



Growing Scotland

Gardening contributes to the Scottish Executive agenda to improve the Nation's well being.



Compiled by the Scottish Allotments and Gardens Society Spring 2007

With contributions from: BTCV, Butterfly Conservation Scotland, CALYX, Children's orchards, Community Food and Health (Scotland), Eco schools Scotland, FCFCG, Garden Organic, Greenspace Scotland, Grounds for Learning, HTA, ISPAL Scotland, IoH, Keep Scotland Beautiful, NTS, Plantlife Scotland, RCHS, RHS, RBGE, SAGS, SGS, Scottish Gardeners Forum, Slow Food Edinburgh, Trellis.

Acknowledgements:

This report was proposed at a meeting convened by the Scottish Allotments and Gardens Society in December 2006. It was agreed by those present that this document should be compiled and promulgated in May 2007 to raise awareness of the importance of gardening to the Scottish people and seek recognition and support from the Scottish Executive for gardening in Scotland.

This entire document is the responsibility of the Scottish Allotments and Gardens Society but the following organizations have contributed information and commented on the sections that are relevant to their interests:.

BTCV (British Trust for Conservation Volunteers)
Butterfly Conservation Scotland
CALYX
Childrens orchards
Community Food and Health (Scotland)
Eco schools Scotland
Federation City Farms and Community Gardens (FCFCG)
Garden Organic
Greenspace Scotland
Grounds for Learning
Horticultural Trades Association
ISPAL (Institute Sports, Parks and Leisure) Scotland
Institute of Horticulture
Keep Scotland Beautiful
National Trust for Scotland
Plantlife
Royal Caledonian Horticultural Society RCHS
Royal Horticultural Society RHS
Royal Botanic Garden Edinburgh RBGE
Scottish Allotments and Gardens Society (SAGS)
Scotland's Gardens Scheme,
Scottish Gardeners' Forum
Slow Food Edinburgh
Trellis

CONTENTS

Section 1	Introduction and Recommendations	3
Section 2	Economic benefits - Gardening and the Scottish economy.	4
2.1	Introduction	
2.2	Direct contribution of gardening suppliers to the economy	
2.3	Tourism and local leisure activities - Visitors to Scotland's gardens	
	• Visitscotland attractions	
	• Royal Botanic Gardens Edinburgh	
	• National Trust for Scotland	
	• Scotland's Gardens Scheme	
	• The Calyx	
	• Edinburgh World Heritage	
	• Garden Shows	
2.4	Local Food Schemes	
2.5	Slow Food Movement	
2.6	Plant for Life	
2.7	Plant and seeds sources in Scotland	
2.8	Small scale projects with native Scottish plants	
2.9	Orchards	

Section 3	Jobs - Gardening and the employment sector.	6
3.1	Introduction	
3.2	Employment in the Council sector	
3.3	Employment in non-government organizations:	
3.4	Education and Training	
Section 4	Health and Well being - Gardening and the health of the nation.	8
4.1	Introduction	
4.2	Diet, physical activity and health	
4.3	Evidence of the value of gardening as physical exercise	
4.4	Community Health projects <ul style="list-style-type: none"> • Green Gyms • Growing initiatives • Drug rehabilitation • Asylum seekers 	
4.5.	Therapeutic gardens	
Section 5	Local Communities -Gardening and sustaining local communities.	11
5.1	Introduction	
5.2	Community Gardens in Scotland	
5.3	Allotments	
5.4	Allotments and asylum seekers.	
5.5	Garden Clubs and Horticultural Societies	
5.6	Royal Botanic Gardens	
Section 6	Education- Gardening and life-long learning.	13
6.1	Introduction	
6.2	School Gardens:	
6.3	Continuing Professional Development (CPD) courses for teachers	
6.4	Volunteer Training	
6.5	Examples of Further Education and Training	
Section 7	Biodiversity - Gardens and biodiversity.	15
7.1	Introduction	
7.2	Ponds	
7.3	Butterflies and moths	
7.4	Hedges	
7.5	Fungi	
7.6	Species migration and climate change	
7.7	Enhancing Urban Biodiversity	
Section 8	Environment - Gardens and the environment	17
8.1	Introduction	
8.2	Gardens and Climate change	
8.3	Soil management and climate change	
8.4	Plants and air pollution	
8.5	Rain Gardens	
8.6	Compost	
8.7	Reducing the environmental foot-print.	
Section 9	Regeneration- Gardens and the quality of life.	19
9.1.	Introduction	
9.2	Enjoyment of gardening	
9.3	Availability and size of gardens	
9.4	Sustainable Developments Example	
9.5	Lack of access to gardening opportunities	
9.6	Allotments and Community Gardens	
Section 10	Conclusions	22
Appendix:	Organisations Contributing to the Gardens Agenda	23

Growing Scotland

Section 1 Introduction and Recommendations

Members of the Scottish Allotments and Gardens Society, a totally volunteer organization, have compiled this report. It is based on information produced by a group of interested parties (see acknowledgements). These organizations are concerned with all aspects of gardening, both professional and amateur. The evidence presented in this review shows the relevance of gardening to the Scottish Executive's agenda for employment, economics, communities, health and diet, education, biodiversity, environment and regeneration. It is not a comprehensive review but gives examples of the contribution gardens and gardening make to the well being, health and quality of life of the citizens.

