incidences of flooding; many farms are struggling to remain economically viable. In the 2007 Farmers' Voice Survey carried out for Defra, there is widespread concern for the state of the farming industry, with around a third of farmers surveyed intending to either give up farming completely or diversify. Greater engagement between the general public and farmers and on-site education about food production could go some way to reconnect people with the land, land managers and food producers alike.

## 2.2 Nature for health and wellbeing

The 'Health' of an individual is widely considered to be multifaceted. The World Health Organization (WHO) defines health as being *"a state of complete physical, mental and social (individual) wellbeing, and not merely the absence of disease or infirmity"*<sup>42</sup>. Similarly the term 'wellbeing' (despite the lack of a universal definition) is also considered in a wider context, described by Defra (2007) as *"a positive physical, social and mental state; it is not just the absence of pain, discomfort and incapacity. It requires that basic needs are met, that individuals have a sense of purpose, and that they feel able to achieve important personal goals and participate in society. It is enhanced by conditions that include supportive personal relationships, strong and inclusive communities, good health, financial and personal security, rewarding employment, and a healthy and attractive environment"*<sup>43</sup>

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<sup>37</sup> Louv 2005

<sup>38</sup> Natural England 2009

<sup>39</sup> Pyle 1978, Bird 2007

<sup>40</sup> Peacock et al 2007 and see section 2.2

<sup>41</sup> HGCA and NFU survey 2010

<sup>42</sup> WHO 1948

<sup>43</sup> Defra 2007

Evidence of the positive relationship between exposure to nature and an individual's health is continually growing and as a result public bodies, government departments and voluntary organisations are promoting the importance of contact with nature<sup>44</sup>.

### 2.2.1 The evidence

There is increasing evidence to show that exposure to nature and greenspace positively affects health and wellbeing<sup>45</sup>. This incorporates a variety of outdoor settings, from the open countryside, fields and forests, remote wildlands, parks and open spaces, to street trees, allotments and gardens. Natural, green environments are often perceived as places to relax, escape and unwind from the daily stresses of modern life, thus having a positive effect on our emotional (and physical) wellbeing. Three key theories offer explanations relating to man's relationship with nature, and all focus on the restorative effects of the natural environment<sup>46</sup>: i) the Biophilia hypothesis<sup>47</sup>; ii) the Attention Restoration Theory (ART)<sup>48</sup>; and iii) the Psycho-evolutionary stress reduction theory (PET)<sup>49</sup>. The 'Biophilia hypothesis' suggests there is an innate evolutionary basis to the relationship of humans with nature and recognises man's fundamental dependence on, and desire to connect with, nature<sup>50</sup>. Attention Restoration focuses on the cognitive changes associated with restoration, while PET argues that restorative effects are derived from the reduction of stress, and acknowledges emotional changes. There is however consensus in all three theories that nature contributes to enhanced wellbeing, mental development and personal fulfilment<sup>51</sup>. Therefore given the challenges facing our society, nature can act as an essential health resource and given the significant costs incurred to the individual and increased expenditure in the provision of care, the importance of access to nature and greenspace is vital.

### 2.2.2 Green exercise

There is therefore empirical evidence to show that exposure to nature brings substantial mental health benefits and at the same time, participating in physical activity is also known to result in positive physiological and psychological health outcomes<sup>52</sup>. Over the last 9 years at the University of Essex, these ideas have been combined into a programme of research investigating the synergistic benefits of engaging in physical activities whilst simultaneously being exposed to nature and this is referred to as '*green exercise*'<sup>53</sup>.

From a wide variety of University of Essex research, three broad health outcomes have been discerned: i) improvement of psychological wellbeing (by enhancing mood and self-esteem, whilst reducing feelings of anger, confusion, depression and tension); ii) generation of physical health benefits (by reducing blood pressure and burning calories) and iii) facilitation of social networking and connectivity (by enhancing social capital). Recent research into the benefits of activities in nature for those living with dementia<sup>54</sup> have also found that green exercise can enable individuals to feel well and experience a 'dampening down' or temporary absence of their dementia related

<sup>44</sup> See Defra 2011, Natural Environment White Paper

<sup>45</sup> Maas et al., 2006, Pretty et al., 2006, Van den Berg et al., 2007, Hansen-Ketchum et al., 2009, Barton and Pretty, 2010, NEA 2011

<sup>46</sup> Barton et al 2009

<sup>47</sup> Wilson 1984

<sup>48</sup> Kaplan and Kaplan 1989

<sup>49</sup> Ulrich 1981

<sup>50</sup> Wilson 1984; Kellert and Wilson 1993; White and Heerwagen 1998

<sup>51</sup> Barton et al 2009

<sup>52</sup> Barton et al 2009, NEA 2011

<sup>53</sup> Pretty et al, 2003, 2004, 2005, 2006, 2007; Pretty, 2007; Peacock 2007; Mind, 2007; Hine et al. 2007a,b; Hine et al. 2008a,b, c; Hine 2008; Hine et al, 2009; Hine 2010; Barton et al. 2009; Barton and Pretty 2010; Pretty et al. 2009.

<sup>54</sup> Mapes and Hine 2010

symptoms. Contact with nature was also found to contribute to the emotional, psychological and spiritual aspects of wellbeing for people with dementia<sup>55</sup>.

In addition, a recent green exercise dose-response study indicated that dose responses for both intensity and duration showed large benefits from short engagements in green exercise, and then diminishing but still positive returns<sup>56</sup>. The findings also suggest that those who are currently sedentary, inactive, and/or mentally unwell would accrue health benefits if they were able to undertake regular, short-duration physical activity in accessible (probably nearby) green space. Such doses of nature will contribute to immediate mental health benefits.

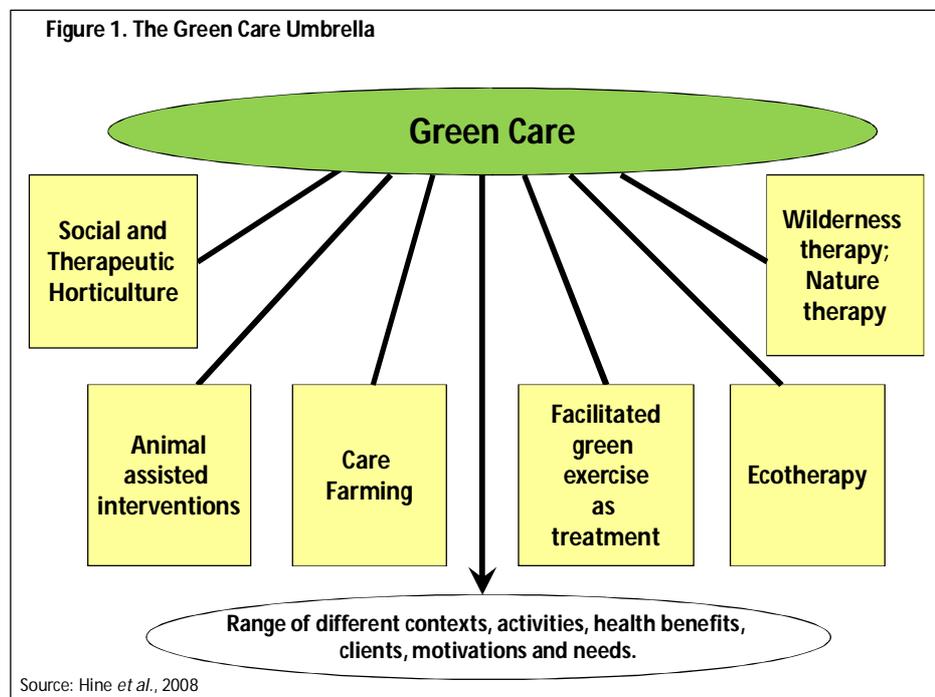
Undertaking physical activities in outdoor green environments could also offer a more sustainable and appealing option in maintaining long-term activity levels, as it is the interaction with the environment and the social contact that are the main incentives rather than the 'exercise'. In this situation, the health benefits gained from the physical activity are not the sole focus and become a secondary outcome. With the current inactivity dilemma, exploring the use of rural and urban greenspaces as ideal locations to encourage physical activity could prove to be a benefit for all<sup>57</sup>.

### 2.2.3 Green care

Evidence suggests that therapeutic applications of green exercise could also be effective and these applications are collectively termed 'green care'<sup>58</sup>. Green care is generally a therapy or specific intervention, for a *particular* participant or group of patients rather than simply a 'therapeutic' experience. There is

a growing movement towards green care in many contexts, ranging from facilitated applications of green exercise activities, Social and Therapeutic Horticulture (STH), Animal Assisted Therapies to Wilderness Therapy, Ecotherapy and Care Farming (see Figure 1).

Although the area of green care is very diverse, the common linking ethos is the contact with nature, which generates the health, social or educational benefits. By linking the exposure to nature with various activities, in a safe way that is often on a regular basis, facilitated and structured, this process can offer therapeutic benefits for vulnerable groups. By increasing participation and awareness, green care initiatives have the potential to improve health and wellbeing and significantly reduce public health costs by encouraging healthier communities.



<sup>55</sup> Chalfont 2006

<sup>56</sup> Barton and Pretty 2010

<sup>57</sup> Mind 2007

<sup>58</sup> Pretty 2006; Sempik *et al* 2010

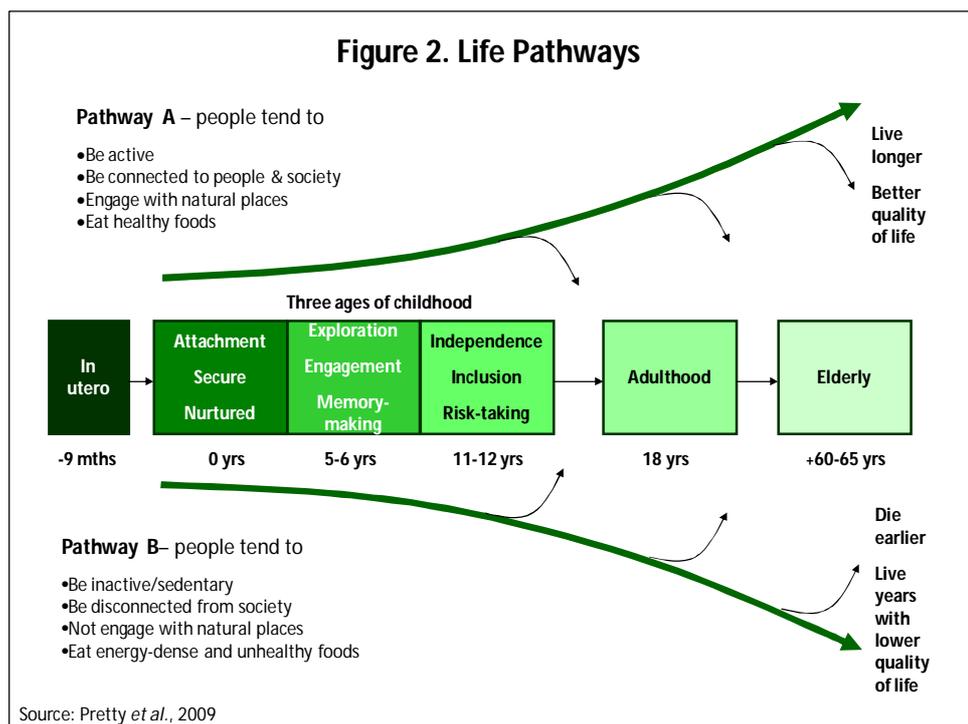
## 2.2.4 Life pathways

Contact with nature does not only affect immediate health and wellbeing but also can also affect health throughout a lifetime. Many of the social and environmental conditions of childhood can predict or track adult health status and childhood physical and mental ill-health is carried forward. Later emotional wellbeing and cognitive capacity is profoundly influenced by early social development, suggesting a need to establish good behaviours early. There is also growing evidence to show that contact with nature and consequent levels of physical activity in childhood affects not only wellbeing at the time but also their health in later life<sup>59</sup>.

Further University of Essex research<sup>60</sup> has developed a funnel of pathways within which all our lives are shaped (Figure 2). At the top, people live longer with a better quality of life; at the bottom they die earlier and often live years with a lower quality of life. On the healthy pathway, people tend to be active, be connected to people and society, engage with natural places, and eat healthy foods. As a result, they tend to have higher self-esteem and better mood, be members of groups and volunteer more, keep learning, engage regularly with nature and be more resilient to stress.

On the unhealthy pathway, people tend to be inactive and sedentary, be disconnected from society and social groups, not engage with natural places, and eat energy-dense and unhealthy foods. They also tend to have lower socio-economic status, be in more stressful jobs, live where active travel to work or school is difficult, have increased likelihood of being mentally ill, and be overweight or obese.

There are clearly numerous pathways that lie between healthy path A and unhealthy path B - the figure has been simplified for illustration purposes only. There are many other factors that affect our long-term life and health pathways but the research describes the key mediators, such as social status, mental health, social capital, physical activity, urban design and contact with nature.



It is proposed that it is possible to shift across these life pathways – from B towards A as a result of adopting healthy behaviours, or from A to B as a result of shocks or an accumulation of stresses. Resilient individuals remain able to absorb and cope with shocks and stresses and remain on pathway A. It follows therefore that contact with nature and involvement in green care interventions

<sup>59</sup> Pretty *et al* 2010

<sup>60</sup> As 4

can help an individual shift across the life pathways for a healthier, happier life through improving wellbeing, increasing physical activity and fostering a connection to nature, often at the same time as enabling healthy lifestyle behaviours and creating social capital.

### **2.2.5 Green education for children**

The evidence base has highlighted the health and wellbeing benefits of contact with nature and this combined with the concerns that our children are becoming more and more disconnected from the natural world, has provoked a drive to reconnect children with the outdoors<sup>61</sup>. Green spaces are ideal surroundings for outdoor learning, where engaging with nature can lead to enhanced connectedness to nature and increased ecological literacy. One way to increase children's contact with nature is within the formalized educational system, both in terms of i) the amount of exposure to nature in the learning environment and ii) actually learning about nature (green education).

The importance of outdoor learning has been realised by the UK government who have sought to broaden and develop out of classroom education through the 'Learning Outside the Classroom Manifesto (2006)'. In the UK, the Forest Education Initiative has set up a number of Forest Schools<sup>62</sup>. This concept originated in Scandinavia in the 1950s as a way of teaching children of all ages about the natural world and by the 1980s it had become an integral part of the Danish primary education syllabus. Several schools have been set up in England and Wales with the main aim of providing contact with woodlands on a regular basis and over an extended period of time for young people. Participation in the forest school improves children's confidence, wellbeing and self-esteem, motivates them to learn and encourages pride in, and ownership of, their local environment<sup>63</sup>.

The 'Growing Schools' initiative<sup>64</sup> was also started to support 'Learning Outside the Classroom' as the National Curriculum required teaching young people about food, sustainable development, agriculture, environmental issues and the science of plants and animals. Growing schools aims to "give all children the opportunity to connect with the living environment, whether it is an inner city window box or a vast country estate, a school veg. plot or a natural woodland"<sup>65</sup>. The initiative encourages learning outside in three readily accessible settings: farms – to learn about food, farming and the managed countryside; gardens and green spaces – to learn about gardening and growing; and nature reserves – to learn about wildlife and the natural environment (see section 2.3.3 for more details on these farm visits). At the same time, there has been a rapid growth in the number of initiatives to develop allotments in or close to school grounds to grow vegetables<sup>66</sup> and in the use of bushcraft skills to engage disaffected children<sup>67</sup>.

## **2.3 Recognition of the role of agriculture**

### **2.3.1 Multifunctional farming and natural landscapes**

Over the last decade, there has been a substantial shift towards recognising that any area of land can provide many different environmental, recreational and health services at the same time and so therefore is multifunctional. However the realisation that land could provide 'health' services<sup>68</sup> has

<sup>61</sup> See for example RSPB 2010, Moss 2012; NE 2009

<sup>62</sup> See [http://www.foresteducation.org/woodland\\_learning/](http://www.foresteducation.org/woodland_learning/)

<sup>63</sup> O'Brien and Murray 2006

<sup>64</sup> See <http://www.growingschools.org.uk/>

<sup>65</sup> Growing Schools 2012

<sup>66</sup> See for example <http://www.eastfeast.co.uk/>

<sup>67</sup> See for example <http://www.sunrisebushcraft.com/>

<sup>68</sup> Dobbs and Pretty 2004; Millennium Ecosystem Assessment 2005; Hine et al. 2007

been relatively recent and these health services provided by our countryside and our farmland have often been overlooked in the past.

A number of recent publications have acknowledged the importance of health services from our countryside<sup>69</sup> including the UK National Ecosystem Assessment<sup>70</sup> (UK NEA) which published the first analysis of the UK's natural environment in terms of the benefits it provides to society and continuing economic prosperity. Public bodies such as Natural England and charities such as the National Trust and the RSPB are also actively promoting the health benefits of natural landscapes<sup>71</sup> and farming organisations such as LEAF have become increasingly aware of the multiple services provided by farms. Increasing opportunities for contact with the countryside, by visiting farmland and reaping the associated health benefits, is another service that agriculture can provide, and therefore represents a further aspect of the multifunctionality of agriculture.

### **2.3.2 Children's education on farms**

As previously mentioned, there is widespread concern about young people's disconnection from nature and also their lack of knowledge about where our food comes from and what constitutes a healthy diet and lifestyle. In the Natural Environment White Paper, the Government acknowledges the importance of enabling children to connect with natural environments and to learn about nature<sup>72</sup> and there have been numerous calls to ensure that every child has an opportunity to visit a farm.

Around 1,100 farms in England offer free visits through educational access as a result of their participation in the Higher Level Stewardship scheme<sup>73</sup>. With this in mind, FACE (Farming & Countryside Education) is a charity which aims to help young people learn more about food, farming and the countryside "*by promoting visits to farms, and to provide easy access to a wide range of high-quality educational resources and activities to complement both school-based studies and outdoor visits*"<sup>74</sup>. There is some (largely anecdotal) evidence to suggest that farm visits are going some way to engender reconnection with nature and to raise knowledge levels of food production (See Box 1). The work that FACE carries out with young people is thought to be highly successful because of the immediate and widespread benefits of visits to the outdoors, and of using food, farming and the countryside to support many aspects of the curriculum.

### **2.3.3 Impacts of visits to farms**

Aside from visiting a farm as part of an organised group or a predominantly educational visit for children, LEAF is perhaps the leading organisation to facilitate informal visits to farms for the wider community. Particularly through LEAF's 'Open Farm Sunday' initiative farmers host hundreds of farm visits every year that demonstrate how the food we eat is produced whilst caring for the environment<sup>75</sup>. The work of LEAF in enabling educational visits to farms for children, the general public and those from disadvantaged groups to help them reconnect with nature and food, through Open Farm Sunday and Let Nature Feed Your Senses is specifically highlighted in the Government's Natural Environment White Paper<sup>76</sup>.

<sup>69</sup> Economics and Funding SIG 2007; NE 2009;

<sup>70</sup> NEA 2011

<sup>71</sup> <http://www.naturalengland.org.uk/ourwork/enjoying/linkingpeople/health/default.aspx>

<sup>72</sup> See section 2.2.5

<sup>73</sup> Natural England 2012

<sup>74</sup> FACE 2012

<sup>75</sup> LEAF 2012

<sup>76</sup> Defra 2011 (page 49)

**Box 1. Highlights of recent research findings regarding children's perceptions to food and farming<sup>77</sup>**

Findings taken from 2011 research with children aged 7-15 years, from 65 schools, conducted by CHILDWISE on behalf of FACE and the Agriculture and Horticulture Development Board (AHDB). The overall purpose of the research was to provide up-to-date understanding of how children and young people perceive food, farming and countryside issues.

Some key findings:

- 83% of primary aged children (7-11) have some involvement in growing food, up from 63% in 2008 and 54% in 2007
- Four out of five primary aged children (80%) visited a farm in the last 3 years, but numbers drop sharply when children reach secondary school, to just 59% of 11-15 year olds.
- Almost three out of five children aged 11-15 believe that farmers care for the countryside (57%)
- For those aged 11-15, the focus of farming relates primarily to the care of animals, with other skills secondary to this. 71% rate animal care as a skill that farmers need most.
- Team working and business sense are in second and third position (34% and 27% respectively), suggesting that a minority of children do recognise some of the intellectual demands of farming as well as the physical pressures. A similar number identify problem solving (27%) management (26%) and mechanics (26%).
- Among those aged 11-15:
  - 19% of 11-15 year olds know quite a lot about how food is produced, and they try to choose foods that don't cause harm to animals
  - 28% claim that that they need to find out more about how food is produced
  - 16% know enough, but it doesn't influence their food choice
  - 17% say that they are not really bothered about the effect of their food choices
  - 49% are enthusiastic about the chance to prepare or cook their own food
  - 36% say they would like the opportunity to grow their own food
  - 31% would like the chance to visit farms and the countryside
- Seven in ten children across the age range visit the countryside at least once a year (71%), with 27% visiting once a week or more.
- Overall one in five children say that they never visit the British countryside (19% of 7-11s, 21% of 11-15s).
- Almost two out of three children aged 7-11 (63%) assume that farmers look after the British countryside, **whilst** 43% think that people who live there are responsible, and 21% that people who visit look after it in some way.
- Among 7-11 year olds:
  - 51% of 7-11 year olds would like the opportunity to prepare / cook their own food
  - 44% would like the opportunity to grow their own food
  - 37% would like the chance to visit farms and the countryside

As part of the Open Farm Sunday - 'Feed your Senses' 2008 campaign, LEAF commissioned a study to observe any changes that occur in visitor wellbeing, connectedness to nature, public perceptions of farm services and visitors' food shopping habits, as a result of visiting a LEAF farm<sup>78</sup>. A total of 71 visitors from 3 different LEAF farm visits took part in this research, which showed that spending time on a farm increased connectedness to nature (thought to be a precursor to increases in subjective wellbeing; awareness of environmental issues; and in environmentally friendly behaviour). The farm visit also resulted in visitors feeling better and experiencing enhanced mood. In addition spending time on the LEAF farm changed visitor perceptions of farming, with an increased understanding of the services that farms provide. Farm visitors also reported that their food shopping habits were likely to change as a result of the visit, becoming more likely to buy British and food produced to high environmental and animal welfare standards.

<sup>77</sup> Childwise 2011

<sup>78</sup> Hine and Pretty 2008

### 2.3.4 Care farming

Care farming is defined as the therapeutic use of agricultural landscapes and farming practices<sup>79</sup> and its use is increasing both within the UK and Europe<sup>80</sup>. On care farms, components of either the whole or part of the farm are used to provide health, social or educational care services through a supervised, structured programme of farming-related activities. Care farms provide services for a wide range of people, including those with defined medical or social needs (e.g. psychiatric patients, those suffering from mild to moderate depression, people with learning disabilities, people with ASDs, those with a drug history, disaffected youth or elderly people) as well as those suffering from the effects of work-related stress or ill-health. Care farming represents a partnership between farmers, health and social care or education providers and participants.

All care farms offer some elements of 'farming' to varying degrees, be that crops, horticulture, livestock husbandry, use of machinery or woodland management. Similarly all care farms offer some element of 'care', be that health or social care or educational benefits. However, there is much variety in care farms, with differences in the extent of farming or care that they offer, the context, the client group and the type of farm<sup>81</sup>

Results from studies into the mental health benefits of these care farms within the UK have found that their use can result in significant improvements in both self esteem and mood<sup>82</sup> and research data collected from a variety of European care farm studies with different client groups imply that care farms have specific qualities that many participants benefit from<sup>83</sup>. These include the relationship between the farmer and the client, being part of a social community and engaging in meaningful activities in a green environment. The fact that the farm provides an informal, non-care context, closer to 'real life', is also valued.

### 2.3.5 The potential for farms

Contact with the natural environment through visiting agricultural landscapes, farms and nature reserves can therefore be used in a number of contexts to provide health, social and educational benefits for a variety of people. Whether the farm is used as a venue for outside learning; for raising awareness of countryside management and where food comes from; or whether it is providing care farm activities will depend on the emphasis of the individual farmer. Whether a farm wants to offer one-off 2 hour visits or adopt the full green care approach and offer structured meaningful activities on a regular basis will depend on type of farm enterprises and the focus of the farmer. What is desirable, appropriate and achievable therefore will vary from farm to farm.

Many care farmers in the UK have health, social or educational 'care' as the heart of what they do, with 'farming' a secondary focus, whereas other farms concentrate on commercial farming and offer farm visits very much as a secondary feature. Whichever option farmers take, there is growing recognition that farms and their landscapes can provide and should be valued for a range of different public goods and services, so extending the notion of multifunctionality. There is great potential for the use of farms (as well as forests and nature reserves), to provide both farm visits and programmes of green care, which could bring greater connections between people and the land (both farmed and non-farmed); foster a greater understanding of the natural environment; and deliver health, social and educational benefits. Green care and green education could link policy

<sup>79</sup> Hassink, 2003, Haubenhofer et al 2010, Care Farming UK 2012

<sup>80</sup> Hine et al., 2008a

<sup>81</sup> Sempik et al 2010, Hine et al 2008a

<sup>82</sup> Pretty, 2006, Peacock et al., 2007, Hine et al., 2008a

<sup>83</sup> Ellings 2012

priorities for farming, health, social and educational agencies, and help create healthy places for the general public.

## 2.4 Rationale for the research

The numbers of care farms offering services to vulnerable groups in the UK is growing (around 70 in 2007 and up to 130 in 2012<sup>84</sup>), educational visits to farms for children in mainstream schooling are well established (but not totally widespread) and a large number of LEAF farms open their gates to the public at least once a year.

Why is the 'Let Nature Feed Your Senses' initiative different to what is already being offered? LNFYS provides opportunities for groups of people not readily able to access farm visits currently (older people; adults and children with a disability; and adults and children from areas of deprivation). LNFYS facilitate these visits not just to care farms or to LEAF farms, but to non-affiliated farms and nature reserves as well, thus providing more availability and a choice of different managed environments both with and without livestock. The emphasis of LNFYS is on a sensory experience of the farm rather than purely educational or 'care', and as such these visits are supported both through contact with LNFYS staff and Regional Coordinators and through a wide variety of innovative, interactive resources designed to help farmers develop a sensory rich visit.

We have some evidence of the impacts of one-off visits to farms by the general public, of repeated visits on farms by school groups and of longer-term, structured care farm contact for vulnerable groups. To date however there is a lack of evidence on the impacts of shorter, one-off and sensory focused farm visits for vulnerable or socially excluded groups.