The world is moving towards an acceptance that basic human rights should not only include food and shelter but also access to greenspace. People are concerned about employment, their health, diet, education, environmental degradation, climate change and our alienation from the natural world. Gardens and gardening increase the overall well being of the Nation economically, physically and mentally. The gardening sector can drive forward employment, health, communities, biodiversity, environment and education. If all those who wish to garden are enabled to do so and given encouragement and support to gain the information and skills they need, Scotland would have a dynamic community of gardeners who actively contribute to the Nation's well being.

This potential growth should be championed in a vision for Scotland's gardens. To support gardens¹ and the gardening community should be an important part of Government policy.

It is suggested that, within the time of this Parliament, **the First Minister** recognizes the importance of gardening to the well-being of the nation and instructs:

1. a representative body to produce a strategy and action plan for a nationwide commitment to a gardening agenda.
2. government agencies involved with employment and economic opportunities to assess the contribution the gardening sector could make to Scotland by improving the local environment, creating new business and making a real, practical difference to the urban and rural land-scape.
3. the health service to recognize and promote the contribution gardening makes to health and well being.
4. local authorities to make long term strategic provision for accessible gardening for local communities thus providing the means to implement the requirements of the planning regulations.
5. councils, public agencies, professional bodies, education establishments, gardening societies to develop, in partnership, a range of policies which include the design and implementation of national and regional programmes of management, gardening skills and environmental research.

¹ In this report the words gardens, gardeners and gardening are used for all aspects of professional and amateur involvement, including that of horticulturalists and the horticulture associations. It was felt that trying to make a distinction between horticulture and gardening would be a diversion from the main thrust of the arguments. Professional and amateur gardeners work together, contribute to the economy, well being and health of Scotland and would all benefit from strategic recognition, support and consultation

Section 2: Economic benefits - Gardening and the Scottish economy.

2.1 Introduction:

Section 3 of 'Choosing our Future –Scotland's Sustainable development strategy 2005 -Building a strong sustainable economy' states '*the goal of sustainable development in an integrated way, through a sustainable, innovative and productive **economy** that delivers high levels of employment,*'

We believe that **gardening is a growth industry for sustainable development.**

Research data from the Garden Industry Monitor, suggests this sector is worth over £500M a year in Scotland² and the gardening industry is a buoyant and growing market³. Add to this the contribution to tourism and leisure from visiting gardens and garden shows, the saving to the environmental footprint through growing local food and the opportunities for local production and it will be seen that gardening makes a billion pound contribution to the economy.

2.2 Direct contribution of gardening suppliers to the economy

The Horticultural Trades Association reports that the market has enjoyed good growth over the last 10 to 15 years, not least as a result of changes in lifestyle and disposable incomes. Socio economic conditions have worked in favour of the gardening industry with an increase in home ownership, higher disposable incomes and an ageing population. Consumers are becoming better informed gardeners and are more demanding, requiring better service, value.

- The market for gardening products increased by 31% between 1999 and 2004,
- Approximately a third of UK adults garden at least once a week, making it almost twice as popular as DIY
- In 2002, some 62% of all UK households purchased something for their garden, spending an average of £305 each.
- Dobbies Garden Centres operate 11 garden centres Scotland and report £35M sales in the past year.

The HTA would welcome a more formalised approach from the Executive.

2.3 Tourism and local leisure activities - Visitors to Scotland's gardens:

The tourist industry welcomes over 40m visitors a year and contributes £3B to the economy. Gardens and gardening shows and festivals are important visitor attractions in their own right or in conjunction with other attractions. Many attractions are free but contribute to the quality of life of the citizens and the spin-off in terms of health and well-being is immeasurable. There is a considerable 'knock-on' benefit to local economies as gardens use local and national suppliers of services, materials and equipment.

Visitscotland:⁴ is marketing Scottish gardens as major visitor attractions '*With stunning backdrops and diverse plant varieties, Scotland has gardens to inspire and delight. The climate, plant collectors and creativity combine to create the Scottish gardening adventure*'. Their market survey showed that in 2005, in addition to visiting the gardens at the stately homes and castles, there were over 2.25 million visits to the major botanic and private gardens

Royal Botanic Gardens Edinburgh:⁵ are an important tourist attraction: 'For the majority of the Scottish population, the Garden is primarily a visitor attraction. Approximately 700,000 visitors were received at the Edinburgh Garden and an additional 94,000 in the regional Gardens in 2003/04, making RBGE the second most visited free attraction in Scotland.'