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<sup>84</sup> Care Farming UK 2012

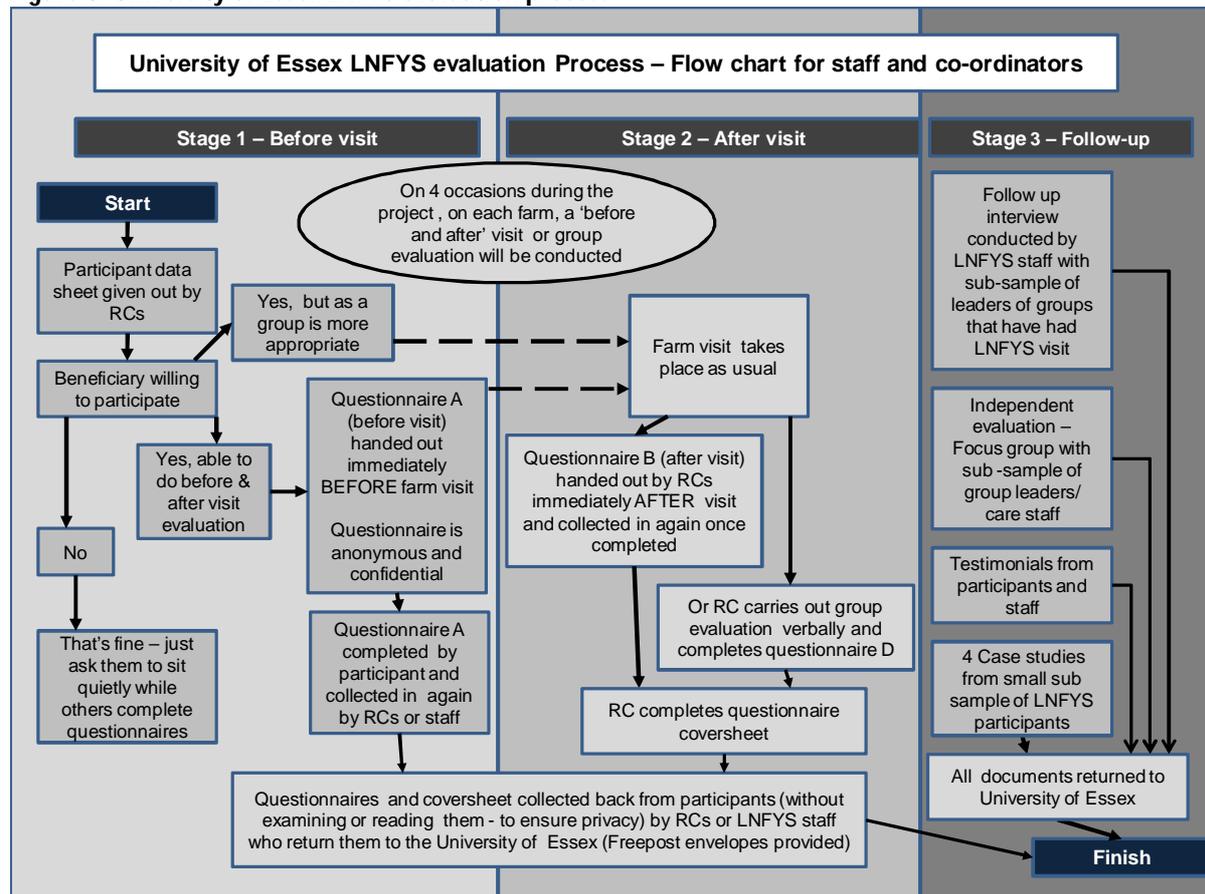
### 3. Methodology

This section provides an overview of the evaluation process and details of all of the various elements within it; information on the sampling strategy, farm visit activities, training given and ethics procedure; before outlining the outcome measures and the methods used to analyse them.

#### 3.1 Evaluation Overview

LEAF and the Sensory Trust commissioned the University of Essex to provide an independent, academic monitoring and evaluation programme to assess key outcomes of the Let Nature Feed Your Senses project specifically in terms of the effect that taking part in the project has on target beneficiaries (see section 1.4.2 for more details). The University of Essex evaluation focussed on 4 main themes: 1) wellbeing; 2) healthy lifestyles; 3) connection and access to nature; and 4) the links between nature and everyday life, such as interdependence of food, farming and nature. Some overlap in these categories is acknowledged however due to the inevitable associations between a participant's healthy lifestyle and wellbeing and between connection and access to nature.

**Figure 3. University of Essex LNFYS evaluation process**



In order to address the themes of the research the University of Essex used a mixed methods approach, utilising data derived from a variety of different elements. A 'before and after farm visit study' was developed in order to directly assess any changes occurring as a result of a visit to a LNFYS farm. An associated after visit 'group evaluation' study was devised for participants unable to

complete questionnaires. We also co-designed a *'follow-up interview'* carried out by LNFYS staff, with leaders of groups that had recently taken part in a farm visit.

In addition, LNFYS staff collated *'testimonials'* and *'case study'* data from participants and group leaders and Professor Janet Dwyer carried out a follow up *'focus group'* with a number of group leaders. Data from all of these elements have been analysed by the University of Essex and the results pertaining to the 4 themes are included in this evaluation report. Figure 3 gives details of the evaluation process.

## **3.2 University of Essex designed evaluation elements**

The University of Essex designed and supervised the i) 'before and after visit study', ii) 'group evaluation' and iii) 'follow up interview' elements of the evaluation. As previously mentioned, a multi-method approach was used to assess the changes after participating in various stages of the project, incorporating both quantitative data and qualitative narrative. The primary sources of data collection utilised in this study included:

- Questionnaires for participants
- Structured group interviews with participants (and carers/ helpers)
- Semi- structured interviews with group leaders

### **3.2.1 Before and after visit evaluation**

The 'before and after visit' part of the LNFYS evaluation was conducted immediately before and after farm visits at each of the 26 chosen host sites in the evaluation. This part of the evaluation employed a purely questionnaire-based approach.

Questionnaires for beneficiaries participating in the visits were developed by the University of Essex and were specifically designed to be easily understood and not be too daunting or time-consuming for visitors of varying abilities to complete (questionnaires did not take up more than 1 sheet of A4 paper for example). Questionnaires A and B can be found in Appendix C. Questions included in the questionnaires were designed to address the 4 themes of the evaluation (see sections 3.8 to 3.11 for more details). Participants were asked to complete the questionnaires individually (unless assistance from a helper was required) and not to compare or discuss their answers with other participants.

Regional Coordinators collected data before and after the farm visits. Questionnaires were specifically designed for each stage of the project - questionnaire A (before) and B (after). Certain questions were asked twice in questionnaires administered immediately before (on arrival) and immediately after participants spent time on the farms (before leaving the site), to enable comparisons to be made and to allow identification of any changes in parameters as a direct result of exposure to the farm environment. RCs also completed a questionnaire coversheet which recorded various aspects of the day that could have an overly negative or positive effect on the visit such as the weather, duration of visit and type of activities etc. All questionnaires and coversheets were then collated and sent to the University of Essex for independent analysis.

### **3.2.2 Group evaluation**

The 'group evaluation' part of the LNFYS evaluation was conducted immediately after visits at the host sites during the project. The University of Essex developed 'Questionnaire D', a structured

template for group discussion, a simpler, interactive tool designed for use when a group of visitors to the farm were not able to complete Questionnaires A and B for some reason (see Appendix D). The regional co-ordinator, group leader or group member reads out the questions to the group that has visited the farm and records the responses and the number of people answering each question.

This process was designed to enable more participant inclusion in the evaluation, and where possible, mirrored the before and after visit study. The questionnaire comprised simplified versions of questions included in the before and after visit study.

“The visit from the nursing home was a truly special one... Having contact with the animals and the sights and smells of the farm brought up a lot of feelings and memories.

The woman with the chick [photo] was an interesting story - she had actually been to the farm many times in her working career, and recalled the time she spent here. She was so pleased to be back on the farm! Some of the residents came along with their family members and it was a lovely experience for them to share together. We ended the day with a cup of tea and cake. As the visit was such a success, we are looking forward to the group coming again in the future.”



Corri Waitt, host farmer, FAI Farms, South East, June 2011

Elements covered in the group evaluation included: usual nature contact (see 3.9.2); rating importance of various parts of the farm visit (see 3.11); questions examining the links between nature and everyday life (see 3.11); and anecdotal evidence (see 3.12).

As with the before and after study, RCs also completed a questionnaire coversheet which recorded various aspects of the day that could have an overly negative or positive effect on the visit such as the weather, duration of visit and type of activities etc. The questionnaire and coversheet were then sent to the University of Essex for independent analysis.

### 3.2.3 Follow up interviews

‘Follow-up interviews’ with a sub-sample of group leaders, who had taken a group of people on a LNFYS visit, were conducted by James Taylor (LEAF) and Lynsey Robinson (Sensory Trust) in order to gain insight into any changes in participant behaviour or perception as a result of taking part in the farm visit. On the collated sheet of LNFYS visits, every 5th visit was selected and the group leader contacted. However if a group had already been selected for a previous visit; if it was someone who had already been heavily consulted (e.g. for public relations activity); or if group leader contact details were missing, the visit in the line above was selected. A total of 38 group leaders were contacted. Follow-up interviews followed a similar format as the questionnaires in terms of content, covering the 5 themes of the evaluation. LNFYS staff followed structured interview questions developed by the research team and recorded data directly onto an excel spreadsheet, which was then returned to the University of Essex for analysis.

### 3.3 Additional evaluation elements

LNFYS staff collated ‘testimonials’ and ‘case study’ data from participants and group leaders and Professor Janet Dwyer and Jane Mills (from Countryside and community Research Institute, University of Gloucestershire) carried out a follow up ‘focus group’ with a number of group leaders.

Data from all of these elements pertaining to the 4 themes have been analysed by the University of Essex and are included in this evaluation report.

### **3.3.1 Case studies and testimonials**

The collection of data for the more in-depth case studies and testimonials took a more ad hoc approach with LNFYS staff and RCs seizing any opportunity to gather information about the project. As a result, narratives were received from a range of different sources:

- LNFYS staff encouraged RCs and hosts to inform them of group leaders willing to speak with the LNFYS team about the impacts of farm visits.
- Some testimonies from participants, hosts, group leaders and carers were received by post or by email
- some were actively sought by LNFYS staff,
- some were from face to face interactions and
- others involved telephone interviews.

On occasions comments on the 'every visit' evaluation form<sup>85</sup> also triggered LNFYS staff to then call up the group leader to ask for their views and insights.

### **3.3.2 Focus group**

A focus group was facilitated by Professor Janet Dwyer (Co-Director) and Jane Mills of the Countryside and Community Research Institute (CCRI) at the University of Gloucestershire) in January 2012 in Castle Bromwich. Taking part were ten staff members from six different initiatives that had participated in LNFYS visits: four projects that work with children, one with adults with special needs and one elderly care home.

This focus group will be written up separately<sup>86</sup>, however some material from this focus group (such as direct quotes) has also been included in this evaluation report (see section 4.8).

## **3.4 Sampling strategy**

### **3.4.1 Sites**

The 'before and after visit' and 'group evaluation' parts of the LNFYS evaluation were conducted at twenty six chosen host sites. Three farms were chosen in each region<sup>87</sup> and each of these ideally had to complete four evaluated farm visits over the time of the project. In order to ensure that visits were evaluated all year round RCs were asked that two visits in the spring/summer time and two in the autumn/ winter could be chosen for each farm (if possible and appropriate). As the LNFYS team was also keen to determine whether contact with animals played a crucial part in the farm visits both i) farms that enable interaction with livestock and ii) those that do not, were chosen for the evaluation. The sites chosen were a mixture of LEAF and non-LEAF farms and nature reserves, in this study the term 'farm' is frequently used to describe the host site, which could in fact be a farm, a city farm or a nature reserve. A full list of farms that took part in the evaluation can be seen in Table 1.

<sup>85</sup> A LNFYS form completed after every LNFYS visit

<sup>86</sup> Contact LEAF for further information

<sup>87</sup> Apart from West Midlands region where 2 extra farms had to be recruited (when one farm dropped out of the evaluation) in order to achieve the requisite number of evaluated visits

**Table 1. Sites that were chosen to have evaluated farm visits in the LNFYS evaluation**

Region	Name of Farm
<b>East of England</b>	
1	College Farm
2	Broughton Grounds Farm
3	Butterfly Lodge Farm
<b>East Midlands</b>	
4	Glebe Farm
5	Shackerdale Farm
6	Whetstone Pastures Farm
<b>West Midlands</b>	
7	Worcester Wildlife Trust, Lower Smite Farm
8	Great Wollaston Farm
9a	Southfields Farm
9b	Sandfields Farm
9c	Devereaux Wootton Farm
<b>South West</b>	
10	Quarry Bank Farm
11	Church Farm
12	Larkrise Community Farm
<b>South East</b>	
13	Hill Farm
14	Warriner School Farm
15	Droke Farm
<b>North West</b>	
16	New Laund Farm
17	Cronkshaw Fold Farm
18	Penwortham Environmental Education Centre
<b>North East</b>	
19	North Bellshill
20	Tees Valley Wildlife Trust
21	Gateshead Community farm
<b>Yorkshire</b>	
22	Stockbridge Technology Centre
23	Molescroft Farm
24	Potteric Carr Nature Reserve

### 3.4.2 Participants

For the 'before and after study' and for the 'group evaluations', RCs endeavoured to include visits with participants from each of the LNFYS beneficiary groups in the evaluation process, including: those who have a disability; those who live in an area of high social deprivation; those aged 65 or over; and schoolchildren who either have a disability, live in an area of high social deprivation or attend a school that has been unable to previously access farm visits. The aim was also to achieve an equal mix of these beneficiary groups in the evaluation although in reality, the distinctions between these groups were often blurred, visits sometimes included participants from several of the target groups and individuals were often in more than one category.

### 3.5 On-farm activities for visitors

Activities undertaken on farms taking part in evaluated visits varied, but were all designed to explore as many of the 5 different senses as possible. Guidelines, suggested activities and other practical and creative resources were provided by LEAF and Sensory Trust. Activities obviously varied depending on enterprises present (or safely accessible) on the individual sites, seasonality and participant ability. However all visits involved some kind of farm tour or sensory walk, a specific activity and some sort of interaction with crops, livestock or wildlife.

Activities undertaken on the farms fell into 6 main categories:

- Harvesting, cooking or eating produce
- Watching, handling or working with livestock
- Observing, handling or working with different arable crops
- Watching, identifying or handling wildlife
- Learning about, sitting on or riding in farm machinery
- Taking part in creative activities using natural materials

### 3.6 Training and acclimatisation

In order for LNFYS staff and Regional Co-ordinators (RCs) to be fully informed about the University of Essex evaluation and to be given guidelines on how to administer questionnaires and group discussions in an ethically sound and correct way, the University of Essex lead researcher gave a training/ acclimatisation session for all staff and RCs that were to take part in the project during May 2010. In addition an evaluation guidelines document and ongoing telephone support were provided to compliment this process.

### 3.7 Ethics and consent

All participants of the evaluated farm visits in the LNFYS project were invited to take part in the evaluation if they wished and their participation was on a purely voluntary basis. All participants were given a participant information sheet to take away (see Appendix A). The Participant information sheet gave i) details of the evaluation process; ii) details on how to withdraw from the evaluation or contact the research team and iii) information on storage of personalised data (in line with the Data Protection Act. Questionnaires were designed to be anonymous with the only personal data collected on questionnaires being participant date of birth and initials, purely to collate questionnaires from the same participant before and after the farm visit. Only participants who consented to take part in the research were accepted onto the evaluation and then given questionnaires. Consent was obtained using the first question on the questionnaire. Ethical approval for the before and after study and the group evaluation was given by the Science and Engineering Faculty Ethics Committee at the University of Essex which reviewed and approved the research.

Participants in other parts of the evaluation were also asked by LNFYS for their consent for any photos, video footage or other recording of participants to be used either by LNFYS, BIG Lottery or the University of Essex research team as appropriate (see Appendix B).

### 3.8 Wellbeing measures

Wellbeing is one of the main themes for the Let Nature Feed Your Senses evaluation. Questionnaires in this research therefore contained various questions designed to measure 4 of the elements that constitute human wellbeing: mental wellbeing, health status, physical activity and social inclusion (community belonging). These themes were continued throughout the different elements of the evaluation and where possible (and appropriate) the same questions were used in the before and after study, the group evaluation and the follow-up interviews.

#### 3.8.1 Mental wellbeing

Standardised, internationally recognised and validated measures for mental wellbeing and self and esteem initially chosen for use in the evaluation were considered too personal and possibly unworkable by some of the LNFYS Regional Coordinators at the consultation and pilot stage of the evaluation process, so less robust but more participant and RC friendly alternatives were devised. Therefore as a proxy for measuring mental wellbeing, a one-off, simple question on 'positivity' was included in the before and after questionnaires to allow participants to give their perception of their own positivity or happiness status. This simple question was devised by University of Essex and has been successfully used by the team in similar green care evaluation contexts. Participants were asked to complete on a scale of 1 – 10, "*how positive do you feel at the moment?*" and asking the question both before and after the farm visit, enabled comparative data to be gathered and any changes in score as a result of the visit to a farm, to be calculated.

This question was not considered appropriate to be included in either the group evaluation or at the follow up interviews with group leaders. However, anecdotal findings on effects on participant mental wellbeing from these parts of the research have been included in the report.

#### 3.8.2 Health

In the same way, as a proxy for determining health, a one-off, simple question on 'health' was included in the questionnaires to allow participants to give their perception of their own health status. This simple question was again devised by University of Essex and has been successfully used by the team in similar green care evaluation contexts. Participants were asked to complete on a scale of 1 – 10, "*how healthy do you feel at the moment?*" and by asking the question both before and after the farm visit, comparative data was gathered to calculate any changes in score as a result of the visit to a farm.

This question was also not considered appropriate to be included in either the group evaluation or at the follow up interviews with group leaders. However, anecdotal findings on effects on participant health from these parts of the research have been included.

#### 3.8.3 Physical activity

Visitors taking part in the study were also asked about their perception of physical activity in their own lives. Participants were asked "*how important is taking part in exercise to you?*" and answered by placing a cross somewhere on an importance scale of 0-5, where 0 is 'not very important' and 5 represents 'very important'. This question was asked once in the before and after study, as changes in physical activity were not expected to occur as a result of one farm visit. This approach to

enquiring about physical activity was favoured over more structured questions on a participant's actual levels of exercise because of the varying abilities of the LNFYS target groups to take part in physical activity.

### **3.8.4 Social inclusion**

Finally to examine the element of social inclusion or community belonging in the LNFYS evaluation, two types of question were used. Firstly, as for physical activity, participant perceptions on being with other people were assessed using a question on the importance scale, where visitors were asked *"how important is being with other people to you?"* - again answered by placing a cross somewhere on an importance scale of 0-5, where 0 is 'not very important' and 5 represents 'very important'. As this question was also asked twice in the before and after study, changes as a result of taking part in the farm visit could be determined.

A simplified form of this question was included in the group evaluation, where participants were given two choices, either that they felt that being with a group was 'very important' or 'not very important'. For the follow up interviews with group leaders the original question was used. Anecdotal findings on effects on participant social inclusion from all parts of the research have also been included in the report.

Secondly (solely in the before and after study), participants were asked how much they agreed or disagreed with a series of 4 statements relating to different aspects of community belonging (these questions have been used successfully by the Green exercise research team in similar green care interventions). Responses were scored on a 5 point Likert scale where respondents were asked to choose from 'strongly agree', 'agree', 'neutral', 'disagree' and 'strongly disagree', for overall community belonging scores to be obtained for each respondent (the sum of score for each question divided by 4). Community belonging scores therefore range from a minimum of 1 to a maximum of 5.

## **3.9 Healthy lifestyle measures**

Healthy lifestyle is another of the main themes for the Let nature Feed Your Senses evaluation. Questionnaires in this study therefore contained questions designed to give some assessment of the elements of a healthy lifestyle, those which could be influenced by a visit to a LNFYS farm. The 2 elements that were chosen for this study were healthy eating habits and contact with nature or greenspaces.

### **3.9.1 Healthy eating**

Firstly, as for physical activity and social inclusion, participant perceptions on consumption of healthy food were assessed using a question on the importance scale, where visitors in the before and after study were asked *"how important is eating healthy food to you?"* Again this question was answered by placing a cross somewhere on an importance scale of 0-5; where 0 is 'not very important' and 5 represents 'very important'. Secondly visitors in the before and after study and group leaders in the follow up interviews were asked if their farm visit had made them (or their group) more or less likely to eat healthy food, where the options were 'more likely', 'less likely' and 'no change'.

### **3.9.2 Contact with nature**

In order to assess participants' usual contact with nature, questions were included in all parts of the evaluation about the types of nature people visit, the frequency of visiting nature and greenspaces and whether the farm visit had made visitors more or less likely to visit the countryside, local farms or local parks and greenspaces.

## **3.10 Connection and Access to nature measures**

### **3.10.1 Connection to nature**

Connection to nature is a key theme for LNFYS. The standardised, internationally recognised and validated measure for connection to nature initially chosen for use in the evaluation was felt to be a bit too long by some of the LNFYS Regional Coordinators at the consultation stage of the evaluation process, so less robust but shorter, easier to complete alternatives were used. Therefore as a proxy for measuring connection to nature, a one-off, simple question on 'connection to nature' was included in the before and after questionnaires to allow participants to give their perception of their own nature connection status. This simple question was devised by University of Essex and has been successfully used by the team in similar green care evaluation contexts. Participants were asked to complete on a scale of 1 – 10, *"how connected to nature do you feel at the moment?"* and asking the question both before and after the farm visit, enabled comparative data to be gathered and so any changes in score as a result of the visit to a farm, to be calculated.

In addition, a question on the importance scale, where visitors were asked *"how important is being outside in nature to you?"* was included in questionnaires. Again this question was answered by placing a cross somewhere on an importance scale of 0-5 where 0 is 'not very important' and 5 represents 'very important'. This question was used in all three University of Essex evaluation elements. However, as this question was asked twice in the before and after study, changes as a result of taking part in the farm visit could be also be determined.

### **3.10.2 Access to nature**

Another of part of this theme for the LNFYS study was access to nature and in particular to gauge changes in people's desire and confidence to connect with nature in future. Two statements were included in the questionnaires to address this issue: *"I would like to visit the countryside more often"* and *"I feel confident to visit local green spaces"*. Responses were scored on a 5 point Likert scale where respondents were asked to choose from 'strongly agree', 'agree', 'neutral', 'disagree' and 'strongly disagree'. These statements were used in the group evaluation and also asked twice in the before and after study to enable changes as a result of taking part in the farm visit to be determined. Any anecdotal findings on access to nature from all areas of the evaluation have also been included in this report.

## **3.11 Measures for links between nature and everyday life**

Measuring the changes in the in the understanding of the interdependencies of our everyday lives – food, farming and nature is the final theme of the LNFYS project. To assess any changes that occurred as a result of participation in visit to a farm, several questions were incorporated in the evaluation to address the links between nature and farming and everyday life.

Two statements about food and farming “*Farmers work together with nature to produce our food*” and “*Our food comes from the countryside around us*” were included in the before and after study and the group evaluation, together with one concerning how nature makes us feel: “*Being outside in the countryside can make us feel good*”. Responses were again scored on a 5 point Likert scale where respondents were asked to choose from ‘strongly agree’, ‘agree’, ‘neutral’, ‘disagree’ and ‘strongly disagree’. As these questions were also asked twice, any changes as a result of taking part in the farm visit could be determined. Visitors were also asked whether they were more or less likely to “*Appreciate where food comes from when eating meals*” after participating in the farm visit.

Participants and group leaders were also asked, in all 3 elements of the evaluation, to rate various aspects of the visit to the farm on the importance scale. The aspects relating to nature and everyday life included “*how important have you found....*” and either “*animals and wildlife*”; “*the farm environment*”; or “*Learning new things*”, followed by “*during the visit*”. Again this question was answered by placing a cross somewhere on an importance scale of 0-5; where 0 is ‘not very important’ and 5 represents ‘very important’. Finally, participants in the before and after study were asked if the visit had changed their view of farming and farmland and to give more details in their own words. Any anecdotal findings on the links between nature and everyday life have also been included in this report.

### 3.12 Anecdotal evidence

Qualitative narrative was collected using a series of open-ended questions both at the end of the administered questionnaires, in the group evaluation and at the follow up interviews with group leaders. After the farm visit, participants and group leaders were asked to rate several aspects of the experience and then to tell us what they enjoyed most, what they did not enjoy and finally whether if there was anything else they would have liked to have seen or heard about on the visit. Further anecdotal evidence was gathered by LNFYS staff from participants, group leaders and carers for the testimonials, case studies and focus groups.

### 3.13 Statistical analyses

Questionnaires and interview transcripts were inputted and stored electronically on databases using either Microsoft Excel or SPSS 18.0. Databases were created using SPSS 18.0 to assist in manipulating data, detecting inconsistencies and statistically analysing the results. All data measures were tested, where appropriate, for normality (Kolmogorov–Smirnov test), homogeneity of variance and sphericity (Mauchly’s Test of Sphericity). Descriptive statistics were obtained for each measure and mean differences between before and after farm visit were recorded along with the 95% confidence interval for the estimated population mean difference. Statistical significance was set at  $p < 0.05$ . As the data were not normally distributed, analyses used non-parametric techniques including Wilcoxon Signed-Rank and Kruskal-Wallis one-way analysis of variance tests; and, medians and ranges were also reported (as footnotes).

A series of Kruskal-Wallis tests were conducted on pre-visit scores to see if there were any differences between farms. No significant differences were observed so data from all of the farm sites were analysed as one group. Differences in the variables due to factors such as whether the farm visits enabled livestock contact or not; gender and age were also examined by calculating the index of change in scores (i.e. by how much or what value the scores have increased or decreased by) and then means compared for each factor using a Mann Whitney U test for livestock and gender

and for age group, a Kruskal-Wallis test (with pairwise comparisons using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons).

Statistical tests were carried out at all possible opportunities, although analysis was sometimes limited due to missing data and the number of participants. Where statistical analysis results are not reported, non-statistically significant changes in the relevant parameter have been identified. Therefore, descriptive data is also reported to provide an insight into any interesting trends or patterns in results.



### 3.14 Organisation of results in this report

The results from this LNFYS evaluation have been organised in the following chapters by the 5 main themes of the research. Firstly generic information about the participants taking part in the research, the host sites and the visits is given in Chapter 4; secondly Chapters 5-8 represent the findings within the 4 themes (with key findings provided at the end of each chapter). Case studies are featured in Chapter 9 and a general discussion of results is given in Chapter 10.

## 4 Results – Generic Information

Generic information about numbers of people involved, the participants taking part in the research, the host sites and the visit activities are outlined in this section. What participants told us they enjoyed the most, the least and what else they would have liked to have seen are also included together with anecdotal evidence from testimonials from participants, group leaders and host farmers; and an overview of the focus group findings.

Over 11,000 people took part in the LNFYS project overall and 941 people took part in the University of Essex evaluation. Not everybody completed *all* parts of the questionnaires or interviews and so for this reason throughout the results, the number of participants who completed each component is denoted by (n=X). So for example if 80 people answered a question it is represented by (n=80).

### 4.1 About the participants in the evaluation

#### 4.1.1 Before and after study

The 'before and after study' took place on 10 LNFYS visits at 9 different farms over the period May 2010 to May 2012 with a total number of 91 people (max) taking part. There was a fairly even gender split of participants (n=88) with 48% male and 52% female.

Participants in the study came from a range of beneficiary target groups: young people with a disability (36%), adults with a disability (21%), older people (14%) and adults from a deprived area (29%). The age (n=74) of visitors in the before and after study ranged from 13-95 years, with the mean age being 34.62 ±18.71. In terms of age categories 43% of participants were under 25 years old, 43% were aged 26-50 and 14% were 51 or over.

"It was wonderful to see the children experiencing things like feeding the cows, walking in the mud and looking at eggs that birds had laid! These are the types of things that these children never have the opportunity to do usually.