National Trust for Scotland: The Trust's gardens are major visitor attractions either in their own right or as adjunct to houses both great and small. Local people and members of NTS will often visit gardens several times during the year.

² Garden Retail Monitor 2004 P9 pro rated from £5B for UK

³ HTA gardeners profile

⁴ www.visitscotland.com

⁵ www.rgbe.org.uk Review

Scotland's Gardens Scheme opens approximately 375 gardens to the public as a means of raising funds for other charities. Most of the gardens are private and are not otherwise accessible to the public and in excess of 100,000 people visit these gardens each year.

The Calyx is planned as '*a stimulating, exceptional living landmark in Perth celebrating our natural environment in Scotland through a magnificent garden and community visitor facility*'. A recent study indicates the Calyx⁶ could have £21M of economic impact per annum to the Scottish economy. The Perth & Kinross Council (PKC) Community Economic Development Strategy states that the tourism sector is crucial for the economic cohesion of the region .

Edinburgh World Heritage , *opens 40 private gardens, parks, allotments and hidden urban green spaces free to the public. This is the only event of its kind in the UK, aiming to put the importance of Edinburgh's green spaces for recreation, health, biodiversity and heritage on the agenda.*' Last year it attracted over 20,000 visitors.

Gardens Shows: Around 35,000 people visit the Gardening Scotland⁷ exhibition at Ingilston. It is a major horticultural show featuring over 400 exhibitors. Other major shows take place in Ayr, Dundee and Glasgow.

2.4 Local Food Schemes

Community Food and Health (Scotland)⁸ highlights the economic benefits of healthy diets to people on low incomes and supports local food schemes. Large gardens such as some of those owned by NTS, allotments and community gardens have the potential to become 'productive gardens' in the sense in which many of them were originally envisaged as part of the food economy of a family home. The Economic benefits⁹ of local food schemes include

- keeping money in the local economy
- local economic regeneration
- ensuring 'added value' goes to the producer
- reversing the decline of rural services and depletion in food and farming physical infrastructure
- increasing sustainable enterprise and job creation
- supporting small business and community enterprises

2.5: Slow Food Movement

Scotland has the potential to be one of the most vigorous contributors to the Slow Food Movement¹⁰ that combines pleasure and food with awareness and responsibility. Links between this movement and the gardening community are proving fruitful. It should be another strand in the Government agenda for healthy eating and diet awareness.

2.6 Plant for Life

Financed with assistance from the European Union the HTA Plant for Life campaign, is promoting the health benefits of planting and gardens and encouraging more consumers to buy plants and other growing stock. Growing stock is worth almost 50% of horticultural sales and current estimates indicate a 20% increase is possible.

2.7 Networks of Plant and Seeds Sources in Scotland

There are a number of specialist nurseries and growers in Scotland, which benefit visitors and the local economy. For example nineteen nurseries and gardens have joined together in Dumfries and Galloway¹¹ - '*Dumfries & Galloway possesses some of the loveliest gardens in Scotland, both large and small, along with a wide range of specialist nurseries which, together provide a mecca for the garden lover.*'

⁶ www.thecalyx.co.uk

⁷ www.worldeventsguide.com

⁸ www.communityfoodandhealth.org.uk

⁹ www.localfoodworks.org

¹⁰ www.slowfood.com

¹¹ www.scotlands-garden.org.uk/

2.8 Small scale projects with native Scottish plants:

A scoping study¹² for the Scottish Executive in 2001 “Flora Celtica: Sustainable Development of Scottish Plants” examined the current commercial use of native Scottish plant resources, the potential for their development, and the implications for biodiversity conservation, environmental management and sustainable development in Scotland. It noted that *‘businesses are small or medium sized. They are numerous and widespread, and in many cases source their raw materials or base themselves in areas where other employment options are limited.’ There is a great opportunity for plants and artifacts to be grown or made in Scotland.*

2.9 Orchards:

Orchards are being introduced in schools¹³ and local communities¹⁴ across Scotland. Apples have been grown since Roman times and more than 40 varieties are known in Scotland. Seven varieties of pear and two varieties of plum have been recorded. With the interest in local food and heritage varieties there is a growing economic opportunity in this area.

Section 3: Jobs - Gardening and the employment sector.

3.1 Introduction:

In ‘Choosing our Future –Scotland’s Sustainable development strategy 2005 -Building a strong sustainable economy’ the section on Green Jobs targets waste management, recycling and renewable energy as priority areas but NOT gardening. We believe that gardening and all employment associated with the gardening sector should be recognized and supported as green jobs.