All the adults at the farm were so welcoming and addressed the children at just the right level and answered all the children's endless questions. The goodie bags are brilliant and the children are over the moon with them.

The children were all so positive about their experience saying it was their best day ever – they all talked nonstop about it on the way home; even a little girl who was an elective mute at school until the beginning of this school year. One little boy who has been particularly hard to engage in learning told me as he was collected by his dad that he wants to be a farmer when he grows up and he is now going to start doing his homework and trying his best so he can read books on farming!"

Elizabeth Burbridge, teacher, St Stephens, Westminster, area of deprivation, April 2010



Most participants completed the questionnaires themselves unaided (42%), 35% were filled in with the aid of a helper and 25% were filled in by participant carer. When asked if they had visited the farm before the majority of participants (90%) said that they had not.

#### 4.1.2 Group evaluation

The 'group evaluation' took place at 61 LNFYS visits on 25 farms also over the period May 2010 to May 201 with a total number of 812 people (max) taking part. Again there was a fairly even gender split amongst participants (n=769) with 44% male and 56% female.

As with the before and after study, participants in the group evaluation came from a range of beneficiary target groups: young people with a disability (36%), adults with a disability (19%), older people (12%), adults from a deprived area (2%), children from a deprived area (16%), young carers (2%) and older people with a disability (13%). When asked if they had visited the farm before the majority of participants (70%) said that they had not and of the participants that said they had been before, the majority had visited once before.

#### 4.1.3 Follow-up interviews

Group leaders of 38 groups, who had recently taken a group on a LNFYS farm visit, were contacted to take part in the follow up telephone interviews. A list of groups contacted is shown in Table 2. Group leaders answered the semi-structured questions on behalf of the members of their group and were also able to give insights on any effects on participants since the visit.

**Table 2. Names of the groups whose leader took part in the follow up interviews**

Name of Group	
• Carlton Central School	• Brunswick organic nursery
• Rural Children's Family Centre	• Young and Caring project
• Paddington Green Primary School	• Frodsham Natural History Society
• Emma Shepherd Day Centre Home	• Anchor Trust (Housing)
• Station House Care Home	• The Lodge Trust
• Blackwells	• North Herts Sanctuary
• Glen Rosa Residential Home	• Bridport Community Mental Health team for older people
• Dorrington Middle School	• United response
• Old Vicarage Care Home	• Chichester Nursery, Children and Family Centre
• Battledown Centre for Children and Families	• Hillview Residential Care Home
• Station House Care Home	• Headway House
• Critchell Court Care Home	• Support to recovery
• Fort Royal Play Scheme	• Carlisle Mencap
• Bedewell Grange care Home	• Henshaws college
• Sense	• Florence Grogan House
• Westcroft college	• Byker Sands Family Centre
• Social Education Centre	• Heathlands project
• St Mary's over 65	• Lauren Court
• Fort Royal community primary school	
• Countryman's Club - Old Vicarage Care Home	

#### 4.1.4 Case studies

Four case studies have been included in this study, which are based on narratives from 4 staff members, two from elderly care homes, one from a residential transition service for young disabled people and another from a service for deaf children. These case studies are featured in Chapter 9.

#### 4.1.5 Focus group

Taking part in the focus group run by Professor Dwyer from CCRI, were ten staff members from six different initiatives that had participated in LNFYS visits: four projects that work with children, one for adults with special needs and one elderly care home.

## 4.2 About the visits

For both the before and after study and for the group evaluation the duration of farm visits ranged from 1 to 5 hours with the average visit lasting 2.5 hours. Ten visits were evaluated using the before and after evaluation, 61 were evaluated using the group evaluation and 38 by follow-up interview with group leaders.

There were no extreme weather conditions during the visits to nature reserves and farms to affect the results. Although there were some adverse comments received complaining of rain and cold, 82% of farm visits experienced weather described as 'ok'

Activities undertaken on the farms and nature reserves that took part in both our before and after visit study and group evaluation fell into 6 main categories:

- i. Harvesting, cooking or eating produce
- ii. Watching, handling or working with livestock
- iii. Observing, handling or working with different arable crops
- iv. Watching, identifying or handling wildlife
- v. Learning about, sitting on or riding in farm machinery
- vi. Taking part in creative activities using natural materials

### i) Harvesting cooking or eating produce

Activities included:

- harvesting lots of produce,
- planting vegetables
- hedgerow foraging
- picking wild garlic
- herbs to see, touch, taste and smell
- digging potatoes
- exploring vegetable garden,
- harvesting pumpkins, making and eating pumpkin soup
- honey bee demo, honey tasting,
- sitting together to have tea and cake
- playing with wheat and dough
- bread making, eating home-made bread,
- visiting the dairy, tasting the milk
- making soup
- making pancakes
- making butter and tasting it
- picking raspberries, jam making,
- eating tea and scones with homemade jam
- cheese and fruit tasting

### ii) Watching, handling or working with livestock

Activities included:

- talk about sheep and goats,
- animal handling,
- collecting eggs, holding chickens
- looking at cows in shed,
- farm tour meeting lambs, piglets and cattle,
- watching new born calf
- watching turkeys, ducks,
- seeing and smelling cattle
- feeding a variety of animals - horses, cows, pigs, chickens, peacock, goats, calves, hens, sheep, lambs, ponies
- talk on lambing
- stroking dogs, cows, chickens, pigs and horses
- scratching and feeding pigs and piglets
- milking cows, observing milking
- putting fingers in milking cluster,
- sorting lambs, weighing sheep, ear tagging lambs
- leading a cow
- mucking out pigs
- walking in chicken run and around animal pens

### iii) Observing, handling or working with different arable crops

Activities included:

- talk on hedge laying and arable crops
- Looking at crops, apple orchards, wheat fields
- touching the grains,
- putting hands and feet in grain
- feeling grain in buckets
- viewing wheat under magnifying glasses
- using magnifying glasses in plots of different arable crops
- Coppicing activities with hazel, ash and willow
- exploring different crops by touch, smell and sound
- picking and feeling the crops
- Making corn dollies
- Looking at maggots, pollination in green houses

#### iv) Watching, identifying or handling wildlife

Activities included:

- visiting wetlands and meadows to experience wildlife
- pond dipping
- wildlife walk
- bug hotel building,
- watching wildlife,
- looking at wormery
- examining compost heap and sand boards near lake
- flowering hedgerows
- looking at birds nest
- collecting wood, looking at lichens
- looking at landscape views
- looking at mountain views and fields
- smelling flowers
- looking for insects in cowpat
- identifying birds
- holding worms
- measuring trees and calculating age
- viewing birds and insects
- sensory walk, farm walk, farm tour, glasshouse tour
- conservation walk
- visiting bird hides
- catching insects in nets

#### v) Learning about, sitting on or riding in farm machinery

Activities included:

- Looking at old farm implements and machinery
- discussing farming today and back then
- trying bale elevator
- sitting on tractor
- tractor ride
- trailer ride
- climbing tractor
- listening to a tractor up close
- getting up close to the farm machinery

#### vi) Taking part in creative activities using natural materials

Activities included:

- fire lighting with cones and wax
- making clay faces on the trees
- making nature palettes
- creating sensory pictures
- alphabet scavenger
- leaf bingo
- eye in the sky
- making a smelly cocktail
- sound mapping

### 4.3 What participants enjoyed, what they have most talked about since and impacts on individuals

There was a wide variety of rich and insightful comments received from participants and group leaders on the evaluated LNFYS farm visits, ranging from comments on the whole farm experience, the animal contact, activities, learning about crops and the effects on participants. Many participants simply told us that they enjoyed everything or 'all of it'.

Comments have been collated and main themes have been identified:

- Livestock interaction
- Arable crops
- Wildlife
- Farm machinery
- Sensory experiences
- Nature-based activities
- The farm and farmer
- The whole experience
- Impacts on individuals

*“Clients with dementia, who have little chance to go out, all managed to engage with the animals. Some clients find it hard to engage with each other but the animals were very accepting and validating.”*

Carole Head, Occupational Therapist, Bridport Mental Health Team for Older people on a visit to Magdalen Centre, South West, July 2011

A selection of representative comments per theme, are included and, as we were not able to include every one of the hundreds of specific comments, the names of staff have been removed and replaced with ‘farmer’ or ‘warden’ accordingly to maintain anonymity and to reduce bias. In addition direct quotes from group leaders and participants relating to these themes have also been included.

### **i. Livestock interaction**

Participants and group leaders told us how much they enjoyed many aspects of interaction with livestock and other animals that they met on the farm visits, everything from looking at the farm animals to stroking, holding and feeding them. Lambs, pigs, cows and turkeys seemed the most popular, although the farm dogs and horses were also well received. A selection of comments about animal interaction can be seen in Box 2.

#### **Box 2. What participants told us they enjoyed most – livestock interaction**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Lambing</li> <li>• Feeding lambs</li> <li>• Separating the sheep</li> <li>• Bottle feeding and weighing lambs</li> <li>• The animals</li> <li>• Turkeys</li> <li>• Friendly horses</li> <li>• Cows</li> <li>• Pigs</li> <li>• Lambs</li> <li>• Herding pigs - having a bit of risk/danger</li> <li>• For one gentleman who was a former pig farmer, seeing him in his element when they saw the pigs.</li> </ul> | <ul style="list-style-type: none"> <li>• Seeing the different breeds of animals</li> <li>• To see the animals in a comfortable environment</li> <li>• Meeting the pigs and piglets - scratching and feeding lettuce to them especially</li> <li>• Holding chickens and collecting eggs</li> <li>• Sorting the eggs out from the hens</li> <li>• Feeding pigs</li> <li>• Grooming Shetland ponies, stroking the goats</li> <li>• To find out about the farm and animals</li> <li>• Holding and touching the animals</li> <li>• The livestock and the arable, tress and hedges</li> <li>• To see the satisfaction on their faces when interacting with the animals</li> </ul> |
|---|---|

### **ii. Arable crops and vegetables**

Visitors to the LNFYS farms and nature reserves found interacting and learning about arable crops and vegetable production both enjoyable and interesting. They enjoyed touching the crops, finding out how crops are produced and planting activities. A selection of representative comments about arable crops and vegetables can be seen in Box 3.

**Box 3. What participants told us they enjoyed most – Arable and vegetables**

- Walking through the crops and feeling the wheat
- looking at the plants growing
- planting seeds in old tractor tyres
- Harvesting the potatoes that we had planted a few weeks earlier, looking at different things using the magnifying glass, being out in the countryside.
- This is more than expected- lots of hands on. Getting hands dirty is good, to experience something new, important. When we heard there were no animals to see we wondered what there would be to do, but the activities are great.
- One member of the group, memories were brought back whilst picking the fruit. Brought up on the land.
- planting vegetables
- Orchard trees
- learning about the potato growing
- Interesting looking at maggots, and pollination in green houses
- Seeing the silage heap and the slurry pit.
- Rape seed and the wheat, explore the wheat a tactile experience- making angels
- Going in the shed and seeing and hearing the rhubarb growing, it popped as it comes out of the bud. Standing in candle light.
- I like walking in the fields

**iii. Wildlife**

Participants also enjoyed viewing and interacting with the wildlife on the host sites. Everything from identifying birdsong, pond dipping and walking through woodland was highlighted as an enjoyable experience. A selection of comments about wildlife on the farms and nature reserves can be seen in Box 4.

**Box 4. What participants told us they enjoyed most – Wildlife**

- Skylark and lapwing calls
- Pond dipping looking for bugs
- seeing a toad
- Listening to and identifying the different bird songs
- listening to birds in woods and bees in bird box, walking through woods spotting signs of wildlife
- Catching mini beasts
- Several of the group could not believe how much was going on in terms of the environmental changes on farms, you hear farms are trying to be more green, wider gaps at edges of fields etc but until you see it you don't really believe it is going on
- Children really enjoyed it. We are an Eco School. It was interesting to see how the farms source everything. Environmentally friendly, how they build the barn from waste products
- Going in the hides, net catching insects
- Walking through the woods and collecting different seeds and feathers, flowers, different textures, colours. The touching was really beneficial
- Having 'warden' there and speaking about different wild animals. Brought stuffed animals with him so they could touch them, only way you get to touch wild creatures.
- Most of the group thought that farming is not only for us for humans but the way they were slotting in the wildlife aspect, it was very commendable. The stewardship scheme has spread through Cheshire. Once it has been pointed out you notice it in more place. Farming coexisting with wildlife
- woodland walk

**iv. Farm machinery**

Visitors also commented on seeing and getting up close to farm machinery and equipment. Tractor rides were particularly popular. Comments relating to farm machinery included those found in Box 5.

**Box 5. What participants told us they enjoyed most – Farm machinery**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Enjoyed the tractor ride the best 2</li> <li>• The machines</li> <li>• Looking at the old tractors 2</li> <li>• Trailer ride</li> <li>• How big tractors are</li> </ul> | <ul style="list-style-type: none"> <li>• Lovely to see the animals and the old equipment, seeing it all working</li> <li>• Putting fingers in milking cluster- 5 people</li> <li>• Milking parlour</li> </ul> |
|--|---|

**v. Sensory experiences**

Participants gave details on the smells, sounds and tastes of the visits, and also about how being on the farm made them feel. A selection of comments from participants relating to the sensory experience is shown in Box 6.

**Box 6. What participants told us they enjoyed most – Sensory experience**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• As I am visually impaired it is good to be able to use my other senses</li> <li>• Smells, views</li> <li>• Different smells, feeling different textures, being out in the open countryside.</li> <li>• It was amazing to see and hear the kids respond to the animals and sensory experiences.</li> <li>• Touching the trees in the woods</li> <li>• feeling how soft the sheep were</li> <li>• Fresh air and sunshine and seeing the animals</li> <li>• "Open spaces, feel free not crowded and that"</li> <li>• Learning new skills as a group, tactile wood experiences valued</li> <li>• Being outdoors, In touch with animals, it's therapeutic being outside</li> <li>• One child not usually verbal actually spoke to an animal</li> <li>• Making pancakes out of the ingredients we learned about was excellent</li> <li>• Making bread and butter/ soup</li> <li>• Visiting the veggie garden and having time to feel the vegetables and think about what plants we eat as food.</li> </ul> | <ul style="list-style-type: none"> <li>• Open space</li> <li>• The hands-on aspect. Being outside in an open space (in touch with nature)</li> <li>• Getting out of the care setting and into the real world</li> <li>• The freedom as individuals. Regaining some independence by choosing which foods to taste, which parts of the farm to visit and which animals to see and touch</li> <li>• Making butter and tasting it</li> <li>• Making food e.g. bread and soup, we only buy stuff from supermarkets already made it was great to make something we eat.</li> <li>• Tasting the ice cream</li> <li>• Picking and eating raspberries</li> <li>• Doing something different that they had not encountered before, being out on the farm.</li> <li>• Highlight was squashing into the shed in the dark</li> <li>• Seeing is different to knowing about something - seeing the size of a cow, ferrets, the pond and river.</li> <li>• Live contact with the animals. The first hand experience, a multi sensory experience.</li> </ul> |
|---|--|

**vi. Nature-based activities**

Many creative and unusual nature based activities were designed for and encouraged on the farm visits (see 4.2) and comments received from visitors highlight the enjoyment they derived from these activities. Some comments relating to this can be found in Box 7.

**vii. The farm and farmer**

Participants and group leaders commented a great deal on how good it was to be on a working farm or a nature reserve, to be shown around by a farmer or warden who is so knowledgeable about the

way things work in the countryside. Some of the comments received about farmers and their farms are included in Box 8.

#### **Box 7. What participants told us they enjoyed most – Nature-based activities**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Making a grain picture, having stuff to take home</li> <li>• Smelling the wild garlic, making cocktails, magnifying glasses and binoculars, the whole thing</li> <li>• The group got a lot out of it. Tremendous satisfaction being able to do things that the home hadn't thought of, corn dollies.</li> </ul> | <ul style="list-style-type: none"> <li>• Scavenger hunt</li> <li>• Nature trail- a to z alphabet quiz identification</li> <li>• We enjoyed the crayfish race!</li> <li>• Smelly cocktails</li> <li>• Mapstick</li> <li>• Collecting things to stick to the nature palette</li> </ul> |
|--|--|

#### **Box 8. What participants told us they enjoyed most – Farm and farmers**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• The guiding, showing the ways on the farm and 'farmer'</li> <li>• Positive outlook and experiencing everything, diversity of crops and minibus tour, cooking and food tasting, being invited to the farm</li> <li>• Seeing how everything works and the fact that children can get close to the animals and get involved</li> <li>• Farm tour, wide variety of activity suits this group</li> <li>• 'Farmer' was an excellent host, he made sure all our needs were met and was very patient and understanding towards the children. We thoroughly enjoyed the tractor ride and the visit to see the animals, the children loved to play with the wheat and dough, the feel of the wheat and the smell of the bread making. They loved the feel of the dough in their hands. The children also loved to taste the homemade bread at the end.</li> <li>• To promote the understanding, farms are so close to where they live and they can actually visit them by arrangement.</li> <li>• The knowledge that they gained, talked about cereals, where their food comes from, they didn't know that before. The process their food goes through</li> <li>• Host farmer does a fantastic job with the visit programme. Good personal skills to deal with the different types of people. Good communication skills of host farmer.</li> <li>• Staff and students thought it was a fantastic day, [farmer] was brilliant. Just to be with the animals she bought her dogs out with us. Some of the kids don't have that at home, they can be quite sheltered so it was great to get out. Farmer couldn't do any more for us! She was great with the kids, it was as if she did the job every day.</li> <li>• Friendly welcoming staff</li> </ul> | <ul style="list-style-type: none"> <li>• It was great to hear and remember again all the hard work that goes into producing our food.</li> <li>• Very interesting to hear how sensitive to farming and nature 'farmer' is. It was a pleasure to see all the smiling faces of the residents.</li> <li>• Hands on activities, smell of fresh baked bread, memories and talking about what we did in our youth in the countryside, hunting, eating seasonal food, markers and farming in Lincolnshire. It was lovely, 'farmer' wanted to listen to our stories.</li> <li>• Getting to see somewhere that you don't normally get to see. It is right on our doorstep but it is private land that you don't get to see</li> <li>• The tour and guide</li> <li>• Seeing a real farm, learning about and in a new environment</li> <li>• Seeing how things work in the countryside</li> <li>• Staff helpful</li> <li>• Meeting 'farmer'</li> <li>• The host farmer and staff were very welcoming, well structured and good health and safety. They need a pat on the back.</li> <li>• Very well organised. Geared to age of residents. All thoroughly enjoyed the visit.</li> <li>• Host farmer providing a positive programme to meet the needs of the children. School feels blessed that the children can visit and enjoy the freedom.</li> <li>• Staff very accommodating to residents needs. Brilliant wheelchair access.</li> <li>• It was just all very lovely, the people there couldn't do enough for us, they even got spare coats for some of the kids that were really cold, made sure everyone had a snack and were just really welcoming. We would love to go again</li> <li>• General being in a different environment. The freedom of being on the farm</li> </ul> |
|---|---|

### viii. The whole experience

Several of the participants, beneficiaries and group leaders alike, simply told us they enjoyed the whole experience and others gave us great comments about all the aspects of the visits. Some of these comments are highlighted in Box 9.

#### **Box 9. What participants told us they enjoyed most – The whole experience**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• "We are one big happy family". Seeing the cows, meeting the farmer, eating his freshly baked bread, smelling flowers, seeing the views and singing e.g. 'Old McDonald had a farm'</li> <li>• The ducks and chickens close contact, learning about pond life and all the animals they keep</li> <li>• Reminiscent articles helping us to get to know residents better, feeling grain in buckets and smelling herbs, feeding sheep, hearing and watching cattle, making nature pallets, sitting together and having tea and cake- unusual activity at home.</li> <li>• We wanted to stay longer, so much to see and touch</li> <li>• Brilliant. Thoroughly enjoyed by all, all families benefited from it. The group had never experienced that before.</li> </ul> | <ul style="list-style-type: none"> <li>• Seeing old farm implements, learning how farmer looks after land, Autumn colours display, hedgerow berries display, feeding the sheep and hearing them call, tasting the bread and jam, lovely take home bags, lovely smells- cooking/herbs/sheep milk. Remembering a time when could grow own vegetables, made me feel happy again</li> <li>• Seeing and touching all the animals. We learnt so much more about residents past experiences with farms by showing them the animals up close - they did begin to respond</li> <li>• I thought it was fantastically presented</li> <li>• Really nice for it to be paid for as they couldn't have afforded to go otherwise, transport and tour would have been too much.</li> </ul> |
|---|---|

### ix. Impacts on individuals

Several narratives were received that highlighted the impact that the LNFYS visit to a farm had had on individual members of the groups. These comments are shown in Box 10.

#### **Box 10. Impacts on particular individuals**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• One child who I thought was going to stay in the corner because it was a new space was sat cross legged holding his ears as it was quite noisy because of the animals especially the ducks. They placed a duck on his lap and he actually went nose to nose with the duck and the duck never flinched he touched the bill and all sorts and I thought where else would you actually get tame animals like this that are so used to being touched, they are not going to get that anywhere else, it was as if the ducks knew really.</li> <li>• One student was terrified of animals but within half an hour he was in the field with the goats, will be happier in the future with contact with animals. Fear of the unknown, challenged himself and that has stayed with him since.</li> <li>• The activities were new. Guys with autism really engaged and enjoyed the activities.</li> <li>• Seeing my little boy so enthused by the lambs and surroundings</li> <li>• Watching my son enjoy himself</li> <li>• The kids enjoyed everything from stroking cows</li> </ul> | <ul style="list-style-type: none"> <li>• One girl, who is usually scared of animals and dogs, took herself off and went to sit with the farm dog. The dog turned its face to her and she didn't flinch. She can sometimes be a bit flappy but she was really calm.</li> <li>• An autistic boy spoke and a family went to an open space for a picnic for the first time [after the visit]</li> <li>• One gentleman from London, had a falcon and some owls that they were flying on the visit, he was nearly in tears he said he'd never imagined in his wildest dreams that he would ever experience anything like this. Because he had had an urban upbringing so had not had the access to nature like this, got to bottle feed a donkey. His face was a picture and it really turned his day around. Can't underestimate the value of getting out and mixing with nature, especially for those with dementia.</li> <li>• Being up close with the animals and being encouraged to touch them, rather being told don't do this don't do that. Actually get up close</li> </ul> |
|---|---|

<p>to trying milk</p> <ul style="list-style-type: none"> <li>• Keep up the good work as it makes for a really happy time for small children, they really do get a lot of being out in the open air, being able to run around, to encounter animals, feed the hens, it is not something they encounter nowadays as people don't live near the opportunities. They were all occupied, didn't get bored or grumpy.</li> </ul>	<p>and feel the pig. Some kids held a chick which was very special for them. Important for our kids to meet different people, realise that people do different things.</p> <ul style="list-style-type: none"> <li>• Seeing my kids having fun</li> <li>• Watching children enjoying themselves</li> <li>• Seeing the disabled children participating in activities was great</li> </ul>
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#### 4.4 What participants didn't enjoy

Participants and group leaders were also asked to tell us if there was anything about the visits that they did not particularly enjoy – the majority of participants wrote 'no' in this box or left it blank but there were negative comments about the weather, the mud or animal manure and some visitors were not keen on the livestock and the farm smells. Some of the group leaders also commented on some of the logistics of getting to and around the sites. Examples of what participants told us they did not enjoy so much on the farm visits are shown in Box 11.

##### Box 11. What participants told us they did not enjoy about the LNFYS visits

<ul style="list-style-type: none"> <li>• Having mud on my boots, it made my feet feel like bricks</li> <li>• Trailer ride was too bumpy</li> <li>• The poo</li> <li>• Didn't like getting my hands dirty. Cows scary</li> <li>• Mud, washing feet</li> <li>• One visitor was upset to think that the cattle would not be on the farm if they came back on Open Farm Sunday.</li> <li>• Too much walking and talking</li> <li>• Going back home</li> <li>• Bit chilly, but cannot change the weather</li> <li>• Feeding lambs</li> <li>• Smell, getting milk mixed up, the calves were scary</li> <li>• Doing the questionnaire</li> <li>• Some of the pupils find 'touching' difficult. They loved using the magnifying glass so that they could still join in</li> <li>• Not long enough</li> <li>• Cold feet and fingers</li> <li>• Nettles, flies, spiders</li> <li>• Nothing, strong smell</li> <li>• Going home</li> </ul>	<ul style="list-style-type: none"> <li>• Initial introduction was a little too long for the children by host farmer - Children prefer the hands on</li> <li>• No. They would have stayed longer</li> <li>• Bit cold, that time of year - Wrapped up but the wind was cold and strong which meant they had enough quite quickly outside.</li> <li>• Chickens, some members don't like them!</li> <li>• Bit cold and long, some struggled to get round as they were only about 6 years old</li> <li>• Pushing chairs on dirt tracks in dry weather was fine, if it had been wet it would have been difficult</li> <li>• We had a long talk and there could of been some pictures, the lady used to be a scientist and it was a little bit too informative for some of the group, well everyone really. She was very good but some pictures would have made it better, or props.</li> <li>• Weather! Collages wasn't suitable for all of them, bit fiddly for some of them, couldn't do it themselves, some wouldn't engage in that sort of activity. Had to change some of the day because of the weather, it did snow so some of the outside activities got changed</li> </ul>
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#### 4.5 What participants would like to have seen

Visitors were also asked to tell us whether there was anything else they would have liked to have seen or heard about on the farm and nature reserve visits. These included seeing more animals and certain species of wildlife or birds; seeing more areas of the farm; seeing working processes (e.g. milking of the cows); and having a go at driving a tractor.

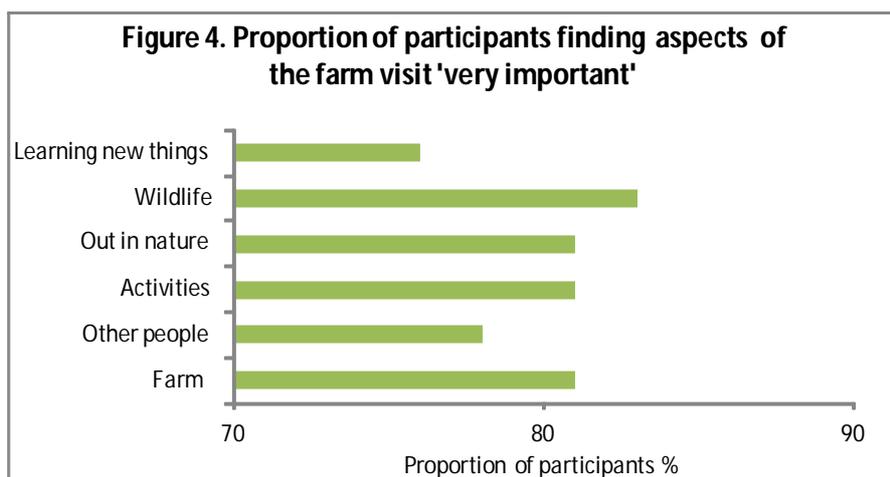
Other comments focus on wanting to have spent longer on the farm or wanting to come back for another visit. A selection of comments received is shown in Box 12.

#### Box 12. What participants told us they would like to have seen

- More wildlife: foxes, badgers, robin, kingfisher, roe deer, woodpecker
- To hear a cockerel, More rare breeds
- To come again and make pancakes
- Would of liked to see the cow being milked and have a go at feeding the little one
- Tractor ride next time, too wet today
- Would have liked more time
- Would like to have seen more advisory signs
- To see the corn grown that were in the sheds and see how the young peas have grown that you helped to plant
- More tree activities, more walking
- Maybe some bee hives would have been good
- Access to more areas
- The group is going to have the wildlife trust come into the school with some stuffed animals and activities to follow-up
- Pond dipping, stroking a horse
- Going on a quad
- More animals: horse, foal, cats, more sheep, lambs, pigs, chickens
- More baby animals
- Hands on stuff- building fences or planting stuff
- Driving a tractor
- We would like to come for a longer visit next time, see more animals and see more crops grown at the farm. The tractor ride around the farm was excellent - a longer tour of the farm would be great. Overall we loved the trip and would love to come back again.
- Would like to come back in summer
- "All wonderful - so nothing else".
- "Perhaps some chickens. A farm needs chickens I think but it was absolutely fantastic, can't thank you enough, can I come again and bring my friend from the home who was too nervous to come today"
- Identification of tools - if it wasn't for D we wouldn't have known what we'd been looking at. D was a resident who lived on a farm for many years.
- Having a go on the tractor.
- More sunshine!
- Bit more hands on, getting hands on using some machinery, more time with animals, a day on a farm.

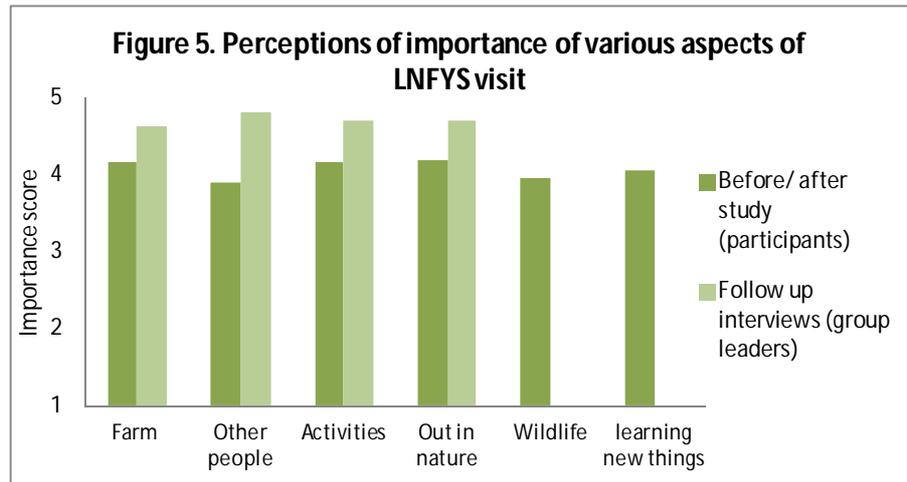
## 4.6 Participant perception of different aspects of the visit

After the visit, participants rated the importance of a range of different aspects of the visit to the farms s by giving a score for each aspect a score between 1-5, on the 'importance scale'. All elements scored quite highly with the highest scoring being outside in nature; the farm environment; and activities and walk (see Figure 4)<sup>88</sup>.



<sup>88</sup> Before after study Farm environment 4.16 ±.62 follow up M=4.62 Being with other people 3.90 ±.82 follow up M= 4.68 The activities/walk 4.15 ±.54 follow up M =4.70 Being outside in nature 4.19 ±.59 follow up M=4.70 The animals or wildlife 3.94 ±.97 Learning new things 4.04 ±.77

Participants in the group evaluation also rated aspects of the farm visit (see Figure 5) with the highest number of participants stating that the wildlife and animals were very important (83%), together with being outside in nature, the activities and the farm environment (all 81%).



#### 4.7 The sensory experience

Many of the comments received from participants and group leaders concentrated on the sensory side of the LNFYS visits. LNFYS staff, RCs and host farmers had spent much time developing activities to focus on engaging all of the participants' senses during visits to farms and nature reserves and comments in Box 13 show the effects that these sensory experiences had on visitors.

##### Box 13. What participants told us about the sensory experiences

- Patting the pigs, stroking the lambs and the sheep dog. Very taken with the donkey that took part in the nativity. The nativity was just lovely - we all needed a tissue by the end of it. Brought it all to life for them. Multi sensory experience for them, especially with the pigs. For our kids it is about the whole environment.
- The group had a discussion when they returned from the visit, over tea and cakes. They loved the hands-on, touchy feely of the various animals. Talked about the visit with their families.
- One of the siblings talked about the shredding machine, they put something into the machine, felt it vibrate so knew it was doing something and then they got the end product - the animal bedding out of it. They then took the bedding into where it was meant to be, a functional learning experience. Fantastic really. Siblings and the deaf blind children got something from it in a different way but it was all a meaningful experience.

#### 4.8 Focus group

Results from the focus group largely echo the findings from the rest of the evaluation. The discussion between the care staff and group leaders with the facilitators was lively, and the experiences of being involved with LNFYS very positive. The staff involved in the focus group reported short and longer term impacts on their group members, from both one-off and repeated visits to farms and nature reserves. All of the group expressed enthusiasm for the project and for its continuation in some form after the funding ends.

Particular themes that emerged centred on the calming farm environment; the care, sensitivity and personalised attention given to visitors from their host farmers; the absence of other people who may judge visitors that look or behave differently; and the fact that the visits were designed for their groups specific needs. Some of the observations from the focus groups are presented below:

Sense of calm:

*"We found out about these farms and when we did go there was nobody else there, it was just our group. For them to have fresh air and get really close to the animals and the activities set for them to be outside. They were really calm. When you are there we don't really have to hold onto them and if they wanted to run they could have, but they were really calm. ...."*

*"Our children are very slow and when they walk with their walkers they take ages. They walk very methodically and slowly and we found that it didn't matter. So with the calm they felt like they weren't being hurried. It wasn't like 'you've had your turn, now get lost,' it didn't matter about anything."*

*"We always find it a very calm environment. It just automatically makes you calm down. It is amazing. Some of our kids admit to anger issues, they both said how much calmer they felt. It's just walking around in the fresh air with not a lot of noise."*

*"I think it changes attitudes about what the countryside has to offer you. I think people think it is boring, especially children and young people and I think it really does change your attitude. I think because everyone is so patient there and so calm. I think living in the city, you are rushing and thinking about everything and when you are there you so much calmer that you can open yourself up to learn something."*

No expectations

*"It is such a relaxed environment we're not worried about the expectations on the children to behave in a certain way or if they don't do something right - it was such a relaxed environment and everyone really, really enjoyed it."*

*"The one week [farmer] actually suggested pond dipping and I wasn't sure how it was going to go and they absolutely loved it they were like kids again. I couldn't catch my breath. I was amazed how well it had gone, it was wonderful to see them be like that and let their guard down and actually enjoy themselves and learn at the same time. It's an opportunity for them to forget their reputation and just be children and do what children do best."*

*"We found at these farms were that they were slow in how they approached and spoke to them [visitors] and they actually treated them as human beings. That was something all of them came back and said. It wasn't like raising your voice as if they had a hearing aid, it was in a normal voice which is what we enjoyed."*

*"It is really accessible because there are some people who want the full hands on experience and some from a distance. It is all there and everyone can have their own individual access. There are no set boundaries. It is up to them how close they get."*

*"It's the experiences you need to give them because you know their homes are bad. They have their own disabilities and in their homes it is compounded and feels restricted. On the farm I say, "Here's 20 acres go run round"*

*"I wanted to let you know that the two trips that we had to the farm were a resounding success. Both the children and their Mothers had a brilliant time. We saw lambs being born, collected eggs, fed goats and saw day old piglets. On the second visit we played in the adventure playground and nobody wanted to go home despite the wet weather. I cannot thank you and your organisation enough for the opportunity that you have given our families to see things that they would probably gone through life never having witnessed."*

Judi Earl, Monkchester Family Centre, children and families with hearing impairments, visit to Broom Farm, April 2012

Impacts

*"It's brilliant to out in the field with [farmer] and him to be talking about what is growing at this time of the year. At school they don't*

*seem to learn anything but now they are actual able to say 'we have learned something' because it is beyond just discussing and how this develops your learning. It is brilliant for them to make a real world connection. Some of our guys think a potato just comes through the shop. They don't actually think."*

*"It wasn't just going to the farm, it is what it brought back into the home that I found beneficial. One of my ladies wasn't very well at the time .and her health just went way up because of the interest when she came. She wasn't a lady that gave a lot and ... she could actually say 'I did this and I did that' and it was, you know what they say, that you see light and I got a lump in my throat because she so wanted to give. That to me it was just worth it. She has got so much more confidence now, to come and say her views because she had been there [farm]."*

*"Every time it is a positive experience. For the children who find it difficult and find it hard to relate to anybody socially. There was one child who was "I hate everything, 'I hate, I hate, I hate," but in that environment it was "I don't really want to go back", "can't we stop a bit longer", so we stopped a bit longer, and then "please can we stop a bit longer!" Then coming home and seeing that rosy look about them that healthy look and carefree, sort of like a rag doll - that the tension had gone"*

*"A lot of the young people we work with have very limited life experiences, so they don't look outside of their little box or their little area so it has definitely opened their eyes to new opportunities within their locality."*



#### Limitations or barriers

*"I find with the children from school they go to school by transport, they are in the school, you go home. When do they actually go out? They still seem confined to transport, school, home, transport, school, home. The weekends, what do you do at the weekends? - 'Disabled' - I know you are, but you can still go out."*

*"The biggest problem for ourselves is the lack of transport. The problem at the moment is not going to the farms it's getting there. Especially when you need to get a balance between starving kids and all you've got to afford is to pay for a minibus."*

*"The biggest barrier to doing it more often is transport costs"*

## 5 Results – Wellbeing

Wellbeing is one of the main themes for the Let Nature Feed Your Senses evaluation. This study therefore included measures of 4 of the elements that constitute human wellbeing: mental wellbeing, health status, physical activity and social inclusion (community belonging).

*“...I really enjoyed my day at your farm and thought you made all our group really welcome, but for my own personal experience I felt relaxed for the first time in years!! It felt so great to see all the animals and get up close to them.... I felt totally safe around you both and that’s a rarity for me, to trust people freely and so quickly.....”*

Adult with mental health challenges about their visit with The Imagine Group to Park Hill Farm, West Midlands, July 2011

### 5.1 Key Findings: Health and wellbeing

- This study included measures of 4 human wellbeing elements: mental wellbeing, health status, physical activity and social inclusion.
- Many participants were already feeling positive before the visit. However mean positivity scores increased slightly from 79% to 82% positivity, suggesting an increase in positivity scores as a result of the farm visit, but these results were not found to be statistically significant.
- Group leaders spoke about the effects of the farm visits on participants mental wellbeing, including the calming and therapeutic effect of being on the farm; the relaxing and stress-reducing environment; the increase in self esteem and independence of usually shy, aggressive or disempowered individuals; and improvements in memory function and reminiscence ability .



*“It enhances the well being and builds on self esteem of individuals.”*

*“The therapeutic effect”*

- There was a statistically significant increase in self perceived ‘health’ scores as a result of the visit to a LNFYS farm and 42% of visitors saw an increase in health scores.
- Participants were asked about different aspects of their community to enable a community belonging score to be calculated and were

*“...I really enjoyed my day at your farm and thought you made all our group really welcome, but for my own personal experience I felt relaxed for the first time in years!! It felt so great to see all the animals and get up close to them.... I felt totally safe around you both and that’s a rarity for me, to trust people freely and so quickly.....”*

Adult with mental health challenges about their visit with The Imagine Group to Park Hill Farm, West Midlands, July 2011

found to have a mean 71% community belonging score. Comparisons between community belonging scores for gender showed that women had higher sense of community belonging (75%) than men with 66%. Similarly the community belonging score was statistically different for the under 25 age group at 64% belonging and the participants aged 26-50 at 77%.

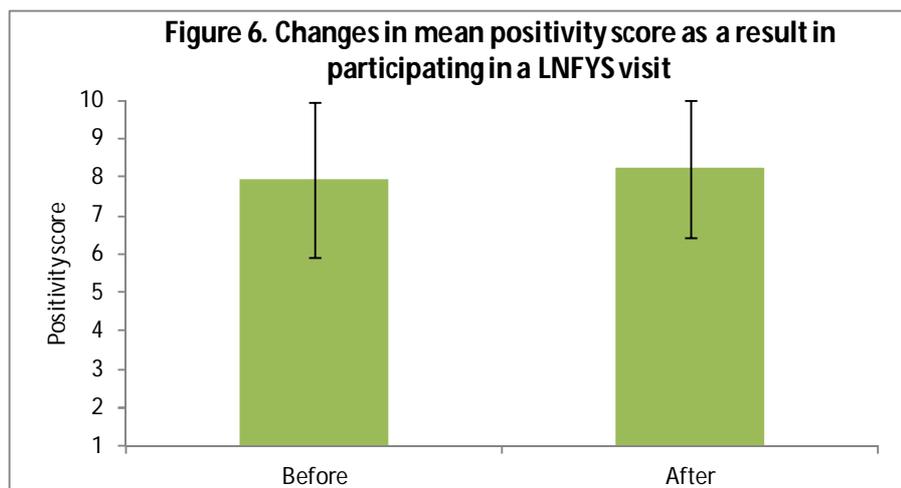
- 78% of participants said that being with other people was 'very important' to them during the visit and 45% of participants saw an increase in how they felt about the importance of being with other people, as a result of visiting a LNFYS farm.
- Narrative and anecdotal evidence received from group leaders and farmers on social inclusion showed that participants not only bonded with each other, group leaders and farm staff during the visit, but also had experienced increased communication with friends and family or with other people in a care setting since the LNFYS visits. All of this goes some way to reduce social isolation and to increase feelings of belonging, all essential elements of wellbeing.

*'Made them feel part of the community again. Their opinion was appreciated. Boosted morale and self worth.'*

## 5.2 Mental wellbeing

### 5.2.1 Self-perceived positivity scale

The one-off, simple question on 'positivity' allowed participants to give their perception of their own positivity or happiness status. Participants were asked to complete on a scale of 1 – 10, "how positive do you feel at the moment?" both before and after the farm visit. Scores were fairly high at almost 8

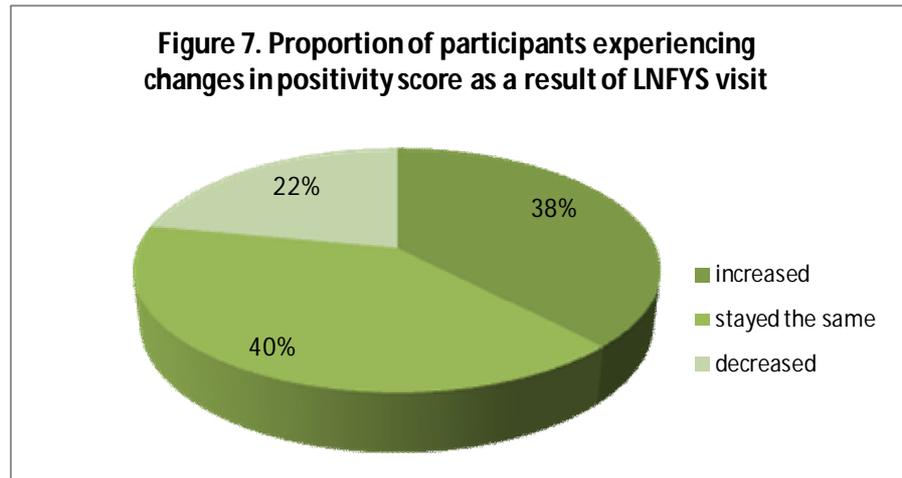


to start with, suggesting that many participants were already feeling positive before the visit. The mean scores increased slightly from (M=7.93 ±2.11) or 79% positivity before to (M=8.22 ±1.80)<sup>89</sup> or 82% positivity afterwards, suggesting an increase in positivity scores as a result of the farm visit, but these results were not found to be statistically significant when tested with Wilcoxon signed-rank test (see Figure 6).

In order to determine any differences in positivity scores due to other factors such as whether the visits enabled contact with livestock; participant gender; or age group; the index of change in positivity scores (i.e. by how much or what value the scores have increased or decreased by) was calculated. The mean index of change was then compared for each factor using a Mann Whitney U test for livestock and gender and a Kruskal-Wallis test for age group. No significant differences in changes in positivity scores were found.

<sup>89</sup> (n=50) Before visit: median 8; and after visit: median 9

When considering the proportion of participants who saw a change in their positivity scores after taking part in a visit to a LNFYS farm, 38% saw an increase in scores, 40% saw no change and 22% showed a decrease (Figure 7).



### 5.2.2 Other mental wellbeing findings

Anecdotal comments and observations from group leaders about the effects of the farm visits on participants mental wellbeing, include remarks about the calming and therapeutic effect of being on the farm, the relaxing and stress-reducing environment; the increase in self esteem and independence of usually shy, aggressive or disempowered individuals; and improvements in memory function and reminiscence ability .

*“The group was very enthusiastic. Some had never been on a farm before. For some, it provides a way of managing mental health.”*

*“They have [talked about the visit since], which is incredible. They have dementia and usually don't remember anything, so it's amazing that the visit stimulated them like it did.”*

*“They have talked about everything and remember a*

*lot. Particularly the young man who had been frightened, he felt proud of himself, really boosted his confidence and self esteem.”*

*“The reminiscence by the group. One gentleman had been a pig farmer and he was in his element when seeing the pigs.”*

*“Rose arrived at the farm visit in a state of severe stress, her eyes closed, and her body rigid and crying. Throughout the visit she was gently assisted to get involved with her surroundings. I gave her a handful of hay to smell. At this point her face softened and she held onto the hay and would smell it from time to time. She opened her eyes when she heard the sound of a cow mooing. She kept her eyes open whilst looking at baby calves. When bottle feeding lambs she had a small smile on her face and her whole demeanor had visibly relaxed. She ate and drank her afternoon tea and flapjacks with a quiet enthusiasm.*



*Her carers reported that that evening, Rose had an excellent night's sleep and ate all her dinner, both unusual for her. They can't wait to bring Rose back to the farm as they hope another visit will have an even deeper long-term effect. Another comment by one of the carers was that they had no idea that one of the elderly ladies with dementia had a farming background, and they witnessed how she came alive and started speaking about it on the visit. They will use this new knowledge as part of her care programme. The carers also noted that the residents were calmer and that aggressive behaviour to each other had dropped significantly.”*

*Sue Padfield, host farmer, Fosse Farm, South West, April 2011.*

*“The group as a whole experienced wellbeing aspects.”*

*“It enhances the well being and builds on self esteem of individuals.”*

*“The therapeutic effect”*

*“Started to talk about what they did as children - reminiscence. Several members of the group had reminiscence conversations”*

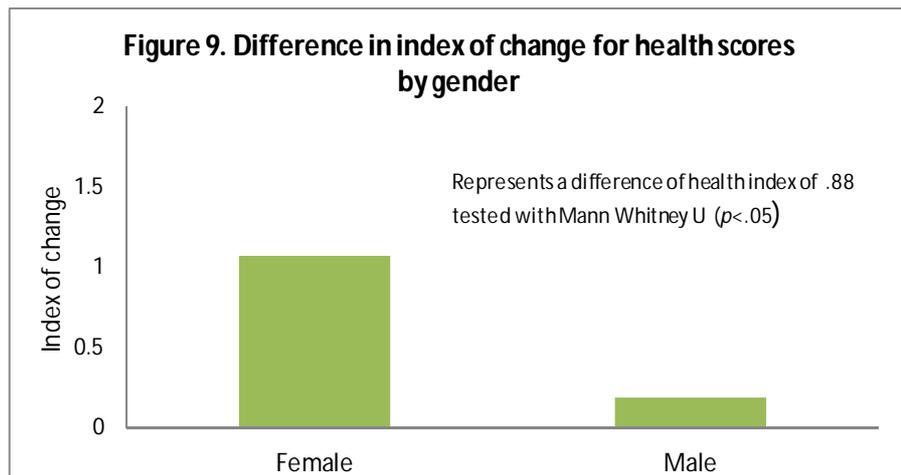
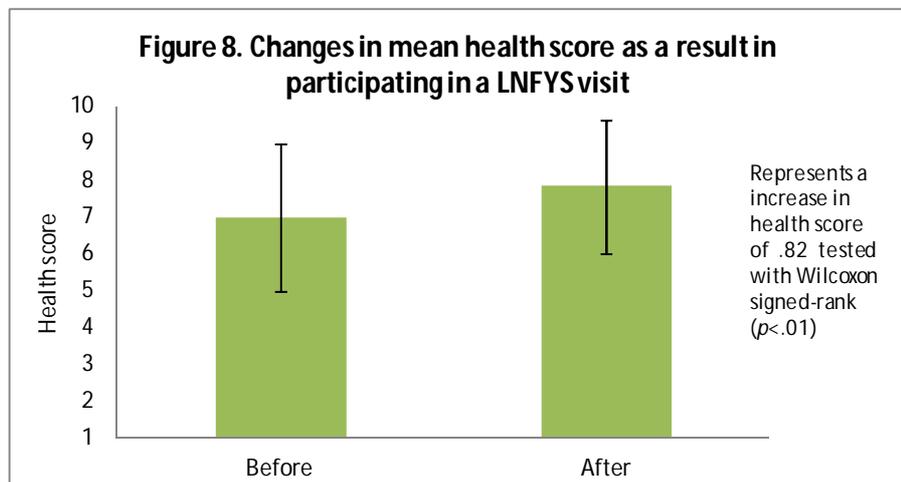
*“Several residents appeared more relaxed around the farm and gardens than they are back at the home.”*

## 5.3 Health

### 5.3.1 Self-perceived health scale

The one-off, simple question on ‘health’ allowed participants to give their perception of their own health status. Participants were asked to complete on a scale of 1 – 10, “*how healthy do you feel at the moment?*” both before and after the farm visit. A Wilcoxon signed-rank test showed a statistically significant increase in health scores from before the farm visit ( $M=7.01 \pm 2.29$ ) to after ( $M=7.83 \pm 1.99$ )  $Z=-3.166$ ,  $p=.002^{90}$ , which shows an increase in self perceived health scores as a result of the farm visit (Figure 8).

In order to determine any differences in health scores due to other factors such as whether the visits enabled contact with livestock, participant gender, or age group; the index of change in health scores was calculated and compared for each factor. No significant differences in changes in health scores were found for livestock contact or for participant age.

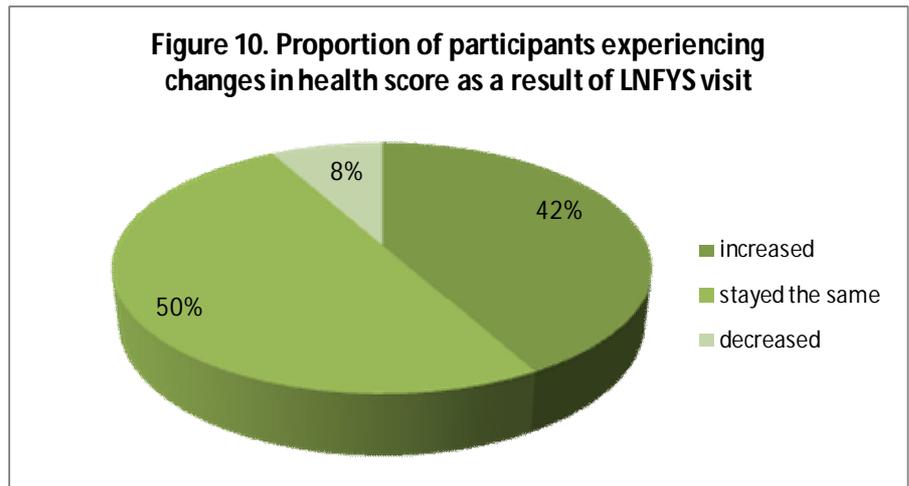


There was however a significant difference in the mean index of change for health scores between the genders when tested with a Mann-Whitney U test  $U=200$ ,  $Z= -2.047$ ,  $p = .041$ , with women

<sup>90</sup> ( $n=53$ ) Before visit: median 7, range 2-10; and after visit: median 8, range 2-10

experiencing a higher index of change with their health scores ( $M=1.07 \pm 1.33$ ) than men ( $M=.19 \pm 1.69$ )<sup>91</sup> (see Figure 9).

When considering the proportion of participants who saw a change in their health scores after taking part in a visit to a LNFYS farm, 42% saw an increase in scores, 50% saw no change and 8% showed a decrease (Figure 10).



## 5.4 Physical activity

### 5.4.1 Importance of exercise

Visitors taking part in the study were asked about their perception of physical activity in their own lives. Participants were asked “*how important is taking part in exercise to you?*” and answered by giving an importance score of 0-5, where 0 is

*“...It is true what I told you yesterday, about finding it virtually impossible to talk to anyone I haven't met before on the first day. When I first saw you I was very scared and wouldn't hardly look at you, let alone talk! But as the day went on I really warmed to you, I think you are an amazing person and I even plucked up courage to speak to John too, which I never do at first – it takes at least 2 or 3 weeks before I give out a timid 'hello'...”*

Adult with mental health challenges about their visit with The Imagine Group to Park Hill Farm, West Midlands, July 2011

‘not very important’ and 5 is ‘very important’. This question was asked once in the evaluation, as changes in physical activity were not expected to occur as a result of one farm visit. The scores ( $n=51$ ) ranged from 0.5 to 5 and the average score that participants gave to the importance of exercise was  $M=3.70 \pm 1.02$  suggesting that physical activity is 74% important to visitors. There were no significant differences in perceptions of the importance of exercise between ages and genders.

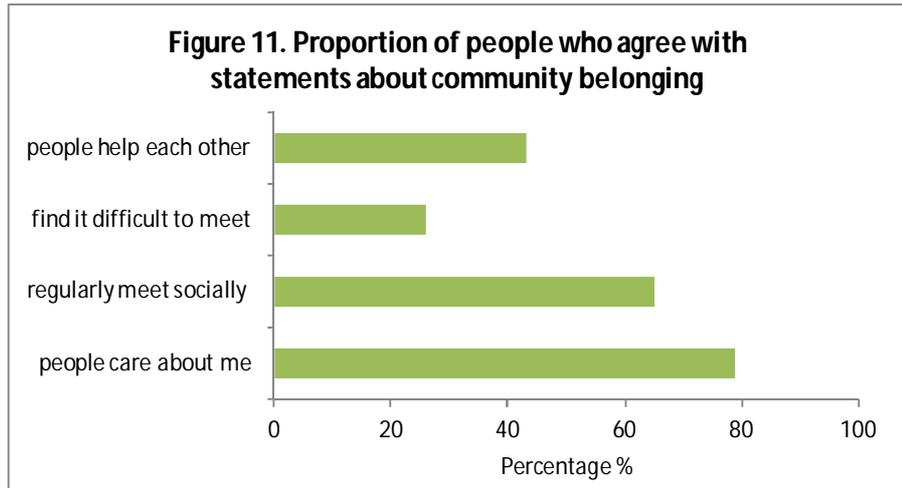
## 5.5 Social inclusion and community belonging

### 5.5.1 One-off measure of community belonging

Participants were asked how much they agreed or disagreed with a series of 4 statements relating to different aspects of community belonging, to establish how connected they feel to other people. Responses for each statement were scored on a 5 point Likert scale where respondents were asked to choose from ‘strongly agree’, ‘agree’, ‘neutral’, ‘disagree’ and ‘strongly disagree’ and then using these scores a total score of community belonging was calculated.