The policy ‘People and Place: Regeneration Policy in Scotland’ is expected to help create thousands of new jobs, homes and business opportunities.¹⁵ The First Minister said “This is about people and the places they live in. I want all parts of Scotland to share in prosperity and enjoy a better local environment.”. Parks, gardens, allotments, orchards, botanic gardens and city squares are cherished by the citizens of Scotland and are essential for their health and well being. Cultivated greenspaces are central to any vision of a sustainable future. All provide business and employment opportunities needing trained horticulturalists, committed gardeners and knowledgeable supporters.

3.2 Employment in the Horticultural Trade sector.

The horticultural industry is one of the largest employers in the UK.¹⁶ There are a huge number of careers available. The Institute of Horticulture¹⁷ careers web site lists over 50 education and training choices for careers directly associated with horticulture, from gardeners and seed growers to botanists and journalists.

3.3 Employment in the Public sector

The number of gardeners and support staff employed by local Councils has declined catastrophically since compulsory competitive tendering was introduced. This has also affected the number of apprentices trained in Scotland’s local authority parks. CABA¹⁸ research found that successive local government restructurings led to the parks department becoming a sub-section of a larger department - anywhere from leisure to cultural services to street cleaning. Parks are neglected and usually uncompetitive within the Directorate for funds. Career prospects are rated as poor, very poor or non-existent by 54% of respondents. Around 60% of staff have been in the same post for more than ten years. ‘Better pay, prospects and a recognizable career progression would be invaluable in recruiting higher caliber staff’. CABA notes that ‘The public perceives this work (gardening) to be low skilled, mundane, menial and boring; in short not a stimulating career. However in fact an impressive range of

¹² www.scotland.gov.uk/cru/kd01/orange/sdsp-02.asp

¹³ Herald article on John Hancox

¹⁴ Newburgh orchards

¹⁵ www.scotland.gov.uk/News/Releases/2006/02/28123144

¹⁶ www.rhs.org.uk

¹⁷ www.horticulture.org.uk

¹⁸ Parks need People The skills shortage in parks. CABA research document

activities such as working with people, nature conservation, horticulture, education, ecology are undertaken by park staff. This highlights the absurdity of treating the management of parks as if they involved similar contractual tasks to street cleaning, verge maintenance and refuse collection'. The CABI research is also relevant to the perception of horticultural employees on estates such as those Universities, hospitals, schools and prisons that have extensive grounds. It highlights the opportunities for using horticultural skills to deliver sustainable communities.

3.4 Employment and volunteering in non-government organizations:

Actual numbers of people directly employed on gardening activities in non-government organizations are small although the Royal Botanic Gardens in Edinburgh employs over 200 staff¹⁹ and the National Trust for Scotland is a significant employer including Head Gardeners, Gardeners, Advisers; Managers, Rangers and Central Office staff together with seasonal employees and a large number of volunteers. Indeed there are many volunteers associated with the groups, for example Scotland's Garden Scheme has a team of two employees and 200 volunteers. There are 7 community farms and over 100 community gardens in Scotland and these numbers are growing rapidly. It is estimated²⁰ that City Farms and Community Gardens employ approximately 100 paid staff, 4000 volunteers and have a turnover of £5M. Therapeutic gardening projects can deliver important parts of the Improving Health in Scotland, Strategy with potential for growth and associated employment.

These organisations all support the horticultural trades and there is a large opportunity for growth across the sector.

3.5 Education and Training:

In section 7 we detail courses available in the Education sector. However several organizations including the HTA have reported a high demand for skilled workers, but a low number of students entering training. Many institutions have ceased to offer courses in horticulture.

Eco-schools (see Section 7) are growing very rapidly with 90% of all schools taking part. Teachers who may have no experience in growing and propagating plants, biodiversity and sustainable systems need help and training if this expansion is to be maintained.

The voluntary sector is seriously involved with gardening and training particularly for disadvantaged groups. However there are reports across the gardening sector of lack of opportunities for professional training and continuing professional development.

Jobs associated with Horticulture:

Agricultural Workers, Agronomist, Aqua-culture Technician, Arborists, Archivist and Museum Technicians, Biochemists, Biological Scientist, Biologist, Botanical Technician, Botanist, Biophysicist, Plant Pathologist, Environmentalist, Seed Grower, Conservation Worker, Conservation Scientist, Crop Production Advisor, Crop Scientist, Ecologist, Entomologist, Geo-scientists, Farmer and Farm Manager, Farm Hands, Floral Designers, Florist, Forest Service, Fruit Grower, Gardeners, Groundskeepers, Turf Management, Habitat Restoration, Specialist Horticultural Assistant, Horticultural Scientist, Horticultural Technician, Horticultural Therapist, Trades-person, Irrigation Specialist, Landscape Architect, Landscape designer, Landscape Gardener, Lawn Care Specialist, Nursery and garden centre managers, Nursery Assistant, Nursery Manager, Nursery Workers, Oenologist, Ornamental Horticulturalist, Park Naturalists, Pest and Weed Controller, Plant Breeding Technician, Plant Geneticist, Ranger, Silviculturalist, Tree Service Technician, Urban and Regional Planners, Viticulturist, Journalists and writers.

¹⁹ www.rbge.org.uk

²⁰ Pro rata from the total UK figures of 1000 paid staff, 36,000 volunteers and a turnover of £50M- Federation City Farms and Gardens.

Section 4 Health and Well being - Gardening and the Health of the Nation.

4.1 Introduction

In the policy document 'Improving Health in Scotland – The Challenge' there are three areas highlighted in which gardens and gardening could have a far stronger role.

- **Physical Activity.** *'The Active Schools programme is being developed so that pupils have more opportunities to adopt active lifestyles'*. The active schools programme includes activities such as walking and cycling to school; active play; organised activities, such as sports, dance and outdoor adventurous activity; physical, health and environmental education. This work cross-cuts a range of Departments/areas (transport, health, education, sports and arts, planning etc) and also involves a wide range of agencies and non-departmental public bodies. However in this section there is NO mention of gardening although all forms of gardening are moderate exercise and enjoyed by half the population including all ages, ethnic groups and abilities.

- **Healthy Eating** *'Eating for Health identifies action across the food chain to promote the consumption of healthy diet and food choices'* the recommendations concentrate on planning in terms of food affordability, availability, culture and skills. It does not promote networks of government and voluntary organisations that would bring together the gardening sectors to enable local people to grow and eat their own food. Eating fruit, vegetables and herbs from the garden promotes a healthy diet and is likely to reduce the incidence of many serious diseases that affect the Scottish population.

- **Mental Health and Well-being** *'The National Programme for Improving Mental Health and Well-Being Action Plan'* Gardens are not specifically mentioned in this action plan. There is a lack of recognition of the more profound and transformative changes that gardening can bring. Forty percent of Scottish therapeutic gardening projects are mental health projects and recognise that physical and mental health are inextricably linked. One of the most frequent comments people give for choosing gardening activity is that helps them to combat stress.

Promoting horticulture and supporting the provision of new allotments, community gardens and therapeutic gardens would have a very large effect on the health and well being of the nation.

4.2 Diet, physical activity and health:

Health is high on the Scottish agenda, and even in 1994 the Scottish Office said *'Premature death in Scotland is twice as likely as in many Western European countries. The bulk of the problem relates to heart disease, stroke and cancer: these account for 65% of the premature deaths in men and 66% in women. Many of these diseases have a clear nutritional basis or are promoted by an inappropriate diet.'*²¹ *Scots have one of the lowest vegetable and fruit intakes in the Western world, a high proportion of children eat neither green vegetables nor fruit; up to a fifth of men and an eighth of women also fail to eat green vegetables.'*

Eating for Health 2004²² noted that *'good nutrition can help to reduce the prevalence of many common diseases in Scotland today including cardiovascular disease, cancer, diabetes, obesity and osteoporosis.'* However the recommendations from this document concentrate on planning in terms of food affordability, availability, culture and culinary skills, and does not take on board the WHO Global Strategy²³ that postulates *'Diet and physical activity influence health both together and separately.'* recommending that *'Civil society and nongovernmental organizations can form networks to promote the availability of healthy foods and possibilities for physical activity and advocate and support health-promoting programmes and health education campaigns.'*

Food accounts for a greater proportion of low income households' spending, and furthermore some studies have shown that a healthy diet costs over 50% more than an unhealthy one, with expenditure on fruit and vegetables accounting for most of the difference²⁴. It should be noted that a traditional allotment plot of 167m² can supply the vegetables and fruit for a family of four all year and reduce household expenditure on food while dramatically improving their diet .

²¹ www.healthscotland.com Scotland's Health: A Challenge to Us All – The Scottish Diet (Scottish Office, 1994).