<sup>91</sup> Females: median .5; males: .0

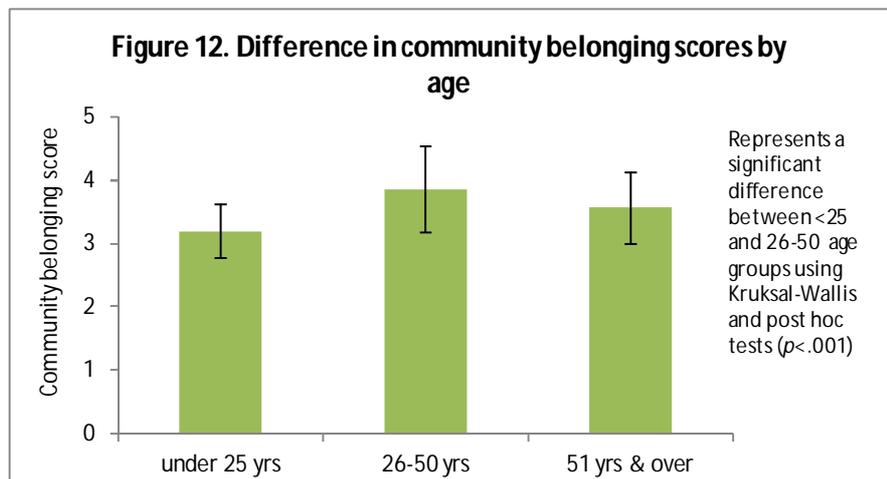
The statement with the highest mean score was *“There are people in my life who really care about me”* (M=4.21 ± .80); followed by *“I regularly meet socially with friends and relatives”* (M=3.85 ± 1.03); *“People in my local area help one another”* (M=3.37 ± .84); and finally the reversed scored statement *“I find it difficult to meet with people who share my hobbies or interests”* with a mean score of (2.96 ± .98). The proportion of participants that either agreed or strongly agreed to the four statements is shown in Figure 11).



In terms of the overall community belonging scores obtained for each respondent (the sum of score for each question divided by 4), scores ranged from 2.25 to 5<sup>92</sup> with an average of 3.53(±.58) signifying participants have 71% community belonging.

Comparisons between community belonging scores for males and female visitors and for different age groups were made and found that there is a significant difference in the mean community belonging scores between the genders when tested with a Mann-Whitney U test  $U=1180$ ,  $Z= 3.465$ ,  $p = .001$ , with women experiencing higher community belonging scores (M=3.75 ± .58) at 75% belonging, than men (M=3.30 ± .48)<sup>93</sup> with 66% belonging.

When a Kruskal-Wallis test was run to determine if there were any difference in the mean community belonging scores between age groups<sup>94</sup>, the mean scores were statistically significantly different between the three age groups  $\chi^2(2)=15.803$ ,  $p=.000$ . Post-hoc analysis revealed that the



community belonging score was statistically different ( $p=.000$ ) for the under 25 age group (M=3.20 ± .42) at 64% belonging and the participants aged 26-50 (M=3.86 ± .68) at 77% belonging but not between the participants 51 and over age group (M=3.58 ± .57)<sup>95</sup> at 72% (see Figure 12).

<sup>92</sup> (n=81)

<sup>93</sup> Females: median 3.75; males: 3.25

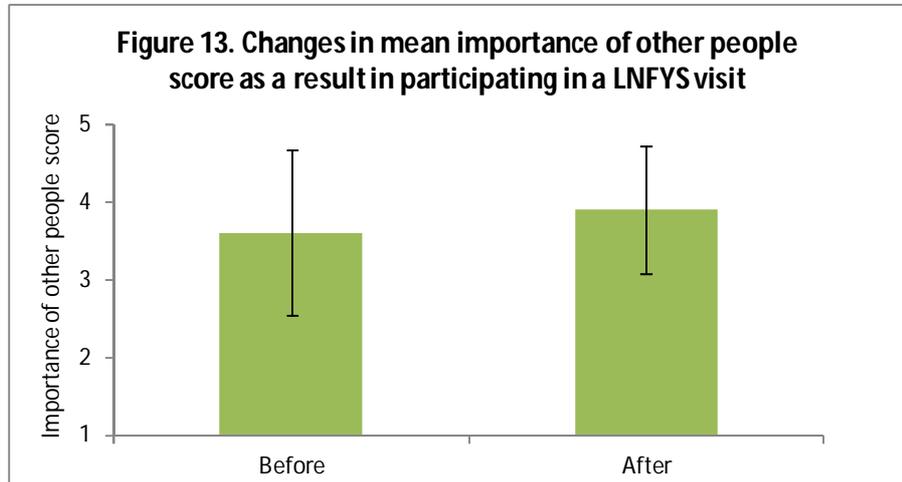
<sup>94</sup> Pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons

<sup>95</sup> (n=66) Medians: under 25s 3; 25-50 yrs 4; 51 and over 3.62

### 5.5.2 Importance of being with other people

Participant perceptions on the importance of being with other people were assessed using the question “*how important is being with other people to you?*” answered by giving a scale of 0-5, where 0 is ‘not very important’ and 5 is ‘very important’. This question was asked in the follow up interviews and also was asked twice in the before and after study so that changes as a result of taking part in the farm visit could be determined.

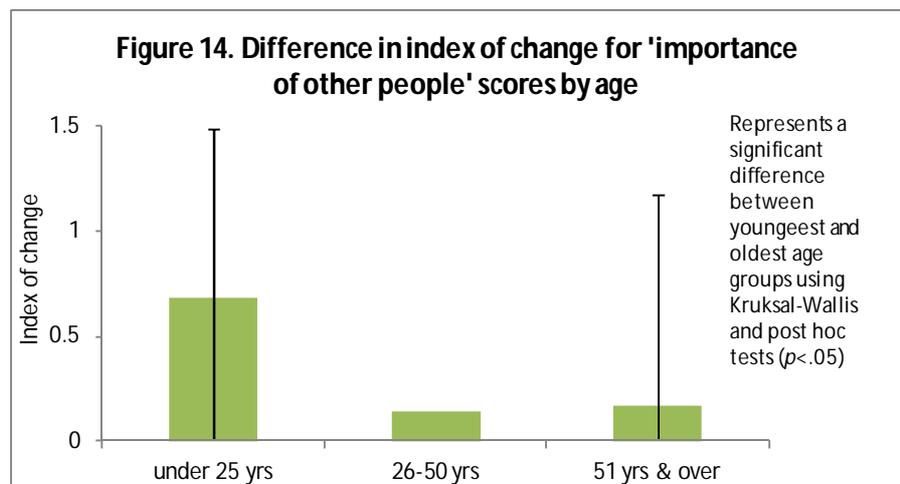
The mean scores increased very slightly from before the farm visit ( $M=3.61 \pm 1.06$ ) to after ( $M=3.90 \pm .82$ )<sup>96</sup>, which suggests there may be a difference as a result of the farm visit (Figure 13). However these results were not found to be statistically significant when tested with Wilcoxon signed-rank test<sup>97</sup>.



In the follow up interviews, group leaders scored the importance of being with other people with a mean score of 4.68 which is particularly high and higher than the score given by participants. In the group evaluation, importance scores were not appropriate but 78% of participants said that being with other people was ‘very important’ to them during the visit.

In order to determine any differences in importance of other people scores due to other factors such as whether the visits enabled contact with livestock, participant gender, or age group; the index of change in other people importance scores was calculated and compared for each factor. No significant differences in changes in health scores were found for livestock contact or for gender of participants.

However when a Kruskal-Wallis test was run to determine if there were any difference in the mean index of change for importance of other people scores between age groups<sup>98</sup>, the mean importance of other people index of change scores were statistically significantly different between the three age groups



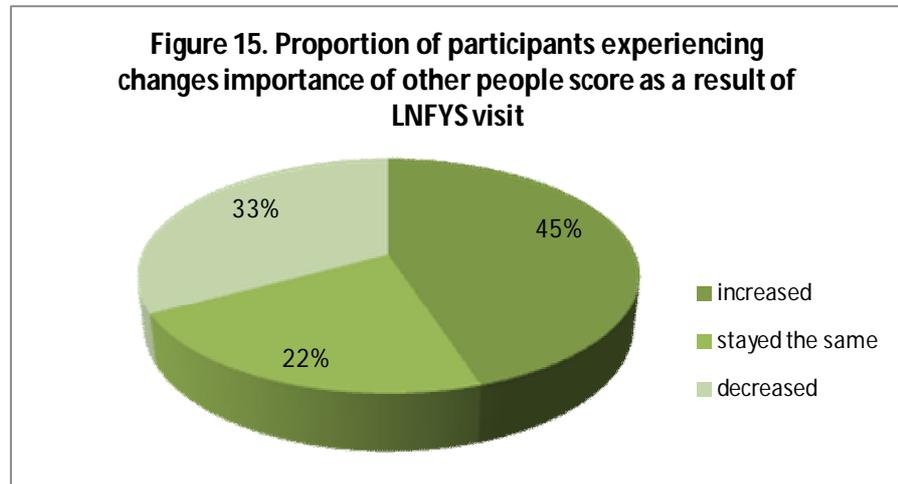
<sup>96</sup> (n=50) Before visit: median 8; and after visit: median 9

<sup>97</sup> (n=53)  $Z = -.868$ ,  $p = .386$ : Before visit: median 4; and after visit: median 4.2

<sup>98</sup> Pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons

$\chi^2(2)=7.573$ ,  $p=.023$ . Post-hoc analysis revealed that the importance of being with other people score was statistically different ( $p=.018$ ) for the under 25 age group ( $M=.68 \pm .81$ ) and the participants aged 51 and over ( $M=-.17 \pm 2.1$ ) but not between the 26-50 age group ( $M=.14 \pm .69$ )<sup>99</sup> or any other combinations (see Figure 14).

When considering the proportion of visitors in the before and after study who saw a change in how they felt about the importance of being with other people, as a result of visiting a LNFYS farm, 45% of participants saw an increase in scores, 22% saw no change and 33% showed a decrease (Figure 15).



### 5.5.3 Other social inclusion findings

Narrative and anecdotal evidence was also received from group leaders and farmers on social inclusion effects, where participants not only bonded with each other, group leaders and farm staff during the visit, but also had experienced increased communication with friends and family or with other people in a care setting since the LNFYS visits. All of these factors go some way to reduce social isolation and to increase feelings of belonging, all essential elements of wellbeing.

*"It wasn't about learning as much as experience. We saw deer running in a big field - one boy still talks about it now. One child is autistic, he doesn't talk, but he got close to a cow and said 'cow'."*

*"Stimulation of memories. Made them feel part of the community again. Their opinion was appreciated. Morale and self worth."*

*"Increased communication, back home as well as with us. Told parents and carers what they had done too, parents fed back on that."*

*"They enjoyed reminiscence, they learnt about each other, very valuable to our residents as social skills can often disappear first."*

*"It is a brilliant idea, makes people feel human again, part of a community"*

*"The trailer ride helped bond them as a group, we mixed two schemes, and they got to know new people during it."*

*"Well organised, everything worked. It was relaxed. The farmer that was there let us go at our own pace, the students could lead the day in their own time. Our students can take a long time to settle and feel comfortable which they had. Not rushing from one thing to another."*

*'Made them feel part of the community again. Their opinion was appreciated. Boosted morale and self worth.'*

*'It is wonderful to be out with others when you live on your own'*

<sup>99</sup> (n=37) Medians: under 25s .35; 25-50 yrs 0; 51 and over -.7

## 6 Results - Healthy lifestyle

Healthy lifestyle is another of the main themes for the Let Nature Feed Your Senses evaluation and the study therefore contained elements to give some assessment of a healthy lifestyle which could be influenced by a visit to a LNFYS farm. The 2 elements that were chosen were healthy eating habits and contact with nature or greenspaces.

### 6.1 Key Findings: Healthy Lifestyle

- The average score that participants gave to the importance of eating healthy food in their lives was 76%. This was higher than the importance that visitors put on physical activity.
- When asked if their farm visit had made them more or less likely to eat healthy food, 67% of participants said they were more likely, 31% said 'stayed the same' and 2% said they were less likely to eat healthy food as a result of their farm visit
- When asked about the types of nature that they usually visited, participants told us that they usually visit local parks or playing fields (71%), their own or community gardens (67%) and country parks (44%), woodland (44%) and countryside (44%). A quarter of group leaders said that there had been changes in the types of nature that their groups now visited - such as care homes now bringing nature inside or going for more walks outside.
- Approximately half of participants (52%) have contact with nature in some way at least once a week, 37% between once a month and once a week and 13% only have contact with nature once every six months or less. 32% of group leaders said that changes to how often group members have contact with nature have occurred as a result of the farm visit with group members wanting to go outside more, some people going independently to re-visit the farms and planning other trips to different natural places.
- Participants told us that they are much more likely to visit a local farm (81%), the countryside (78%) or local parks and greenspaces (74%) since the LNFYS visit. When asked if the group had any plans to visit the farm again, 79% of group leaders said that they did plan to revisit in order to bring back the feeling of being out in the open for people who usually spend their time inside; to enhance wellbeing and self esteem and because participants enjoyed the first LNFYS experience
- The farm visit seemed to have particular effects on participants who don't often have the opportunity to go out into nature and greenspaces.

*"One lady hadn't been out for over 12 months and she kept saying 'thank you'.*

*"A lot haven't had opportunity to go out before now. The visit has helped with confidence. They left passionate and inspired."*



## 6.2 Healthy eating

### 6.2.1 Importance of eating healthy food

Visitors taking part in the study were assessed on their perception of healthy eating. Participants were asked “*how important is eating healthy food to you?*” and answered by giving an importance score of 0-5, where 0 is ‘not very important’ and 5 is ‘very important’. This question was asked once in the evaluation, as changes in perceptions of healthy eating were not expected to occur as a result of one farm visit. The scores (n=82) ranged from 0.3 to 5 and the average score that participants gave to the importance of eating healthy food was  $M=3.81 \pm .91$  or 76%. This was higher than the importance that visitors put on physical activity in their lives.

*“A special moment was when a 76 year old man who has given up feeding himself didn't wait for his carer to help him and helped himself to freshly made bread and jam... much to everyone's surprise!”*

Simon Pain, host farmer, Billow Farm, South West, March 2011

*“One of the residents in her 80s, who upon seeing the display of freshly pulled carrots, simply brushed off the excess soil, sat down and munched very quickly and loudly...explaining she didn't care for softly cooked vegetables and therefore hadn't tasted a carrot since moving into the care home, without hesitating she proceeded to stuff 5 or 6 carrots in her handbag. The greenery protruding from the top of her open bag waved around as she slowly continued her journey around the farm aided by her walking stick. Now the care home realise she prefers RAW vegetables she is offered that choice!”*

Sue Padfield, Regional Coordinator and host farmer, South West.

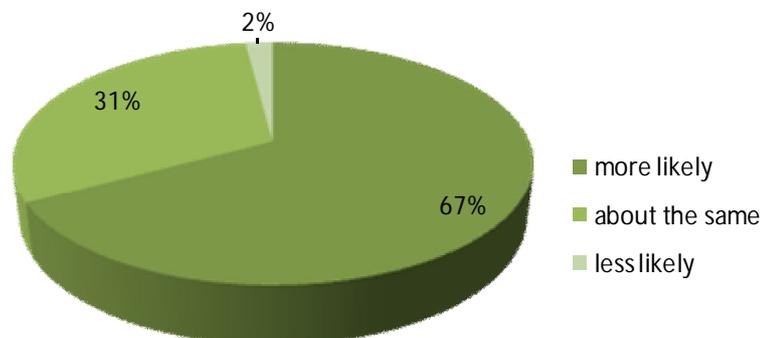
When index of change values were calculated there were no differences in the perceptions of the importance of eating healthy foods by gender or by age group.

### 6.2.2 More or less likely to eat healthy food

When asked if their farm visit had made them more or less likely to eat healthy food, 67% of participants in the before and after study said they were more likely, 31% said ‘stayed the same’ and 2% said they were less likely to eat healthy food as a result of their farm visit (Figure 16).

In the follow up interviews, 18% of group leaders said that they thought their group would be more likely to eat fresh healthy food as a result of the farm visit, but the majority of group leaders (82%) said they thought that eating habits would stay the same.

**Figure 16. Proportion of participants more or less likely to eat healthy food as a result of LNFYS visit**

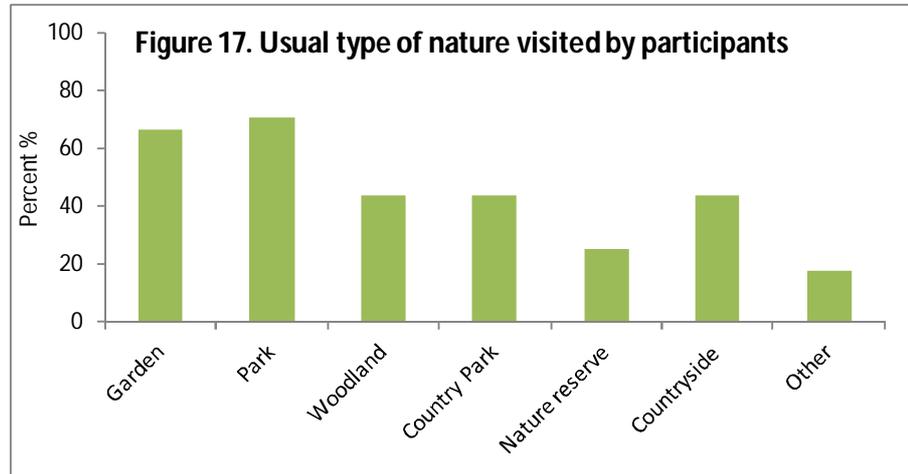


### 6.3 Contact with nature

In order to assess participants' usual contact with nature, questions were included about the types of nature people visit, the frequency of visiting nature and greenspaces and whether the farm visit had made visitors more or less likely to visit the countryside, local farms or local parks and greenspaces.

#### 6.3.1 Types of nature usually visited

In the before and after study and group evaluation, when asked about the types of nature that they usually visited, participants told us that they usually visit local parks or playing fields (71%), their own or community gardens (67%) and country parks (44%), woodland (44%) and countryside (44%) (see Figure 17).



In the follow-up interviews, group leaders were asked if there had been any changes in the types of nature visited by group members as a result of the farm visit and a quarter (24%) of group leaders said that there had been changes in the types of nature visited. Comments received by group leaders varied from care homes now bringing nature inside, going for more walks outside, to breaking down some of the misgivings and worries about accessing nature. A sample of group leaders comments are shown in Box 14.

#### **Box 14. Changes in the types of nature visited by groups as a result of the LNFYS visits**

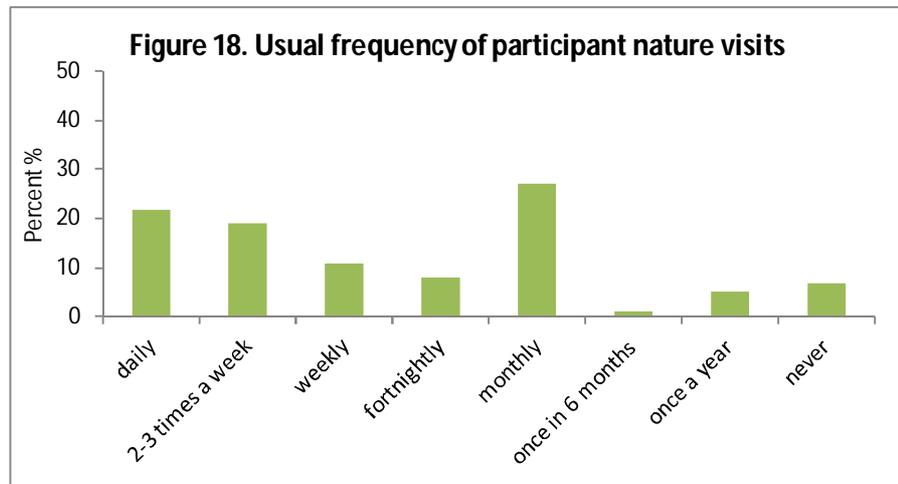
- Children will be working on the community garden and assist in setting it up.
- Three families have reported further visits by going for walks
- It has made a firm link to the farm as it fits science, and geography curriculum.
- Visiting more spaces. Opened parents' eyes to how they can visit more outside space. They got a lot from the visit.
- More aware of farm, bought back memories, requested to go again. Farm was so brilliant. Positive result from visit.
- Been to Usbarn farm more, started using local park, outside play at some of our groups, use some compost or playing with water. Were flicking local children with paintbrushes full of water the other day!
- Many have been with their families, have asked to go to places like it on the strength of our visit
- If there was an opportunity to visit another farm they would be keen to go again.
- There is a planned further visit. This visit motivated us. We have kept contact with the coach company. We realised they could do it and stay safe. They love going out as a group.
- Hasn't changed what we do, but they do want to go to the farm again
- If we had additional funding we would organise more visits, but we don't have funding
- We arranged a second visit in October as we saw the group's positive response to animals on this visit
- Talked about where they want to go when we go out and they do want to visit more outdoor space.
- EST Trust comes in for pet therapy. They bring in a donkey
- Always try to go to different places anyway.

### 6.3.2 Usual frequency of visiting natural places

Participants in both the before and after study and the group evaluations were also asked how often they usually had contact with nature. The proportion of LNFYS visitors who visit nature with different frequency is shown in Figure 18.

Approximately half of participants (52%) have

contact with nature in some way at least once a week, 37% between once a month and once a week and 13% only have contact with nature once every six months or less.



In the follow up interviews, 32% of group leaders said that changes to how often group members have contact with nature have occurred as a result of the farm visit with group members wanting to go outside more, some people going independently to re-visit the farm and planning other trips to different natural places. Again a selection of comments received is shown in Box 15.

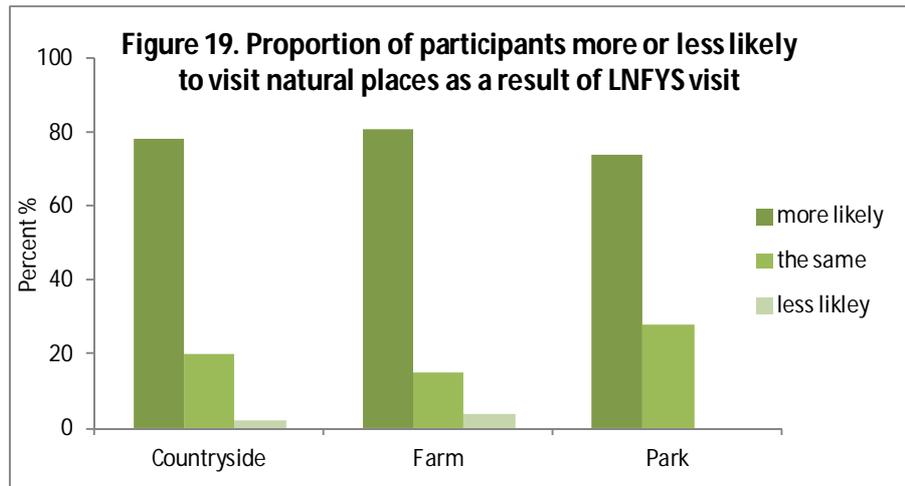
#### Box 15. Changes in the frequency of nature visits by groups as a result of the LNFYS visits

- There will be when link with community garden. Eco warriors are anticipated to return to visit the farm in the summer.
- Families have taken their children for countryside walks
- The home does have a gardening club every Friday. They have just had 'Plant a bulb Day' promoting Dignity day.
- Will now timetable this [farm visit] in to school term. Change in planning of the curriculum
- Reawakened memories.
- They want to go out more
- Families are more keen, planning to go again in July. Made the families think about how much the children benefit from being outside in nature.
- 1 family has gone back to the farm independently
- Perhaps in the holidays with their families but they follow a strict timetable here.
- Pestered me to go again! Want to go if it is mentioned about going again.
- Now they know how to get there they will go back under their own steam. Not just the farm but there is a big park nearby.
- More keen.
- They have visited a garden centre to do flower pots, by keeping in touch with coach company used for the farm visit to Holly gap. 4 trips planned in 2012.
- We arranged a second farm visit following this visit. No changes to regular contact with nature, though.
- Some can't go anyway other than with us; others might have their own cars and go places.
- Weather is getting better and have asked if we can go to more places like the farm.

### 6.3.3 More or less likely to visit natural places

Participants were asked if their farm visit would make them more or less likely to visit various types of natural places: the countryside; the local farm or city farm; and a local park or greenspace. Results from the before and after study show that participants are much more likely since the LNFYS visit to visit a local farm (81%), the countryside (78%) or local parks and greenspaces (74%) – see Figure 19 for more details.

Interestingly in the follow up interviews, when consulting group leaders, speaking on behalf of their group members, results showed that the effects were not so profound with only smaller proportions showing a change and the majority saying that nature contact is largely expected to remain the same as before the LNFYS visit with only 39% saying that their group members would be more likely to visit a local farm, 29% a local park and 26% to visit the countryside.



#### 6.3.4 Visits to farms in the future

When asked if the group had any plans to visit the farm again, 30 out of the 38 group leaders (79%) interviewed, replied that they did plan to revisit for a variety of different reasons including: to see the seasonal changes on the farm; to bring back the feeling of being out in the open for people who usually spend their time inside; to enhance wellbeing and self esteem; because participants enjoyed the first LNFYS experience. A selection of additional reasons is highlighted in Box 16.

#### **Box 16. Reasons why the groups would like to revisit the farms and nature reserves in the future**

- Would like to go again at a different time of year, spring, summer, autumn - to experience more learning about the crops etc.
- At lambing and calving time.
- It enhances the well being and builds on self esteem of individuals
- Because they really enjoyed it. One of the group asked if they could return.
- Because it works so well, well worth the experience and an opportunity for the children in an urban environment
- Home staff very impressed with the reaction of the residents whilst on the visit.
- It is the freedom of being out in the open. To see the animals is great for those with dementia. Bringing all the senses alive by smell, touch, hearing, sight and taste.
- Been twice since and are planning to go again, some more visits booked.
- Hopefully with the weather getting better again we can go again
- We'd love to, new owners of our centre so we have to justify it. We referred a couple of the group to a gardening club at the farm as a result of the visit, but one person has moved on and the other wasn't motivated, so it hasn't worked out.
- Been back already and going again next week.
- Need to find match funding for transport costs as the nearest farm has filled its quota and we need to get a coach for the next nearest farm.
- Building a relationship with the farmer. Done a few visits back already. A resource on our door step
- Given the chance we would love to, need money for transport.
- They enjoyed it!
- Because of the activities, very enjoyable
- It was such a good day - can't wait to go back.
- We go again next year. Or the year after but we have looked at other farms we could visit.
- I'd love to. The owner may also come and visit us - she was interested in the students. If we can get support we would go back.
- Have not been yet as farmer came to the home but they are really looking forward to going.
- Provides some freedom of choice for the individuals. Being out in the open. Seeing the animals again. People with dementia forget where they have been before, so going back to see the animals is important.
- Would love to [revisit] but have to see if it is possible. It's a bit of a way to get there but hopefully we can get another visit.

The 8 people who said that they would not revisit the farm gave a variety of reasons why they would not revisit, mainly because of logistics, because they promote independence or that they had planned other similar visits anyway – see Box 17.

**Box 17. Reasons why the groups would like to revisit the farms and nature reserves in the future**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• The Centre project is all about creating family independence, encouraging them to take their own families out to farms, nature reserves, woodlands etc.</li> <li>• Probably wouldn't go there again because everyone who would want to go went, but they would like to go to a different farm with animals etc.</li> </ul> | <ul style="list-style-type: none"> <li>• We have our programme of events and we have that for different things happening in nature through the year. So sooner or later we would probably go back again.</li> <li>• If funding is available for transport, we'd love to go again</li> </ul> |
|---|---|

**6.3.5 Other nature contact findings**

The farm visit seemed to have particular effects on participants who don't often have the opportunity to go out into nature and greenspaces.

*"One lady hadn't been out for over 12 months and she kept saying 'thank you'.*

*"People want to go out again, they loved it"*

*"A lot haven't had opportunity to go out before now. The visit has helped with confidence. They left passionate and inspired."*

*"Farm visits can be accessible"*

*"Most of our residents are from a rural background but we have one gentleman from London, they had a falcon and some owls that they were flying, he was nearly in tears, he said he never imagined in his wildest dreams that he would ever experience anything like this - because he had had an urban upbringing so had not had the access to nature like this, he also got to bottle feed a donkey. His face was a picture and it really turned his day around. You can't underestimate the value of getting out and mixing with nature, especially for those with dementia."*

Jan Millward, group leader, Countryman's club - Old Vicarage Care Home, older people on a visit to Rylands farm, South West, December 2011

## 7 Results - Connection and Access to nature

Connection and access to nature is another key theme for LNFYS and as a proxy for measuring connection to nature, a simple question on 'connection to nature' was included in the before and after study questionnaires to allow participants to give their perception of their own nature connection status.

In addition, a question addressing perceived importance of being outside with nature was included in the before

and after study, the group evaluation and the follow-up interviews. In order to assess access to nature, questions were also included to gauge changes in people's desire and confidence to access nature in future.

"On the children's arrival a child exclaimed look at the horses. I did a double take as the horses shouldn't have been out. This child was actually seeing **cows** for the very **first time**. The children's excitement was infectious as they had never seen a field, a cow or stroked a pig. Much enjoyment was also gained from jumping freely in muddy puddles, another new experience."

Pat Pimlott, host farmer, Park Hill Farm, West Midlands, school children from socially deprived area in Wolverhampton, April 2011



### 7.1 Key Findings: Connection and access to nature

- A statistically significant increase in nature connection as a result of the farm visit was found and the majority of participants (59%) saw an increase in their nature connection scores
- Tests showed a statistically significant increase in the importance of nature scores from before the farm visit at 67% to after at 84%, which shows perceptions of the importance of nature to participants clearly increased as a result of the visit to the farm. The majority of participants (81%) said that being outside in nature was 'very important' to them during the visit.
- Access to nature and in particular to changes in people's desire and confidence to connect with nature in future was a key theme for LNFYS. When asked after the farm visit if they would like to visit the countryside more often 84% of visitors said yes, showing that there is a great desire for participants to access the countryside. The responses from the group evaluation also supported these findings with 636 participants (89%) also agreeing that they would like to visit the countryside more often.
- The number of participants who said they felt confident to visit local green spaces before the farm visit (59%) compared to the 83% afterwards shows that confidence to access greenspaces has grown as a result of visiting the LNFYS site. The majority of the participants in the group evaluation (72%) also told us they felt confident to visit local greenspaces. In addition some group leaders also said that they were now more confident to take groups onto farms.

*"The visit inspired them all. A lot haven't had opportunity to go out before now. The visit has helped with confidence. They left passionate and inspired."*

Carole Head, Bridport Community Mental Health team for older people, The Magdalen Project, July 2011

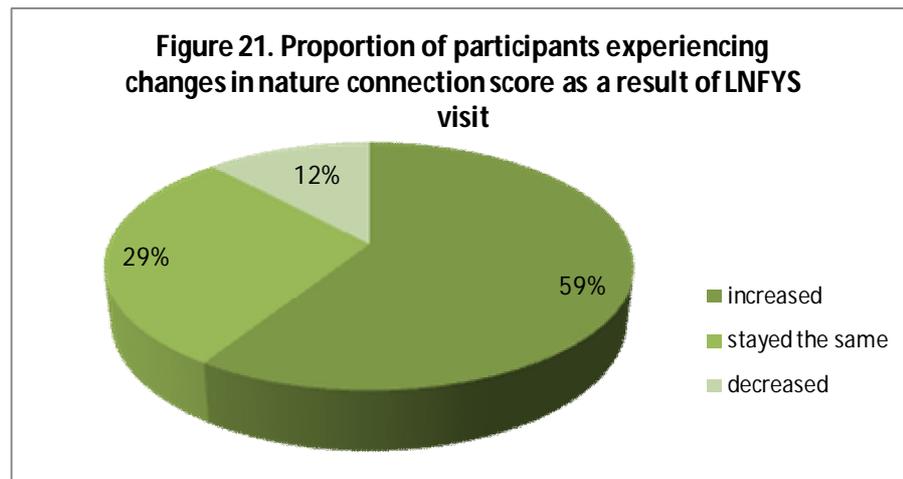
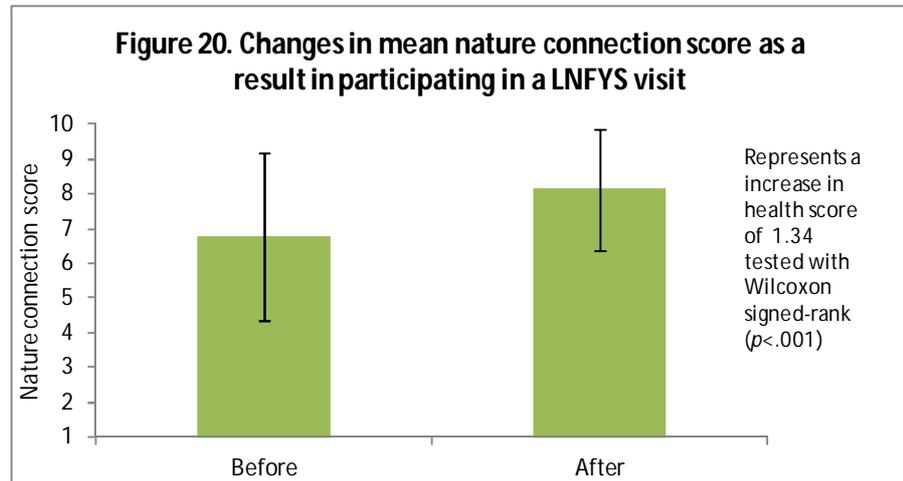
*"This is such a valuable experience for our pupils; many never experience life outside of the home, never mind being able to engage with nature. It is such a grounding and rewarding experience"*

## 7.2 Connection to nature scale

The one-off, simple question on ‘connection to nature’ allowed participants to give their perception of their own nature connection status. Participants were asked to complete on a scale of 1 – 10, “*how connected to nature do you feel at the moment?*” both before and after the farm visit. A Wilcoxon signed-rank test showed a statistically significant increase in connection scores from before the farm visit ( $M=6.79 \pm 2.42$ ) at 68% connected to after ( $M=8.13 \pm 1.74$ ) at 81% connected  $Z=-3.967$ ,  $p<.000$ <sup>100</sup>, which clearly shows an increase in nature connection as a result of the farm visit (Figure 20).

In order to determine any differences in nature connection scores due to other factors such as whether the visits enabled contact with livestock, participant gender, or age group; the index of change in nature connection scores was calculated and the mean index of change compared for each factor using a Mann Whitney U test for livestock and gender and a Kruskal-Wallis test for age group. No significant differences in changes in nature connection scores were found.

When considering the proportion of participants who saw a change in their nature connection scores after taking part in a visit to a LNFYS farm, the majority of participants (59%) saw an increase in scores (Figure 21).



## 7.3 Importance of being outside in nature

Participant perceptions on the importance of being outside in nature were assessed using the question “*how important is being outside in nature to you?*” answered by giving a scale of 0-5, where 0 is ‘not very important’ and 5 is ‘very important’. This question was also asked twice in the before and after study so that changes as a

*“Thank you for the seeds I am going to make an area in the garden so the residents can help and watch the lettuce grow.”*

Sue Walker, Kirkella Mansions visit to Bishop Burton, July 2011

<sup>100</sup> (n=53) Before visit: median 7, range 1-10; and after visit: median 8, range 4-10

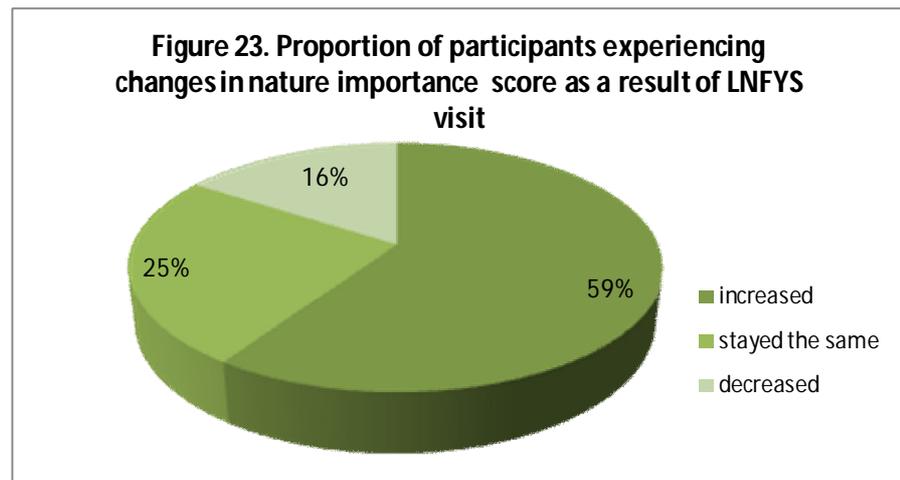
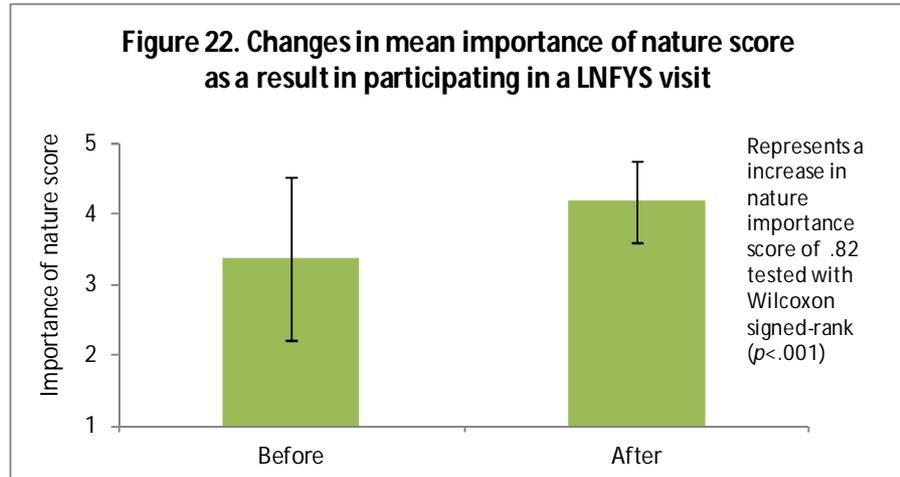
result of taking part in the farm visit could be determined.

A Wilcoxon signed-rank test showed a statistically significant increase in importance scores from before the farm visit ( $M=3.37 \pm 1.16$ ) at 67% to after ( $M=4.19 \pm .58$ ) at 84%  $Z=-4.18$   $p<.000$ <sup>101</sup>, which shows perceptions of importance of nature clearly increased as a result of the visit to the farm (Figure 22).

In order to determine any differences in nature importance scores due to other factors such as whether the visits enabled contact with livestock, participant gender, or age group; the index of change in nature importance scores was calculated and the mean index of

change compared for each factor using a Mann Whitney U test for livestock and gender and a Kruskal-Wallis test for age group. No significant differences in changes in nature importance scores were found between these different groups.

When the proportion of participants who saw a change in how they felt about the importance of outside in nature as a result of taking part in a visit to a LNFYS farm was examined, 60% saw an increase in scores, 25% saw no change and 15% showed a decrease (Figure 23).



In the follow up interviews, group leaders scored the importance of being outside in nature with a mean score of 4.70 which is particularly high at 94% and higher than the score given by participants. In the group evaluation, importance scores were not appropriate but the majority of participants (81%) said that being outside in nature was 'very important' to them during the visit.

#### 7.4 Desire and confidence to visit countryside and greenspaces

Participants were asked how much they agreed or disagreed with the 2 statements relating to different aspects of access to nature. Responses were scored on a 5 point Likert scale where respondents were asked to choose from 'strongly agree', 'agree', 'neutral', 'disagree' and 'strongly

<sup>101</sup> (n=52) Before visit: median 3.7, range .5-5; and after visit: median 4.5, range 1.9-5

disagree'. This question was also asked twice in the before and after study to enable any changes as a result of taking part in the farm visit to be determined.

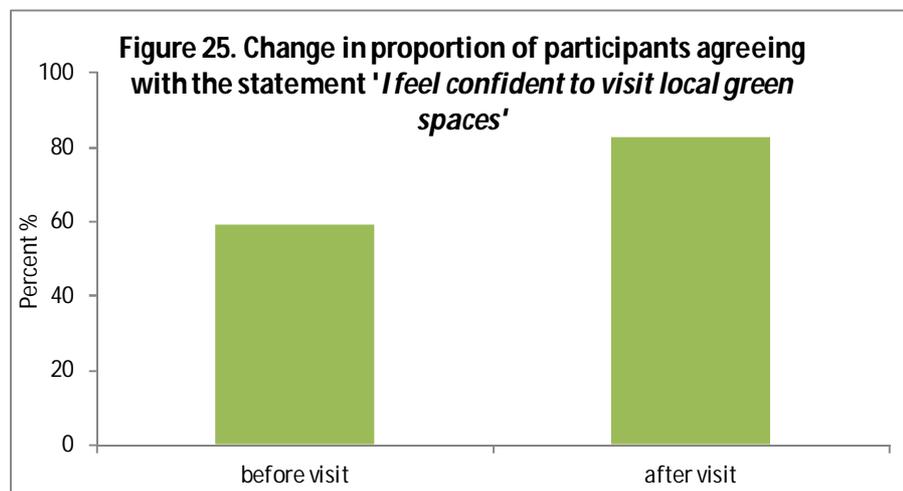
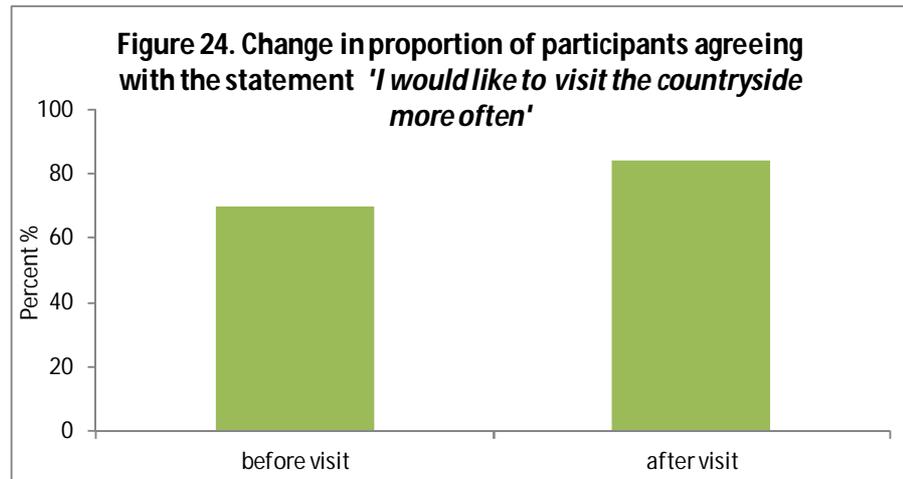
In response to the "I would like to visit the countryside more often" statement, the differences in means from before ( $M=3.9 \pm 1.0$ ) at 78% compared to after ( $M=4.09 \pm 1.25$ )<sup>102</sup> at 82% show a very slight increase but this change was not found to be statistically significant. When considering the proportions of participants experiencing changes in their scores for this statement, 39% of scores increased, 25% stayed the same and 36% decreased.

However when looking at the number of participants agreeing or strongly agreeing to this statement before the farm visit, which

was already high at 70%, compared to the 84% afterwards shows that there is a great desire for participants to access the countryside more often (Figure 24). The responses from the group evaluation also supported these findings with 636 participants (89%) agreeing that they would like to visit the countryside more often.

Similarly, in response to the "I feel confident to visit local green spaces" statement, the differences in means from before ( $M=3.75 \pm .96$ ) compared to after ( $M=4.09 \pm 1.09$ )<sup>103</sup> shows a very slight increase but when tested this change was not found to be

statistically significant. When considering the proportions of participants experiencing changes in their scores for this statement, 49% of scores increased, 21% stayed the same and 30% decreased. However when looking at the number of participants agreeing or strongly agreeing to this statement



*"The residents have been talking about the visit for weeks. They discuss how the baby beef cattle will have grown, the interesting things they learnt from the farmer and they have fond memories of the afternoon tea and homemade cake. We are wanting to bring another group of residents as they are keen to get out having heard and seen so much of the visit from their housemates."*

Group leader, Heathfield House, May 2011, visit to Church Farm, South West, June 2011.

<sup>102</sup> (n=54) Before visit: median 4; After visit: median 4

<sup>103</sup> (n=54) Before visit: median 4; After visit: median 4

before the farm visit (59%) compared to the 83% afterwards shows that confidence to access greenspaces has grown as a result of visiting the LNFYS site (Figure 25). The majority of the participants in the group evaluation (72%) also told us they felt confident to visit local greenspaces.

When the index of change values were calculated for both these statements and compared by age group and gender, no significant differences were observed.

## 7.5 Other connection and access to nature findings

A selection of other comments from group leaders and care staff relating to issues of encouraging vulnerable groups to access nature is highlighted below:

*“The fact that they [residents] wanted to go to the farm right now. Good way round to have [farmer] come in and introduce the farm to them then they will be happy to go on a visit. Also means if they don't decide to go on a visit they haven't missed out as they have already had this great experience.”*

*“[We will be] informing other residential homes of the disability access.”*

*“The need to inform other residential homes about this wonderful opportunity which especially helps those with dementia. It gives them back some of their independence.”*

*“This is such a valuable experience for our pupils; many never experience life outside of the home, never mind being able to engage with nature. It is such a grounding and rewarding experience”*

*“Really enjoyed ourselves. Wasn't an over strenuous visit which is good for us with older members - you do worry when people have illnesses and disabilities, but they loved it.”*



## 8 Results - Links between nature and everyday life

Measuring the changes in the understanding of the interdependencies of our everyday lives – food, farming and nature is the final theme of the LNFYS project. To assess any changes that occurred as a result of participation in visit to a farm, several questions were incorporated in the questionnaires to address the links between nature and farming and everyday life.

### 8.1 Key Findings: Links between nature and everyday life

- When asked if farmers work together with nature to produce our food, the proportion of participants agreeing or strongly agreeing to this statement before the farm visit (66%) compared to afterwards (89%) shows that the knowledge that farmers work with nature to produce our food has grown as a result of visiting the LNFYS site. In addition, after a visit to a LNFYS farm, 655 participants (91%) of participants in the group evaluation also agreed that farmers work with nature to produce our food.
- In response to the “*Our food comes from the countryside around us*” statement, there was a statistically significant increase in mean scores before the farm visit compared to afterwards. In addition the number of participants agreeing or strongly agreeing to this statement before the farm visit (51%) compared to the 89% afterwards shows that the knowledge that food come from the countryside has greatly increased as a result of visiting the LNFYS site
- When asked if their farm visit had made them more or less likely to appreciate where food comes from when eating meals, 85% of participants said they were more likely to appreciate where food comes from as a result of their farm visit.
- Participants were asked if the visit to the LNFYS farm had changed their view of farming and farmland. 78% of participants said the visit had changed their views of farming and farmland and main changes were a better understanding of food production processes (livestock, dairy, arable and vegetables); how farmers work alongside nature, and where food comes from.
- 654 participants (90%) said that being outside in the countryside can make them feel good and the number of people strongly agreeing to this statement before the farm visit (76%) compared to the 87% afterwards shows that the knowledge that the countryside can make us feel good has grown as a result of visiting the LNFYS site
- Many participants and group leaders commented on the range of new things they had learnt about the links between nature and our everyday lives, from changes in farming practice to realizing where the food that we eat comes from.

*“It’s real life, sometimes we have to stage things, but this is real life. That is what is so important. All about nature, how food gets to the table. That sausage is in front of them but they wouldn’t have thought about how it has got to them - has provoked a lot of discussion.”*



## 8.2 Farmers producing food from our countryside

Participants were given 2 statements about food and farming “Farmers work together with nature to produce our food” and “Our food comes from the countryside around us” and asked to respond on a 5 point Likert scale where they were asked to choose from ‘strongly agree’, ‘agree’, ‘neutral’, ‘disagree’ and

‘strongly disagree’. As these questions were also asked twice, any changes as a result of taking part in the farm visit could be determined.

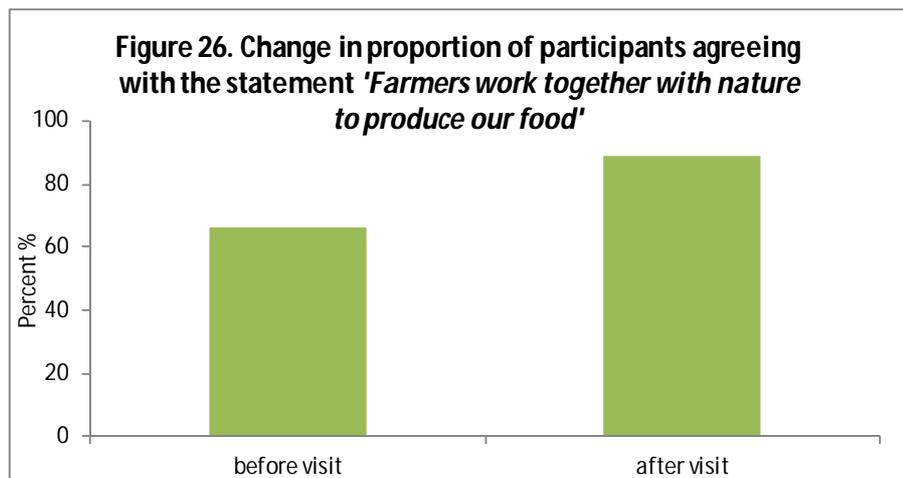
“Family members (aged from 2 to 60!) came along to visit the farm. Although many didn’t know each other before, everyone made friends and mucked in to help collecting eggs, planting seeds and watering. Pushing back the big green leaves the boys discovered huge pumpkins – both yellow and green ones. The adults learnt a lot of practical tips on organic growing – covering beds with carpet, companion planting, anti-carrot fly measures to name a few. They explored the wildlife area and spent time with the hens, sheep and cows. They also did an apple count to see which of the old West Country apple varieties Euan [farmer] had planted 12 years ago were doing the best on their rather exposed location. They saved some of the pumpkin seeds to take away to try growing themselves next year!”



Camilla Baker, Seeds, Soups and Sarnies project group leader, families from an area of deprivation, August 2010

In response to the “Farmers work together with nature to produce our food” statement, there was a small increase in mean scores before the farm visit ( $M=3.92 \pm .94$ ) at 78% agree compared to afterwards ( $M=4.24 \pm 1.08$ ) at 85% agree, however this increase was not found to have statistical significance<sup>104</sup>.

Looking at the number of participants agreeing or strongly agreeing to this statement before the farm visit (66%) compared to the 89% afterwards shows that the knowledge that farmers work with nature to produce food has grown as a result of visiting the LNFYS site (Figure 26). In addition, after a visit to a LNFYS farm, 655 participants (91%) of participants in the group evaluation also agreed that farmers work with nature to produce our food.

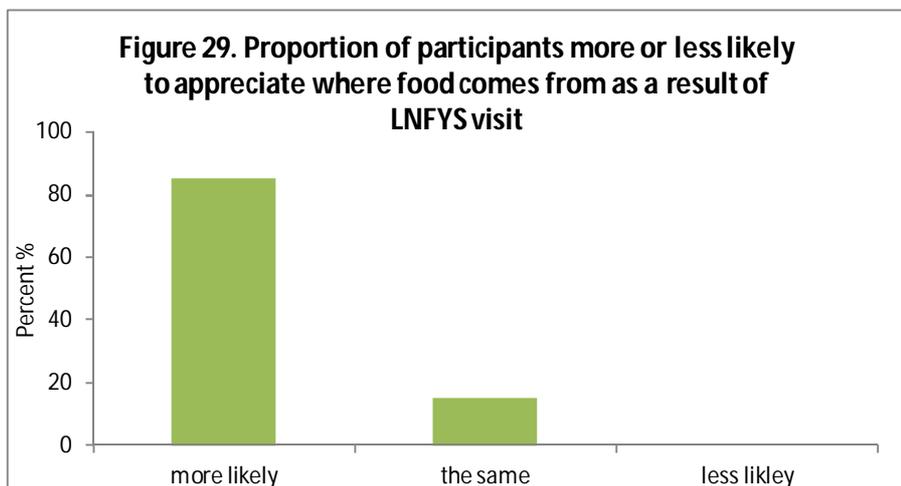
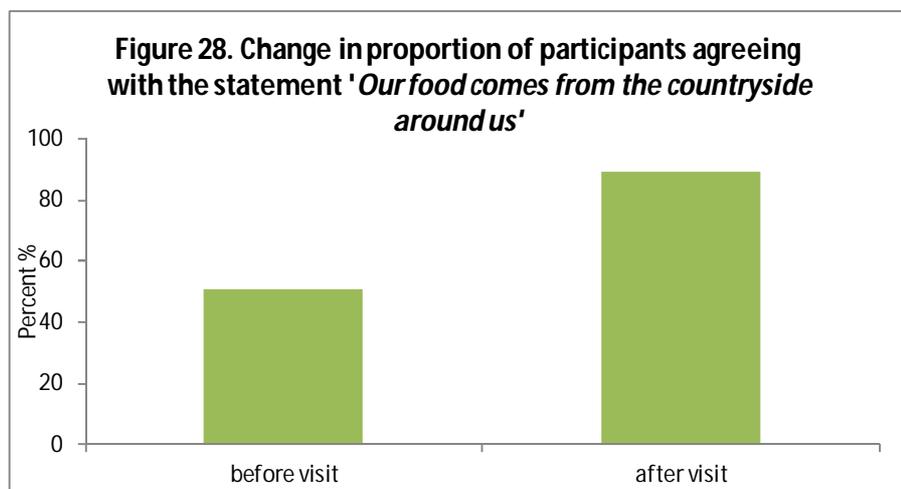
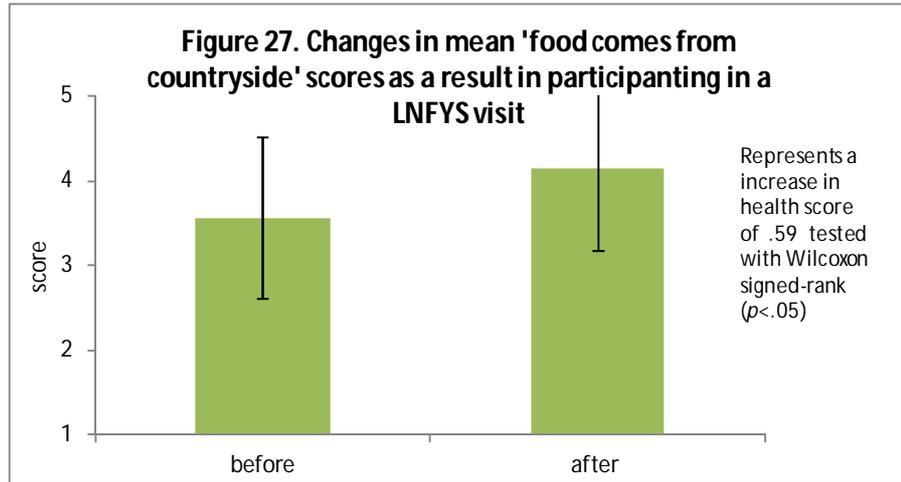


<sup>104</sup> (n=54) Before visit: median 4; after visit: median 4.5

In response to the “*Our food comes from the countryside around us*” statement, there was a statistically significant increase in mean scores before the farm visit ( $M=3.56 \pm .981$ ) at 71% agree compared to afterwards ( $M=4.15 \pm 1.21$ ) at 83% agree  $Z=-2.468, p=.014^{105}$  (Figure 27). When considering the proportions of participants experiencing changes in their scores for this statement, 56% of scores increased, 22% stayed the same and 22% decreased.