²² Eating for health 2004 Published by the Scottish Executive, June, 2004

²³ WHO Global Strategy- diet, physical Exercise and health 2004

²⁴ Dept Health 2001 Influences on fruit and vegetable consumption

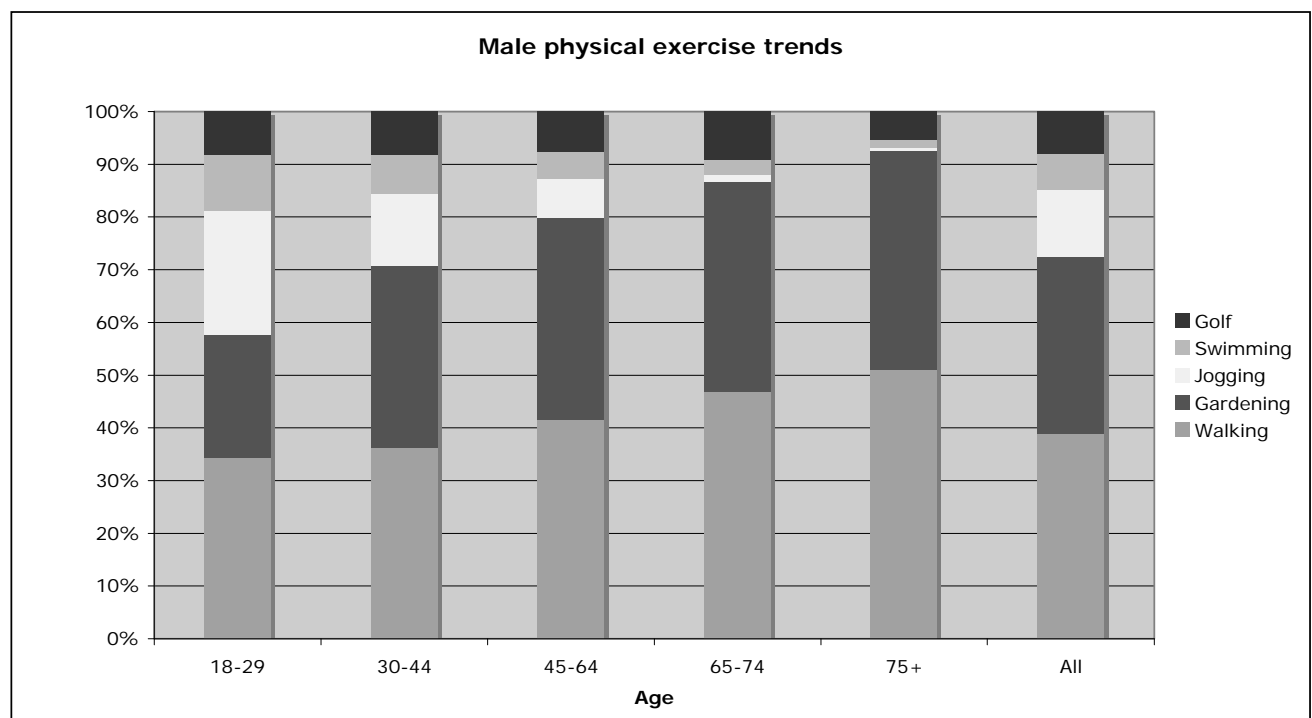
4.3 Evidence of the value of gardening as physical exercise²⁵:

Current Department of Health recommendations are that adults should participate in 30 minutes of moderate physical activity on at least five days per week and that all young people should participate in physical activity of at least moderate intensity for one hour a day. Gardening and conservation work offer a range of activities of moderate activity that can suit any level of fitness. Compared with walking and cycling they also involve upper body strength.

- The cost of physical inactivity to the economy in Scotland is £820M per year.
- For a 1% decrease of inactive Scots, 157 deaths per year would be prevented, saving £85M in lost years.
- For a 1% decrease of inactive Scots, hospital admissions would fall by 2,231 cases per year saving £3.5M. In the US it has been calculated that every \$1 invested in physical activity leads to a \$3.2 saving in medical costs.
- Up to 37% of CHD (Coronary Heart Disease) deaths in the UK are due to a lack of physical exercise.
- Moderate physical activity and weight loss can reduce the risk of developing diabetes by 60% in high risk patients and 50% in the general population.
- Physical Activity is associated with reduced cancer risk - 40/50% for cancer of the colon, and 30% of breast cancer.

A Population Study in Finland on Physical Exercise and Psychological Well-Being²⁶ found that that individuals who exercised at least two to three times a week experienced significantly less depression, anger, cynical distrust, and stress than those exercising less frequently or not at all. Furthermore, regular exercisers perceived their health and fitness to be better than less frequent exercisers did. Finally, those who exercised at least twice a week reported higher levels of sense of coherence and a stronger feeling of social integration than their less frequently exercising counterparts.

Chart 4.1: Patterns and Trends in Physical Activity²⁷



The results for Female Physical activity trends are broadly similar showing the importance of gardening as a physical health activity.