However when looking at the number of participants agreeing or strongly agreeing to this statement before the farm visit (51%) compared to the 89% afterwards shows that the knowledge that food come from the countryside has greatly increased as a result of visiting the LNFYS site (Figure 28). This finding reflects the results from the group evaluation where 73% of participants agreed with the statement that food comes from the countryside around us.

When index of change values were calculated to enable comparisons between gender and age groups for both these statements, no differences were found.



<sup>105</sup> (n=53) Before visit: median 4.15; range 1-5; after visit: median 5; range 1-5

### 8.3 More or less likely to appreciate where food comes from

When asked if their farm visit had made them more or less likely to appreciate where food comes from when eating meals, 85% of participants in the before and after study said they were more likely, 15% said 'stayed the same' and no one said they were less likely to appreciate where food comes from as a result of their farm visit (Figure 29). Results from the follow up interviews with group leaders on behalf of the group members showed similar trends but with slightly lower values (58% said more likely).

*"New things the group learnt today – that potatoes don't grow in TESCO☺"*

Teacher, Castle School, Cambridge, children with disabilities, June 2011

### 8.4 Changes in views of farming and farmland

Participants in the before and after study were asked if the visit to the LNFYS farm had changed their view of farming and farmland and to give more details in their own words. 78% of participants said the visit had changed their views of farming and farmland and 22% said no. Some group leaders also told us about how their group members' views on farming and farmland had been affected by the farm visits in their follow up interviews. The main change was a better understanding of food production processes (livestock, dairy, arable and vegetable) and where food comes from. Comments received from participants and group leaders are shown in Box 18.

#### Box18. How the LNFYS visits have changed participant views on farming and farmland

- I know a bit more about farming and food
- Appreciate the land around us and what it does for us
- The crops and what they make
- The animals and food
- It made us think where the different things come from and as well where all the animals come from
- how everything is done- i.e. milking shows how important farms are to local community
- Learnt more about farm experience
- It [farming] has always been important
- Feel like gardening- ideas
- To visit more farms
- how things grow
- How animals grow
- Safer, food
- More interested in the crops
- Being able to see where flour has started from to make bread
- Especially the concept of where food comes from. Talking about the animals, some haven't seen the animals before
- Widening understanding of processes of farming dairy and arable. Processes of rearing cattle what happens to the calves. Food chain
- The way they are doing the crops, spilled over into our lives as we live near fields and have noticed how they are leaving wildlife margins. Told friends and family about it.
- Lady gave an in depth talk about the health benefits of rhubarb etc. Lots about forced rhubarb that we never knew!
- How much work goes into it from family
- The animals are clean

### 8.5 Countryside can make us feel good

In response to the *"Being outside in the countryside can make us feel good"* statement, there was a very small increase in mean scores before the farm visit ( $M=4.07 \pm .97$ ) at 81% compared to afterwards ( $M=4.22 \pm 1.18$ ) at 84% but this increase was not found to have statistical significance<sup>106</sup>. However it is worth noting that the scores for this statement were already quite high to start with

<sup>106</sup> (n=54) Before visit: median 4; after visit: median 5

suggesting that many people are already in agreement. Indeed in the group evaluation, 654 participants (90%) agreed that the countryside can make them feel good.

When considering the proportions of participants in the before and after study experiencing changes in their scores for this statement, 30% of scores increased, 33% stayed the same and 37% decreased. However when looking at the number of participants agreeing or strongly agreeing to this statement before the farm visit (76%) compared to the 87% afterwards shows that the knowledge that the countryside can make us feel good has grown as a result of visiting the LNFYS site (Figure 30).

*"I didn't know that horses have a dentist and horses wear shoes."  
 "I didn't know that badgers made their own toilets and horses carry things."  
 "I never knew that bees put wax on their honey and that pigs liked their backs scratched."  
 "I didn't know that a tree can be 450 years old!"  
 "I did not know that cows eat hay."  
 "Throughout the day I learnt almost 10 billion things (only joking). But I really did learn lots i.e. I never knew a field can be literally kilometres! Also it wasn't obvious that a leaf can heal your body if you've been stung by a stinging nettle. Thank you for all your kindness and for teaching us all the most glorious things ever! Johnny, Sarah your staff were as sweet as those flapjacks you made."*

Children from St Stephen's Primary School, inner city London visit to Chalkhouse Green farm, May, 2010

## 8.6 Other findings on links between nature and everyday life

Many participants and group leaders commented on the range of new things they had learnt about

the links between nature and our everyday lives, from changes in farming practice to realizing where the food that we eat comes from.

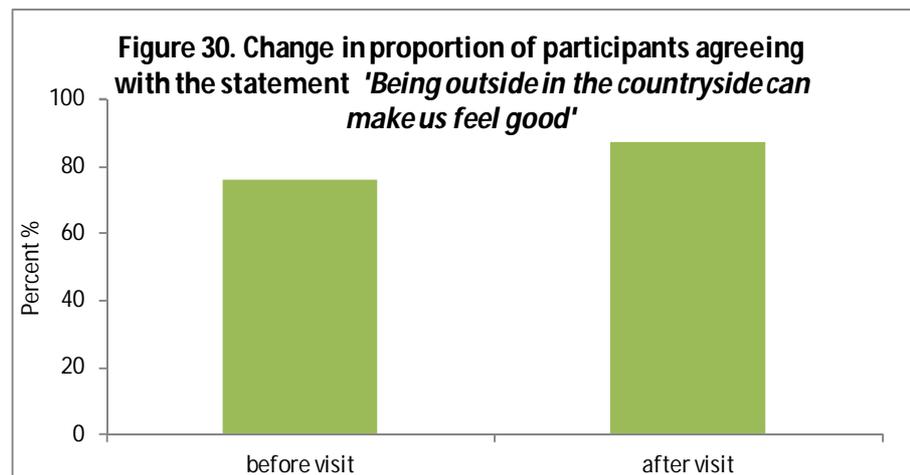
*"They were quite buzzing about the things we were shown, hedgerows, the way they are doing the crops - spilled over into our lives as we live near fields and have noticed how they are leaving wildlife margins."*

*"Widening our understanding of processes of farming dairy and arable. Processes of rearing cattle - what happens to the calves - Food chain"*

*"Impressed with winter cover of the fields. The scrapes where the birds are encouraged to nest. Fields about 6 ft high near to where lots of us go and we had never seen what it was for."*

*"Loved the small world plastic animals. Picked up things to do with what the animals were, identified the animals with Peppa pig and things like that. Hens – we visited another museum afterwards and they were given bird food and they knew what to do with it and that it was for the hens!"*

*"Bought back lots of memories, old farming methods"*



*“Talked a lot about the visit, some of the people who went used to have small holdings, so they could relate to farm life.”*

*“It’s real life, sometimes we have to stage things, but this is real life. That is what is so important. All about nature, how food gets to the table. That sausage is in front of them but they wouldn’t have thought about how it has got to them - has provoked a lot of discussion.”*

*“Just not aware, you hear farming is changing but you don’t really see it. You drive past and see that he is not ploughing right up to the hedge but you don’t realise how important that strip of land really is.”*

*“We learnt about farming practices, crops, environmental facts, how farm contributes to the environment. We also learnt so much more about nature and animals (especially wild ones). We all learnt such a lot...a big thank you!”*

*“We learnt how bread and butter are made e.g. grinding wheat into flour, moulding dough and making butter”*

*“Very enjoyable morning, thank you for your hard work and it was a pleasure to see the smiling faces. It was good to hear and remember again all the hard work that goes into producing our food”*



## 9 Results – Case studies<sup>107</sup>

### 9.1 Case study 1 - Claire McLoughlin

#### Claire McLoughlin, Activities Coordinator, Critchill Court Residential Home in Somerset

Claire took a group of elderly care home residents, with dementia and a variety of different care needs to Fosse Farm in Somerset.

Critchill Court is a purpose built residential service supporting 50 older people with personal and social care needs. Situated in Frome, it also has a self-contained residential area for people living with dementia. The group that attended the Let Nature Feed Your Senses visit were elderly residents of Critchill Court who all suffer from dementia. Their conditions range from mild to more advanced, with the associated complex needs.

Among the residents who attended the Let Nature Feed Your Senses visit was Rose. Rose had recently had a stroke and suffers from depression and anxiety to the point where she hides away in her room for a lot of the time. Rose finds it hard to communicate as she has dysphasia and as she was not eating or drinking very much prior to the visit, had lost a lot of weight.

Rose lived on a farm practically all of her life and the staff at Critchill Court thought the farm visit might help her reconnect to a happier time in her life and provide her with some comfort. Claire said *“When Rose arrived at the farm she was very distressed and tearful, she wouldn’t open her eyes and her whole body was tense and rigid. She was reluctant to get off the bus and wasn’t keen to be there. The other residents were very curious and eager to see what we would be doing.”*

The day began with bread making and the sensory experience of touching and kneading dough. The evocative smell of freshly baked bread really seemed to engage all of the residents. Once the first resident stood up to have a go with the dough everyone else wanted to join in.

Claire continued *“Rose seemed to visibly relax and enjoyed holding and smelling the dough. Another resident, Ethel, who doesn’t usually socialize with the others very much, was laughing and joking as well as helping some of the other ladies knead their dough.”*



Claire said *“It took a while for Rose to adjust, but as she began to smell the familiar farm smells and hear the animals, she began to open her eyes and engage with her environment. A remarkable moment was when she heard a cow moo and she opened her eyes for the first time as if saying ‘what was that?’ at this point she really seemed to be connecting with her environment and her tears stopped. We made up a milk formula for the lambs and fed them. Rose loved all of the wonderful noises that the greedy lambs were making during their feeding time - she even had a smile on her face which was incredible to see.”*

*“The group then finished the day with tea and homemade bread and jam. Rose sat with the other residents and enjoyed eating the food which was highly unusual for her. That evening she also ate all her evening meal with the other residents. She appeared very relaxed and comfortable and slept the whole night in her own room, as did the other residents who came along. Everyone was in good spirits.”*

Claire said *“All the residents seemed more relaxed; they were calm, happy and engaged which was just fantastic to see. Another of our residents who showed a dramatic improvement in temperament was John. We are always very concerned that John may run off when we take him out of Critchill Court, he doesn’t speak to*

<sup>107</sup> Case study material collated by Let Nature Feed Your Senses

*many of the other residents and can be very unpredictable and aggressive. During the visit to the farm, however, he was very relaxed and friendly; he held hands with another resident whom he usually doesn't speak to! When we had afternoon tea he sat down for the entire duration, which is not in his character as he is usually restless and anxious. He especially enjoyed our host Sue's flapjacks, he tucked into several over tea."*

*"Each of the residents we brought to Fosse Farm behaved differently from what we see day to day in the home. One lady Molly, who can't always say what she is trying to, due to her dysphasia, was communicating really well. She was reminiscing about her previous encounters with cows as her husband used to help out at a dairy. She really enjoyed being up close with the cows and letting them lick her hands. Molly spent most of her time smiling and chatting away to everyone."*

*"Eileen, a lady with late stage dementia, who finds it very difficult to communicate, and who has a very short attention span, was fully engaged throughout the day. Eileen stayed with the group throughout the trip and loved seeing the cows and lambs. She was talking lots to a member of staff's little boy who came along with us. She also enjoyed looking through the reminiscence objects over afternoon tea; it was lovely to see Eileen so happy and content in herself."*

*Claire added "Many of our residents don't get out very much and it can be difficult to find suitable outdoor activities and days out for them. It can also be a struggle to engage some of the residents at home with day-to-day activities we do at Critchill. This was a fantastic opportunity and everyone enjoyed it hugely. You could immediately see the difference it made to the residents both on the day and afterwards back at the home. We still talk about the day and cannot wait to go again!"*

## 9.2 Case study 2 - Alison Leach

### **Alison Leach, Projects Manager/Business Development Officer, BID Services: Birmingham Deaf Playscheme Coordinator**

As a registered charity, BID Services works in partnership with deaf people and other community groups to help them achieve greater control over their lives. At BID Services we run a number of activities for deaf children. Last August we operated a summer playscheme for deaf children aged between 8 -14. The playscheme aims to provide accessible and enjoyable personal and social development opportunities and to help build a sense of Deaf identity during childhood. As part of our summer playscheme in Birmingham last August, we took 11 children on a Let Nature Feed Your Senses farm visit with two British Sign Language (BSL) interpreters to help facilitate communication.

The visit was arranged specifically for our group and we were the only people there. This was fantastic in itself as it meant that the visit was really tailored to meet the needs of the children and we got the full benefit of our host farmers' (Kate and Rob Adams) time. As the group leader, it also meant it was easier for me to ensure the safety of the children as I didn't need to worry about them disappearing into crowds.

Kate and I had several conversations before the visit to help ensure that we got the most out of the trip. I was really impressed with the attention to detail and it was great to work with someone who understood the needs of the group and who was so flexible.

When we arrived at the farm in the morning we were given a guided tour by our host farmer. The farm had a wide variety of animals that the children got to meet and stroke, including donkeys, horses, sheep, cows, chickens, geese and dogs! Rob and Kate explained to the children - with the support of our interpreters - about how they look after the animals and the role that they play on the farm. Some of the children hadn't been on to a farm before so it was a great opportunity for them to get hands on experience with a variety of animals. As well as being hugely fun for the children it also helped them to better understand how their food is produced and I think they learnt a lot during the day.

I think spending time and interacting with the animals really helped boost the children's self confidence too.

Some of the children who hadn't spent much time with animals before were a bit nervous at first, but soon they were smiling and laughing as they became used to the animals.

After seeing all of the animals, we were able to enjoy a lovely lunch in the sun on the grounds of the farm. Even the simple act of eating our lunch together outside was a great bonding experience. After lunch we were taken on a trailer ride of the grounds which the children loved. It allowed them to see the fields and surrounding countryside and to feel the fresh air and wind on their faces. Keeping children engaged can be difficult, particularly when you have a group of children of slightly different ages. However, throughout the day they behaved superbly and I think this was because there was so much for them to see, touch, smell and do!

Finding interesting and different things for the children to do on the playscheme on a tight budget can be a challenge, but the Let Nature Feed Your Senses farm visit ticked all of the boxes. It was educational, while also being hands on and active; it helped the children connect and appreciate their local countryside and it was really fun. At the end of the playscheme we ask the children for their feedback on the activities and the farm visit was one of the highest ranked that year. It's definitely something we would like to do again and I would highly recommend it.

### 9.3 Case study 3 - Tracey Hannam

#### **Tracey Hannam, Activities Coordinator at Ferfoot Care Home, Chippenham.**

Tracey took two groups of care home residents with dementia to Fosse Farm and Larkrise Farm in the South West and planned more visits for spring 2012. Ferfoot Care Home is based in Chippenham and provides specialist dementia residential care for up to 52 elderly people.

During the Let Nature Feed Your Senses visits, the residents had the opportunity to explore the farm, help feed the animals and cook using farm ingredients – including making bread and butter! Tracey said *"The farm visits had an extremely calming and therapeutic effect on the residents. People with dementia can often be withdrawn, distressed or confused, but you really notice the difference it makes when you visit a farm. The huge variety of things to see, touch, smell and hear really helped engage the residents. For many it helped evoke childhood memories."*

*"Visiting a farm might sound like just a nice day out, which it certainly is, but for our residents the benefit to their physical and mental wellbeing was huge. When residents have visited a farm we've seen a huge transformation with people laughing, smiling and talking. Even after the visits we've noticed that the residents seem calmer, happier and will sleep better at night."*

*"The visits really help improve the confidence of the residents. On one of the visits we all had a go at butter making which involved shaking a jar of cream vigorously. The rest of us gave up apart from one of our residents who is a very determined lady, seeing the look on her face when it finally turned into butter was a joy to see. Finding activities that are both accessible and able to meet the needs of dementia patients can be difficult, but the staff, activities and farms facilities were really tailored to meet the needs of our residents. I cannot recommend a farm visit enough."*



The care home staff and residents have built a really good relationship with the host farmer, Sue Padfield, who has since been into the care home to run interactive workshops on nature, food and farming for all of the residents.

## 9.4 Case study 4 - Tracey Demartino

### Tracey Demartino, Skills Tutor at Orchard Manor, Scope Transition Service.

Tracey accompanied two groups of young people from Orchard Manor, a Scope Transition Service to Russell Smith Farm in Duxford. Orchard Manor is a residential transition service for young disabled people aged 18 to 25 who have complex care support and development needs. The provision combines life and skills training with the best possible care support, enabling young people to develop skills that will help them to live as independently as possible later on in life.

The young people who attended the Let Nature Feed Your Senses farm visits have physical disabilities, including cerebral palsy, and learning difficulties, including autism. They are all wheelchair users. Many of the young people have complex and diverse needs and it was vital during the visit to stimulate all of their senses through taste, sight, touch, smell and sound.

Two groups attended Russell Smith Farm on two separate visits. Russell Smith Farm is an arable farm, and has an area that has been sectioned off specifically to allow for wheelchair users to touch, feel and smell tall crops at wheelchair height such as barley, wheat and sugar beet.

Tracey explained *"The farmers were so thoughtful. Wheelchair access can be a challenge on a farm, but they had thought of everything – even putting down cardboard in areas where the ground was particularly uneven. They were also brilliant at presenting information in a way that made it accessible to each person. I was thrilled the young people were so engaged, they responded really positively to the environment. The farm visits were something that many of the young people had never experienced before and to see them engaged in something so different was great."*



For the young people, and particularly those with more complex needs, the sensory nature of the visit was essential. As well as touching the barley and wheat straight out of the ground, they felt the grains crushed up, releasing a more concentrated smell and allowing a multi-sensory experience of the various crops. They also had the opportunity to feel the wind on their faces and to benefit from the fresh air. Towards the end of the visit, it began to rain and the group absolutely loved it. Tracey said *"We all found being outside in the rain so funny, we hurried off to a big hangar to take shelter and so we could listen to the sound of the rain hitting the tin roof. A tractor was waiting and we finished our visit listening to the sound of the tractor's engine, something the group had never heard before."*

The second group had a three stage visit. As the farm is local to Orchard Manor, Liz Nottage came to visit the young people eight weeks before the planned visit to her farm. She brought with her seed potatoes and all the necessary equipment for the group to grow their own potatoes. She talked to the group about how to grow them, what the plants need to grow and the different ways potatoes are used. Tracey said *"Everyone was really engaged at that point. Realising that crisps and chips are made from potatoes was very exciting."*

When the group then visited the farm two months later, they took their potato plants with them, and harvested them on the farm. They then took them back to Orchard Manor and used them in a cookery session with Tracey, to make potato wedges and potato salad. Tracey explained *"This three part visit really supported the group to consider and appreciate the story of food. Having the opportunity to be hands on by growing and harvesting their own potatoes was a really rewarding experience and really helped engage the group."*

## 10 General Discussion

The following section provides an overview of the effects on participants as a result of taking part in the Let Nature Feed Your Senses project. These include key changes in the main themes of wellbeing; Healthy lifestyle; Connection and access to nature; and Links between nature and everyday life. It identifies the potential consequences of these changes for the participants involved and the wider society. It then concludes by identifying key successful outcomes, acknowledging potential limitations and discussing future steps.

### 10.1 Effects on participants

The evaluation was designed to examine effects on participants as a result of taking part in a visit to a farm as part of the LNFYS project. These effects on participants were assessed both before and after participating in a visit and through follow up interviews with group leaders. In addition visitors, group leaders and host farmers were able to give personal feedback on the effects of visits in their own words.

#### 10.1.1 Wellbeing

In the health, social care and education sectors, wellbeing is generally accepted as being multi-faceted and therefore an individual's wellbeing can be affected by many factors including physical and mental health status, social inclusion, levels of control and the living environment. In this study, wellbeing was assessed using questions relating to mental wellbeing; health status; physical activity; and social inclusion; using a variety of formats, to act as a proxy for measuring effects on wellbeing parameters.

Positive changes in wellbeing measures were observed, with mean positivity scores increasing slightly, suggesting a small rise in positivity scores as a result of the farm visit<sup>108</sup>. Participants and staff also told us in their own words, in the questionnaires, the group evaluations and in interviews about the effects of the farm visits on participants mental wellbeing, including the calming and therapeutic effect of being on the farm; the relaxing and stress-reducing environment; the increase in self esteem and independence of usually shy, aggressive or disempowered individuals; and improvements in memory function and reminiscence ability for older visitors. These findings have important consequences for participant psychological health, as there is a strong relationship between self-esteem, mood and depression, anxiety, behavioural issues, loneliness and alienation. Having good self-esteem is also a key indicator of emotional stability and predicts subjective wellbeing.

There was a statistically significant increase in self perceived 'health' scores as a result of the visit to a LNFYS farm or nature reserve and 42% of visitors saw an increase in their health scores, which shows that participants also considered the visit to be beneficial to their health. In fact visitors told us that the farm or nature reserve environment gave them a feeling of freedom and was like a 'breath of fresh air'.

In addition to mental and health issues, participants may also be negatively affected by a variety of social factors that maintain and exacerbate their vulnerabilities including social isolation, social exclusion, a lack of access to healthy, positive activities and a lack of opportunity to integrate with

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<sup>108</sup> Although not statistically significant

their wider community. To examine elements of social capital in the LNFYS evaluation, participants were asked about their sense of community belonging and how important they felt it was to be with other people. Participants were found to have a mean 71% community belonging score but comparisons for gender showed that women had a higher sense of community belonging than men. Similarly the community belonging score was statistically lower for the under 25 age group compared to participants aged 26-50. The majority of participants said that being with other people was 'very important' to them during the visit and 45% of participants saw an increase in how they felt about the importance of being with other people, as a result of visiting a LNFYS farm.

*"One of the boys who has Asperger's climbed the tractor on his own while he would never do anything without his helper, it was great, a real breakthrough!"*

Mariella Fleming, host farmer, Southend Farm, South East, August 2011

Narrative and anecdotal evidence received from group leaders and farmers on social inclusion showed that participants not only bonded with each other, group leaders and farm staff during the visit, but also had experienced increased communication with friends and family or with other people in a care setting since the LNFYS visits. All of this goes some way to reduce social isolation and to increase feelings of belonging, all essential elements of wellbeing

### 10.1.2 Healthy lifestyle

Healthy lifestyle was one of the four themes of the LNFYS evaluation. A mix of outcome measures relating to constituents of a healthy lifestyle (that could be influenced by a visit to a LNFYS farm), namely healthy eating habits and contact with nature, were used as a proxy for assessing healthy lifestyles. Participants rated the importance of eating healthy food at 76% which was higher than the importance that visitors had put on physical activity. The majority of participants said they were now more likely to eat healthy food as a result of their farm visit which is likely to be beneficial in encouraging participants to develop healthier lifestyles.

Participants told us that they usually visit mainly local parks or playing fields, their own or community gardens and country parks, woodland and countryside. A quarter of group leaders said that there had been positive changes as some care homes are now bringing nature inside or going for more walks outside.

*"This is such a valuable experience for our pupils; many never experience life outside of the home, never mind being able to engage with nature. It is such a grounding and rewarding experience."*

Green Meadow School, Young people with disabilities from an area of high deprivation, visit to Pepperpot Farm, Yorkshire, June 2011.

Approximately half of LNFYS visitors have some kind of contact with nature at least once a week but 13% only have contact with nature once every six months or less. Participants told us that they are much more likely to visit a local farm, the countryside or local parks and greenspaces since the LNFYS visit. Many group leaders also reported increases in the frequency of group members' contact with nature as a result of the farm visit with group members wanting to go outside more and people going independently to re-visit the farms. Pre-visit concerns over accessibility; health and safety issues and visitor behaviour have been dispelled after the positive experiences on the LNFYS farms, and so group leaders are planning further trips to greenspaces.

The majority of group leaders said that they plan to revisit LNFYS sites in order to enhance member wellbeing and self esteem and because participants enjoyed the first LNFYS experience. The farm visit also seemed to have particular effects on participants who don't often have the opportunity to

go out into nature and greenspaces. All of these changes are likely to lead to improved participant lifestyle.

### 10.1.3 Connection and access to nature

The evidence base tells us that there is a positive relationship between exposure to nature and mental and physical health, with nature able to reduce stress, to act as a restorative environment and to engender feelings of calm. Connection to nature is considered to be an important predictor of subjective wellbeing and has also been found to facilitate social contact all of which benefits are considered helpful to the participants in the LNFYS project. With this in mind, changes in participants' connection and access to nature were assessed in the evaluation using as a proxy, questions on self perception of nature connection and importance, together with questions that addressed people's desire and confidence to connect with nature in future.

"A nursing home was invited to a local farm and three residents in wheelchairs attended.

The visitors had a sensory-rich time picking and eating fresh peas, smelling sweet peas, reminiscing about childhoods spent in the country and feeding a lamb. One gentleman who was unable to speak, eat or drink had immense pleasure from just smelling the freshly pulled baby carrots, the aroma from the beautiful sweet peas and the cocktail of herbs he was able to touch and smell from an especially adapted raised herb bed.



Staff at the nursing home commented how invigorated visitors were on arriving home and chatted animatedly to other residents about their visit. The home was invited for a second visit, this time seven residents turned up, each with a carer.

For one visitor this reawakened her childhood memories of growing up on a farm in Suffolk. Her daughter, who accompanied her, explained that usually her mother would be asleep in her chair in the care home and had little conversation to share, yet she had so enjoyed the day and was keen to be interviewed by a BBC Somerset Radio reporter who had attended the visit. The radio interview was recorded onto CD and is played regularly at the home upon the resident's requests! The care home manager said it really has lifted the general atmosphere for both residents and staff."

Sue Padfield, host farmer, Fosse Farm, South West, July 2010

Statistically significant increases in nature connection and perceptions of nature importance were found as a result of the farm visit and the majority of participants saw an increase in their nature connection scores. When asked if they would like to visit the countryside more often the majority of visitors said yes, showing that there is a great desire for participants to access the countryside. The number of participants who said they felt more confident to visit local green spaces before the farm visit compared to afterwards also shows that confidence to access greenspaces has grown as a result of visiting the LNFYS site. In addition some group leaders also said that they were now more confident to take groups onto farms.

### 10.1.4 Links between nature and everyday life

Measuring the changes in the in visitor understanding of the interdependencies in our everyday lives, between food, farming and nature is a major aim of the LNFYS project. Awareness amongst participants that *'farmers work with nature to produce our food'* has increased as a result of visiting the LNFYS farms and nature reserves. In response to the *'Our food comes from the countryside around us'* statement, there was a statistically significant increase in mean scores before the farm visit compared to afterwards shows that the knowledge that food come from the countryside has

greatly increased as a result of visiting the LNFYS site. The majority of participants also said told us they were more likely to appreciate where food comes from as a result of their farm visit.

Many participants and group leaders commented on the range of new things they had learnt about the links between nature and our everyday lives, from changes in farming practice, a better understanding of food production processes (livestock, dairy, arable and vegetables), to realising the origins of the food that we eat.

## 10.2 Successes, limitations and future opportunities

### 10.2.1 Key successes

- Let Nature Feed Your Senses has shown itself to be successful at a number of different levels. Over 11,000 people had the opportunity to visit farms and nature reserves across England, many of whom had never had the chance to do so before. Nearly 950 LNFYS visitors took part in the evaluation and provided data to enable us to identify any changes in how they felt about themselves, other people, nature and farming that occurred as a result of the visits. They also provided a wealth of rich anecdotal evidence, personal stories and testimonials to support these findings.
- LNFYS has been successful in achieving its aspirations and SMART outcomes 1-3. The research has shown that the project has had a positive impact on the wellbeing of participants, has facilitated social inclusion, has improved visitor access to and connection with nature, and has increased understanding of farming and food production, all of which are likely to contribute to healthier lifestyles. These outcomes also support Government calls to connect people with the natural environment and food production, to engage children in nature and outside learning, to improve health and promote wellbeing.
- Successful partnerships have formed between vulnerable, hard to reach groups and farmers, breaking down barriers, encouraging sharing of experiences and increasing social inclusion on both sides. The beneficiaries have had contact with nature and the associated health and wellbeing benefits, in a novel and sensory way; have had insights into the workings of a farm and have increased their knowledge of food and where it comes from. Farmers, who themselves can very often be isolated from the wider community, through LNFYS have been able to share what they do and the environment they work in, with others, whilst observing the positive effects the visit to their farm has had on participants.
- The LNFYS project was successful in encouraging a range of different types of host site to be involved in the project, with varying enterprises available. LEAF farms, non-LEAF farms, those with livestock, those with arable, care farms, community and city farms and nature reserves all welcomed visitors to take part in sensory visits.
- LNFYS has opened doors to the natural environment outside and has enabled access to nature for many people who may stay indoors for most of a typical day, people such as those in residential or care homes and those with a disability or mobility issues. The project seems to have had a particular effect on older visitors with dementia, reconnecting them to their memories of past experiences with nature, helping them to reminisce and increasing communication with other group members and staff.

- LNFYS has made nature and greenspaces more interesting, appealing and accessible through focusing on the sensory experience. The rich diversity of activities undertaken on the farms and nature reserves, designed and developed to stimulate the senses has meant that visits to all types of host sites have been rewarding. Initial concerns that farms and nature reserves without opportunities to interact with livestock could be of lesser interest and perhaps offer fewer benefits to visitors as a result, proved to be unfounded, with no significant differences identified between benefits to participants from farms with livestock and those without.
- Another success of the LNFYS project is that it has given farmers confidence to engage with vulnerable groups on their own farms and nature reserves. Many of the farmers in the LNFYS project will have opened their farms to the public before; some may already hold regular visits for children through HLS; and care farmers are well-practised at hosting visitors. However for others, opening a farm for visitors for the first time, especially to those that may have specific needs and challenges has been a daunting prospect.
- Feedback from group leaders also revealed that taking a group of people, who may be in wheelchairs, have communication or behavioural issues or have a sensory impairment, to a farm can also be a daunting prospect for those in the position of responsibility. In the same way as for the farmers, group leaders have been reassured through LNFYS by the accessibility of the farms, the sensitivity and attention to detail of the hosts and the calming effect the natural environment has had on their group. This has given many group leaders the confidence to arrange further visits to farms, nature reserves and local greenspaces in the future, which is likely to lead to positive lifestyle outcomes.
- The LNFYS visits have helped people to connect with themselves, to nature, to other people and to food and farming. Some participants felt part of a community again and engaged in conversations and many felt calmer and more relaxed than normal. Where farm visits also included harvesting, making and tasting produce one of the effects observed was that it promoted an interest in growing and eating healthy food for visitors of all ages and it often rekindled appetites in older people.
- Another important accomplishment of LNFYS was the increased understanding of food production and farming practices by visitors and for many the realisation that not all food originates in a supermarket. In times where there is a call to reconnect consumers to producers and to encourage healthy eating, these outcomes will be welcome.
- It is clear from the findings discussed above that the LNFYS experience has contributed significantly to a range of important outcomes for the beneficiaries, for the project and for the wider communities of agriculture, green care and education.

### **10.2.2 Limitations of research**

With this type of research there were some limitations which should be acknowledged. The field-based research was subjected to many extraneous variables which were beyond the control of the evaluators, such as visit content, host approaches, site location, group dynamics, selection of participants and changeable weather conditions. Thus, achieving experimental control was virtually impossible.

Standardised, internationally recognised questionnaires for parameters such as wellbeing and connection to nature were not felt to be appropriate for participants after consultation with RCs and

the pilot so were not used to collect primary data in this study. Non standardised questionnaires were therefore used, some of which were specifically designed for LNFYS and others had been used by the University of Essex in similar nature-based contexts. This choice of methods may have affected the outcomes of the research.

Although the LNFYS project has been found to be very successful in helping the majority of participants to feel better, to access nature, to connect to other people and to appreciate where food comes from, not all participants saw such significant changes. Although this may in part be a consequence of their vulnerability, the relatively short time spent on the farm or the one-off nature of the visits, visits to farms may not be appropriate for everyone.

Notwithstanding the potential limitations identified, data collection was obtained using a consistent protocol and therefore the findings have significant implications for relevant authorities and policy makers. The results can be used to inform further discussions about the use farm visits for vulnerable or excluded people in the UK.

### **10.2.3 Future research**

Further research possibilities for LNFYS lie in determining:

- i) how long the effects of visiting the farm last for (i.e. undertaking a longitudinal approach and evaluating the participants (and group leaders) at set points after a visit has taken place);
- ii) if there are any individual or group characteristics which should be considered when planning farm visits (i.e. what leads to the visit having such a profound impact for some people but not necessarily for everyone);
- iii) Are there any particular sensory activities that work better for particular groups and are sensory focus activities more effective than a 'regular' farm tour (for participants, group leaders and farmers alike).
- iv) a comparison study between a group visiting a farm versus a group visiting another location either outdoors or indoors (in terms of wellbeing and connection to outcomes, enjoyment and levels of understanding);
- v) how have the farmers have been affected by the farm visits (i.e. have they noticed any changes personally or with the farm business? would they continue to offer farm visits? would they think about diversification into green care in the future?)
- vi) if regular, repeated visits to farms and nature reserves increase the impacts on participants (i.e. how many visits make a difference to outcomes, is there a minimum before effects occur or a maximum number before they plateau)

### **10.2.4 Farm visits in the future?**

A combination of attributes, needs and other factors are likely to affect any scaling up and mainstreaming of this type of initiative to other regions, farms, target groups and natural worked landscapes in the UK and beyond:

- The dissemination of a combination of quantitative and anecdotal evidence of the success of this LNFYS project in terms of personal outcomes, social aspects and understanding of food and farming - in order to convince potential beneficiary groups, partners and funders.
- Resources – finances (longer-term funding), time, trained staff to support host farmers and nature reserve managers.

- Political will to facilitate more such initiatives to connect the UK population to the natural environment and the food that we eat in order to reap the health and wellbeing rewards - there is still limited acceptance of therapeutic value of the outdoors (both rural and urban) for delivering physical and mental health and wellbeing – ‘green care’.

### 10.3 Concluding comment

Participating in the Let Nature Feed Your Senses project has been a profound experience for many of the participants involved. The majority of visitors will leave the farms and nature reserves with enhanced wellbeing, a confidence and desire to access nature more frequently and a better understanding of nature and the food that we eat.

Those responsible for improving quality of life, encouraging healthier lifestyle choices and facilitating access to nature for vulnerable or disengaged groups should consider these multiple wellbeing benefits to participants in nature based initiatives such as LNfYS, when commissioning and funding services.



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## 12. Appendices

### 12.1 Appendix A Participant information sheet



### Evaluation of Let Nature Feed Your Senses – Information for Participants

Here are more details about this evaluation for you to keep and details of who to contact if you would like to know more.

The University of Essex is carrying out an evaluation of the ‘Let Nature Feed Your Senses’ project on behalf of LEAF and the Sensory Trust.

Taking part in the research is on a purely voluntary basis and participants are free to withdraw at any time without prejudice and without providing a reason. All anonymous, individual data collected will be held by the University of Essex in hard copy for the duration of the project and electronically for up to 2 years after this. This raw data will only be accessible to the researchers Rachel Hine and Jo Barton at the University of Essex, and will not be passed on to any third party. Subsequent publications by Leaf and the Sensory Trust will be drawn from the University of Essex analysis of the data as a whole.

If you have any questions or if you would like to withdraw your data from the research then please contact the key researcher Rachel Hine, either by post: iCES - Interdisciplinary Centre for Environment and Society, Department of Biological Sciences, University of Essex, Wivenhoe Park, Colchester CO4 3SQ or email: [rehine@essex.ac.uk](mailto:rehine@essex.ac.uk)

## 12.2 Appendix A Consent form

### Let Nature Feed Your Senses– Photo/video/web Consent Form



Name of organisation  
Address

Your organisation is involved in a **Let Nature Feed Your Senses** event. We may take photographs, or make video recordings, of children and young people involved in Let Nature Feed Your Senses farm and nature reserve visits and activities. We may use these images on the Let Nature Feed Your Senses, Sensory Trust or LEAF websites and in other printed publications that we produce, or in publications and presentations for the general public. We seek your organisation's consent to the following:

#### Images and sound

The Organisation warrants that it has procured all consents, licences, permits, releases and other permissions (including from its staff and participants of its project (**Participants**)) necessary for the Sensory Trust and LEAF to:

- photograph, film or record (**Record**) its project and the Participants; and
- attend the relevant premises or locations to Record.

and the Organisation grants the Sensory Trust and LEAF permission to use the images and sounds that it obtains without restriction for:

- In printed publications that Let Nature Feed Your Senses produces for educational and promotional purposes.
- For press purposes; in newspapers, television reports and media websites.
- On the Let Nature Feed Your Senses Sensory Trust, LEAF, Natural England, Big Lottery Fund websites.

#### Informed consent

The Organisation warrants that it has fully explained the nature of the Big Lottery Fund's business and permitted use of the Works to the Participants and obtained their informed consent to be Recorded and to assign their rights to the Big Lottery Fund. The Organisation will deliver a copy of any written consent or assignment it has obtained from Participants to Sensory Trust and LEAF on request.

#### No consent

The Organisation agrees that if it has not received written consent from any Participants, it will:

- identify those Participants to the Sensory Trust and LEAF before Recording commences.

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Signature of authorised  
representative

Name

Date

## Conditions of use of images and sound

1. We will not use the personal details or full names of any child or adult in a photograph on our website or in any of our printed publications.
2. We will not include personal e-mail or postal addresses, or telephone or fax numbers, on our website or in printed publications.
3. If we use photographs of individual children, we will not use the full name of that child in the accompanying text or photo caption without specific prior permission.
4. We may use group or class photographs or footage with very general labels, such as "Let Nature Feed Your Senses farm visit".
5. We will only use images of children who are suitably dressed, to reduce the risk of such images being used inappropriately.
6. If images are taken by local press/media, or parents/guests, the Sensory Trust and LEAF will not have control of these images.

## For any further information please contact:

James Taylor, Project Manager, LEAF

**tel:** 024 7641 3911 **mob:** 07710 886762 **email:** james.taylor@leafuk.org

(Or)

Jennifer Bartlett, Project Manager, Sensory Trust,

**tel:** 01726 222900 **email:** jbartlett@sensorytrust.org.uk

**Let Nature Feed Your Senses** is a lottery funded national project run in partnership between LEAF (Linking Environment and Farming) and Sensory Trust. The project aims to connect people to everything the English countryside has to offer using food, farming and sensory rich activities. We are running a nationwide programme of farm and nature related experiences. The project is working with people that currently cannot or do not access the countryside because of age, ability or social situation. [www.letnaturefeedyoursenses.org](http://www.letnaturefeedyoursenses.org)



### 12.3 Appendix C: Before and after study, Questionnaires A and B

Questionnaire A: Before visit



## Let nature feed your senses

University of Essex



LEAF and the Sensory Trust have commissioned the University of Essex to evaluate the 'Let nature feed your senses' programme and so as part of this we will be asking visitors to complete questionnaires before and after their farm visit.

We value your comments and would be most grateful if you could spare the time to complete the first part of our questionnaire. All the information given to us will be treated as anonymous and will not be passed on to a third party. More information about this evaluation can be found in the accompanying information sheet.

You do not have to answer the questions if you do not want to. If you can't answer a question just leave it and go onto the next question. When you have completed the questionnaire please hand it back to the person who gave it to you. Thank you!

**So that we can match up your responses before and after the visit, please tell us your date of birth and the initials of your first name and surname in the boxes below:**

Date of birth  First name initial  Surname initial

1. I agree to taking part in this research by completing the questionnaires (please tick)

2. Please read the following statements and tick the one that applies to you:

I am filling in the questionnaire about myself

I am a helper reading out the questions to the participant and filling in their responses

I am a carer/ guardian completing the questionnaire on behalf of someone else

3. Your gender                      Male                       Female

4. What types of natural places do you usually visit? (you may tick more than one box)

Own garden/ community garden	<input style="width: 60px;" type="checkbox"/>	Country park	<input style="width: 60px;" type="checkbox"/>
Local park or playing fields	<input style="width: 60px;" type="checkbox"/>	Local nature reserve	<input style="width: 60px;" type="checkbox"/>
Woodland	<input style="width: 60px;" type="checkbox"/>	Countryside/ farmland	<input style="width: 60px;" type="checkbox"/>
Other (please tell us)	<input style="width: 100%; height: 20px;" type="text"/>		

5. How much contact do you normally have with nature and greenspace? (e.g. going to the park, woods, countryside etc)

Daily	<input style="width: 60px;" type="checkbox"/>	Once a month	<input style="width: 60px;" type="checkbox"/>
2-3 times a week	<input style="width: 60px;" type="checkbox"/>	Once every 6 months	<input style="width: 60px;" type="checkbox"/>
Once a week	<input style="width: 60px;" type="checkbox"/>	Once a year or less	<input style="width: 60px;" type="checkbox"/>
Once a fortnight	<input style="width: 60px;" type="checkbox"/>	None, I have never had the opportunity	<input style="width: 60px;" type="checkbox"/>

6. Have you visited this farm or site before?                      Yes                       No

7. If yes, how many times?

8. On a scale of 1 – 10, how healthy do you feel at the moment? (please circle one number only)

Not very healthy	1	2	3	4	5	6	7	8	9	10	Very healthy
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Questionnaire A: Before visit

9. On a scale of 1 – 10, how positive do you feel at the moment? (please circle one number only)

Not very positive	1	2	3	4	5	6	7	8	9	10	Very positive
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10. On a scale of 1 – 10, how connected to nature do you feel at the moment? (please circle one number only)

Not very connected to nature	1	2	3	4	5	6	7	8	9	10	Very connected to nature
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11. Please tell us how much you agree with the following statements by ticking the appropriate box

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There are people in my life who really care about me	<input type="checkbox"/>				
I regularly meet socially with friends and relatives	<input type="checkbox"/>				
I find it difficult to meet with people who share my hobbies or interests	<input type="checkbox"/>				
People in my local area help one another	<input type="checkbox"/>				

12. Below is our importance scale. Please put a cross somewhere on each line to tell us how important each of the following is to you:

	Not very important	—————>			Very important
Being outside in nature	<input type="checkbox"/>				
Being with other people	<input type="checkbox"/>				
Taking part in exercise	<input type="checkbox"/>				
Eating healthy food	<input type="checkbox"/>				

13. Please tell us how much you agree with the following statements by ticking the appropriate box

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Farmers work together with nature to produce our food	<input type="checkbox"/>				
Being outside in the countryside can make us feel good	<input type="checkbox"/>				
I would like to visit the countryside more often	<input type="checkbox"/>				
I feel confident to visit local green spaces	<input type="checkbox"/>				
Our food comes from the countryside around us	<input type="checkbox"/>				

Thanks! That's all for now!

Please hand the questionnaire back to the person that gave it to you

Questionnaire B: After visit



University of Essex

## Let nature feed your senses



Now that you have finished your visit we would be most grateful if you could spare the time to complete the second part of our questionnaire. Again, all the information given to us will be treated as anonymous and will not be passed on to a third party.

You do not have to answer the questions if you do not want to. If you can't answer a question just leave it and go onto the next question. When you have completed the questionnaire please hand it back to the person who gave it to you. Thank you!

As before, so that we can match up your responses before and after the visit, please tell us your date of birth and the initials of your first name and surname in the boxes below:

Date of birth  First name initial  Surname initial

1. Please read the following statements and tick the one that applies to you:

- I am filling in the questionnaire about myself
- I am a helper reading out the questions to the participant and filling in their responses
- I am a carer/ guardian completing the questionnaire on behalf of someone else

2. Below is our importance scale. Please put a cross somewhere on each line to tell us how important you have found each of the following during the visit:

Not very important 
→
 Very important

The farm environment	<input type="checkbox"/>				
The animals or wildlife	<input type="checkbox"/>				
Learning new things	<input type="checkbox"/>				
Being part of a group	<input type="checkbox"/>				
The activities/ walk	<input type="checkbox"/>				
Being outside in nature	<input type="checkbox"/>				

3. Has this farm visit made you more or less likely to:

	Less likely	No change	More likely
Visit the countryside	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appreciate where food comes from when eating meals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visit a local farm or city farm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eat fresh, healthy food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visit your local park or greenspace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. On a scale of 1 – 10, how healthy do you feel at the moment? (please circle one number only)

Not very healthy	1	2	3	4	5	6	7	8	9	10	Very healthy
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Questionnaire B: After visit

5. On a scale of 1 – 10, how positive do you feel at the moment? (please circle one number only)

Not very positive	1	2	3	4	5	6	7	8	9	10	Very positive
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6. On a scale of 1 – 10, how connected to nature do you feel at the moment? (circle one number only)

Not very connected to nature	1	2	3	4	5	6	7	8	9	10	Very connected to nature
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7. Has this farm visit changed your views on what farming and farmland is important for?

Yes  No

If yes, please tell us how?

In terms of food, health, wildlife, leisure, landscape etc. for example

8. Please tell us how much you agree with the following statements by ticking the appropriate box

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Farmers work together with nature to produce our food	<input type="checkbox"/>				
Being outside in the countryside can make us feel good	<input type="checkbox"/>				
I would like to visit the countryside more often	<input type="checkbox"/>				
I feel confident to visit local green spaces	<input type="checkbox"/>				
Our food comes from the countryside around us	<input type="checkbox"/>				

9. What did you enjoy most about your farm visit?

10. Is there anything you did not enjoy?

11. Is there anything else that you would like to have seen or heard about on the farm today?

That's all! Thank you very much for completing our questionnaires  
Please hand the questionnaire back to the person that gave it to you

12.4 Appendix D: Group evaluation, Questionnaire D

Questionnaire D – Group evaluation



## Let nature feed your senses



LEAF and the Sensory Trust have commissioned the University of Essex to evaluate the 'Let nature feed your senses' programme and so as part of this we will be asking visitors about their experience of a farm visit.

1. Name of farm  2. Date

2. Number of people in group (including carers and others)

3. Beneficiary group (older people, young people, disabled people, people from an area of deprivation)

4. Gender – How many      Males       Females

5. What types of natural places do you usually visit? (please put numbers of people in appropriate boxes)

Own garden/ community garden	<input style="width: 40px;" type="text"/>	Country park	<input style="width: 40px;" type="text"/>
Local park or playing fields	<input style="width: 40px;" type="text"/>	Local nature reserve	<input style="width: 40px;" type="text"/>
Woodland	<input style="width: 40px;" type="text"/>	Countryside/ farmland	<input style="width: 40px;" type="text"/>
Other (please tell us)	<input style="width: 100%; height: 20px;" type="text"/>		

6. How much contact do you normally have with nature and greenspace? (e.g. going to the park, woods, countryside etc) (please put numbers of people in appropriate boxes)

Daily	<input style="width: 40px;" type="text"/>	Once a month	<input style="width: 40px;" type="text"/>
2-3 times a week	<input style="width: 40px;" type="text"/>	Once every 6 months	<input style="width: 40px;" type="text"/>
Once a week	<input style="width: 40px;" type="text"/>	Once a year or less	<input style="width: 40px;" type="text"/>
Once a fortnight	<input style="width: 40px;" type="text"/>	None, I have never had the opportunity	<input style="width: 40px;" type="text"/>

7. Have any of you visited this farm/ site before?      Yes       No

8. If yes, how many times?

9. Please tell us how many of you agree with the following statements (by putting the number of people in the appropriate box)

	Agree	Disagree
Farmers work together with nature to produce our food	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
Being outside in the countryside can make us feel good	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
I would like to visit the countryside more often	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
I feel confident to visit local green spaces	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
Our food comes from the countryside around us	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>

Questionnaire D – Group evaluation

10. Please tell us how many people found the following important during the visit:

	Not very Important	Very Important
The farm environment	<input type="text"/>	<input type="text"/>
The animals or wildlife	<input type="text"/>	<input type="text"/>
Learning new things	<input type="text"/>	<input type="text"/>
Being part of a group	<input type="text"/>	<input type="text"/>
The activities/ walk	<input type="text"/>	<input type="text"/>
Being outside in nature	<input type="text"/>	<input type="text"/>

11. What did you enjoy most about your farm visit?



12. Is there anything you did not enjoy?



13. What else would you like to have seen or heard about on the farm today?



**That's all!**

**Thank you very much for sparing the time to answer our questions**

Please hand the questionnaire back to the person that gave it to you or send freepost to Rachel Hine,  
 Centre for Environment and Society, University of Essex, Freepost NATE1541, Colchester CO4 3SBR  
 If you would like to know more about this research then please contact Rachel Hine  
[rehine@essex.ac.uk](mailto:rehine@essex.ac.uk)

12.5 Appendix E Smart outcomes 1-3

SMART outcomes	Questions to address	Proxies / indicators	Who	Method	When
<p><b>1. Young, older and disabled people report they feel better – mentally or physically – as a result of participating in LNFYS events.</b></p>	<p>1.1 What changes in beneficiary well being and feelings of connection to nature have occurred as a result of participation in LNFYS?</p> <ul style="list-style-type: none"> <li>- Mental health</li> <li>- Connection to nature</li> <li>- Social capital</li> </ul>	<p>Specifically designed questions on mental health, connection to nature and social capital and specifically designed interactive visual scales</p>	<p>University of Essex</p>	<p>Questionnaires and case studies, to ensure both quantitative and qualitative data. (Please note, methods to report against outcomes 1-3 will be complemented by beneficiary and carer testimonials, photos and anecdotal evidence as visits take place i.e. ongoing collection over remainder of project by LNFYS team)</p>	<p>Pre/post visit questionnaire (A and B) or group discussion (D) Follow up from LNFYS team</p>
			<p>LNFYs team</p>	<p>Telephone semi-structured interview</p>	<p>Follow –up interview with group leaders 2-4 weeks after visit</p>
	<p>1.2 What are the likely perceived changes in lifestyle behaviour for beneficiaries as a result of participation in LNFYS (if any)?</p> <ul style="list-style-type: none"> <li>- Healthier eating habits</li> <li>- Increased visits to countryside/nature</li> </ul>	<p>Specifically designed questions</p>	<p>University of Essex</p>	<p>Questionnaires and case studies, to ensure both quantitative and qualitative data.</p>	<p>Pre/post visit questionnaire (A and B) or group discussion (D)</p>
			<p>LNFYs team</p>	<p>Telephone semi-structured interview</p>	<p>Follow –up interview with group leaders 2-4 weeks after visit</p>
<p><b>2. Young, older and disabled people report they have more confidence in accessing the natural environment.</b></p>	<p>2.1. Have there been any perceived changes in beneficiary confidence to connect with nature as a result of participation in LNFYS.</p>	<p>Specifically designed questions</p>	<p>University of Essex</p>	<p>Questionnaires, interactive outcome measures and case studies, to ensure both quantitative and qualitative data.</p>	<p>Pre/post visit questionnaire (A and B) or group discussion (D)</p>
	<p>2.2 Are there changes in beneficiary attitudes to personal access to nature as a result of participation in LNFYS?</p> <ul style="list-style-type: none"> <li>- Perceived</li> </ul>	<p>Specifically designed questions</p>	<p>University of Essex</p>	<p>Questionnaires and case studies, to ensure both quantitative and qualitative data.</p>	<p>Pre/post visit questionnaire (A and B) or group discussion (D)</p>

	<p>- Actual</p> <p>2.3 What are the changes in beneficiary lifestyle resulting from participation in LNFYS in terms of i) frequency of accessing nature in everyday life and ii) social capital</p> <ul style="list-style-type: none"> <li>- Perceived likely</li> <li>- Actual</li> </ul>	Specifically designed questions	<p>LNFYs team</p> <p>University of Essex</p>	<p>Telephone semi-structured interview</p> <p>Questionnaires and case studies, to ensure both quantitative and qualitative data.</p>	<p>Follow –up interview with group leaders 2-4 weeks after visit</p> <p>Pre/post visit questionnaire (A and B) or group discussion (D)</p>
			LNFYs team	Telephone semi-structured interview	Follow –up interview with group leaders 2-4 weeks after visit
<p><b>3. Young, older and disabled people report they better understand links between the natural environment and their everyday lives.</b></p>	<p>3.1 What changes in the understanding of the interdependencies of our everyday lives – food, farming and nature – have occurred as a result of participation in LNFYS?</p>	Specifically designed questions	University of Essex	Questionnaires and case studies, to ensure both quantitative and qualitative data.	Pre/post visit questionnaire (A and B) or group discussion (D)
	<p>3.2 To assess perceived likely/ actual changes in lifestyle behaviour for beneficiaries, such as :</p> <ul style="list-style-type: none"> <li>- Healthier eating habits</li> <li>- Healthier lifestyle behaviours – ie increased contact with nature</li> </ul>	Specifically designed questions	University of Essex	Questionnaires and case studies, to ensure both quantitative and qualitative data.	Pre/post visit questionnaire (A and B) or group discussion (D)
				LNFYs team	Telephone semi-structured interview