²⁵ Extracts from Natural Fit Chapters 5/6/7 report by Dr William Bird for the RSPB

²⁶ Hassmén P; Koivula N.¹; Uutela A. Preventive Medicine, Volume 30, Number 1, January 2000, pp. 17-25(9)

²⁷ Centers for Disease Control and Prevention, National Center for Health Statistics, NHIS, 1991

4.4 Community Health projects:

There are many gardening initiatives associated with improving health:

- **Green Gyms** are organized by BTCV. There are 15 Green Gyms across Scotland and last year over 1500 people participated in the activities.. They meet once a week to work together on improving local green spaces. This provides opportunities for exercise and the development of social networks. Green Gyms are endorsed in the Public Health White Paper “Choosing Health”²⁸.
- **Growing initiatives** support a variety of projects such as a community café growing its own herbs, primary school pupils with their own small plots and city farms. The Scottish Community Diet Project appraisal²⁹ discovered almost two hundred groups undertaking over four hundred activities around food, from food growing and distribution to catering and retailing all driven by varied and often intertwined agendas, particularly health, food standards and environmental concerns. For example local people with help from BTCV Scotland and the North Glasgow Food Initiative tend an allotment plot. They grow food plants from many countries and this involvement has helped to attract people from a wide range of backgrounds to the project. Anna Franklin, the BTCV Scotland officer said “the allotments act as a lung for the local community. The allotments are a place where people can escape everyday stresses and social barriers”.
- **Drug rehabilitation**³⁰: The television presenter Monty Don is tackling drug addiction by involving a group of drug users, who want to quit, in working on a small holding. Monty believes the earth has the power to heal: “if we, as individuals and as a society, respect and care for the ground that we stand upon and everything that grows in it, then we shall all be happier as a result.”. He believes the garden teaches responsibility, and gives a sense of achievement, ‘you’re part of a team and no longer feel isolated.’ By learning to respect the land, the plants and the animals around them the drug users can learn to respect themselves and each other, and this helps to break the drug addiction.
- **Asylum seekers**: CSV, the UK’s largest volunteering charity, is using garden and allotment projects to help refugees and asylum seekers deal with the traumatic experience of their persecution.³¹ ‘Garden and allotment volunteering projects provide a safe and tranquil setting in which asylum seekers and refugees can deal with the difficulties of their personal situation.

4.5 Therapeutic gardens:

In Scotland around 3000 people every week participate in gardening activities designed to benefit their health, well-being and life opportunities. There are 121 projects in prisons, day centers, schools and hospitals. Gardening can be used as a route to gaining work and social skills, a way to improve fitness, a stress-relieving antidote to mental ill-health, and an important component of neurological and social rehabilitation projects. It is a flexible, low cost and ‘normal’ activity adaptable to almost any setting, from a window box to a several acre farm.³² –

The Fischers Alzheimers research centre³³ “*Therapeutic gardens, specially maintained gardening facilities that help people remain connected with nature, provide benefits for a wide variety of people who are ill or recovering from illness, or from surgery, for those who are undergoing physical rehabilitation and for individuals with Alzheimer's disease who are living in special care residences or who are living at home. Research indicates that physical as well as visual access to nature helps people recover from illness quicker, reduces stress and lowers blood pressure. Spending time outside helps a person maintain circadian rhythms (the sleep/ wake cycle). There is also natural absorption of vitamin D when exposed to sunlight for brief periods of time, which is important for maintaining strong bones. A therapeutic garden can provide exercise... Access to outdoor environments, in specially designed gardens can be beneficial to the physical, social, psychological and spiritual health of a person..*”

²⁸ “Choosing Health” Dept of Health, November 2004

²⁹ ‘Just Add’ Scottish Community Diet project 2002

³⁰ <http://ezinearticles.com/?Growing-Out-of-Trouble&id=375574>

³¹ <http://www.csv.org.uk>

³² Trellis

³³ [http://www.alzinfo.org/index.aspAlzheimer's Therapeutic Activities](http://www.alzinfo.org/index.aspAlzheimer's%20Therapeutic%20Activities)

Section 5: Local Communities -Gardening and sustaining local communities..

5.1 Introduction

The mission statement of Communities Scotland is ‘*to improve the quality of life for all people in Scotland by fostering sustainable and healthy communities that are attractive, vibrant and safe.*’

Where they exist, allotment and gardening associations are important contributors to the local communities. The power of gardening, harnessed through community and therapeutic garden projects and on allotment sites brings wide-ranging benefits for diverse groups of people, especially some of the most disabled, marginalized and disadvantaged in our communities.

The draft consultation document for the Scottish Planning Policy 11 (SPP11)³⁴ states ‘*Areas for horticulture, such as allotments, can be of great value to the local community and offer benefits for the environment. They create an opportunity for local food production, encourage physical activity and healthy eating, offer a place to relax and to learn, and contribute to local biodiversity.*’

In 'Choosing our Future –Scotland's Sustainable development strategy 2005' section 7 'Supporting thriving communities' states ‘*The quality of our local environment can have a major impact on the well-being of individuals and the wider community*’ However this document does not explicitly mention the contribution gardens and gardening can make to local communities. Section 8 Making the Links Environmental Justice states ‘*priority to improving the quality of life of individuals and communities in Scotland, securing environmental justice for those who suffer the worst local environments*’ This section mentions Greenspace ‘*providing parks and greenspaces, making neighbourhoods healthier and more attractive places to live and work*’. Again it does not mention the contribution of gardens and the importance of the opportunity to garden to social justice and improving the worst neighbourhoods. These omissions highlight the lack of awareness about the major contributions that gardens and gardeners can make to sustainability.

Learning For Our Future: ‘Scotland's First Action Plan for the UN Decade of Education for Sustainable Development’ highlights a joint project with BTCV Scotland to explore the benefits of environmental volunteering. It supports ‘*the strong tradition of community action involvement in Scotland by developing learning and engagement in sustainable development at community level.*’ As will be shown, many organizations engaged with the gardening sector support volunteers at all levels. These activities need explicit recognition in government policies.

5.2 Community Gardens in Scotland

The Federation of City Farms and Community Gardens (FCFCG) map of ‘Community Gardens and Farms in Scotland’³⁵ shows 37 projects across Scotland that range from a small rural garden at Hillswick Health Centre in Shetland with medicinal plants, traditional flowers and drystone dykes to The Hidden Gardens in Glasgow which is both a sacred garden and a community resource offering rest, relaxation and inspiration to a multi-cultural urban population. There are over 100 similar projects in Scotland involving over 250,000 people a year as visitors and volunteers. Some offer training in horticultural and life skills, others have playparks and cafes, some operate vegetable box schemes and garden centres, while others run popular schools education schemes. Scotland's community gardens are all different, reflecting the unique needs of their local communities.

5.3 Allotments

The benefits of allotments to the community are well summed up in the introduction to the Edinburgh City Council Allotment Strategy 'Cultivating Communities'³⁶ ‘*Allotments are a unique urban resource. Allotment gardening provides the opportunity for a year-round healthy life style which is active, socially inclusive and which reflects upon the ideals of sustainability and well-being. ...They represent an important opportunity for community interaction where social and other boundaries can be overcome.*’ⁱⁱ ‘As an exemplar of this belief, the Council has just opened a new allotment site - Bridgend Allotments are situated in the Craigmillar district of Edinburgh, an area of multi-deprivation with all the associated problems and, until now, few

³⁴ www.scotland.gov.uk/Publications/2006/08/10134711/0

³⁵ www.farmgarden.org.uk/scotland

³⁶ 'Cultivating Communities' City of Edinburgh Council 2002 P 7

residents had access to garden on any scale. Traditionally, allotments have been seen as merely benefiting the individual plotholder. However, this innovative project recognised the potential to make wider links with the local community; there are community plots which take referrals from local health providers, plots adapted for disabled people, and a demonstration garden run by the Royal Caledonian Horticultural Society.

In Glasgow, Holmlea Gardens (Allotments) Association obtained a Scottish Community Research Fund (SCARF) grant³⁷ to engage with the local community to determine how to maximise the potential of the allotment site. They focused on issues relating to sustainability and inclusiveness, with a view to increasing opportunities for people to garden locally, through the development of both the site and the organisation. Through a process of consultation the Allotments are being seen as an integral part of the local community.

The WHO publication 'Shaping Neighbourhoods - a guide for health, sustainability and vitality'³⁸, states 'Allotment initiatives are especially useful in increasing public participation and helping to combat social exclusion. Allotments are accessible to all social groups, and are widely used to grow food by the elderly and other people on low incomes.'

5.4 Allotments and asylum seekers.

CSV³⁹, states that the current asylum process prevents those waiting for a decision on their refugee status from working, contributes to isolation and disrupts integration into the local community. The benefits of gardening and allotments for these people is described in a project at St Annes Merseyside⁴⁰ in which Asylum Seekers and Refugees tend two plots on a local allotment site. This provides many opportunities for them to get better acquainted with their surroundings: they are able to practice their English, make new friends, learn new skills and pass on their knowledge. They have meaningful and productive activities to fill their time. The asylum seekers found that *'one of the most surprising things at the allotment has been our warm welcome. When the rest of the country seems to be up in arms against Asylum Seekers we have found a small haven of relative calm.'*

5.5 Garden Clubs and Horticultural Societies

There are over 300 gardening clubs in Scotland⁴¹ and their popularity is growing with a 28% increase in 2006⁴². The Royal Caledonian Society recognizes and promotes horticultural excellence through national events and training. The Scottish Gardeners' Forum focuses on societies, fostering co-operation among general and specialist horticultural and gardening societies. It holds a Registers of Scottish Horticultural Societies, Speakers on Horticultural Subjects and Judges all of which are important in creating a vibrant community of gardeners.

5.6 Volunteering

Volunteers contribute to the administrative duties of many allotments garden societies and they contribute much time, energy and expertise to their local gardening communities.

National gardens, community gardens and plots on individual allotment sites provide excellent opportunities for volunteering and NTS, BTCV, RCHS, RBGE, FCFCG and Trellis all support large volunteer groups engaged with practical aspects of gardening. For example the Royal Botanic Gardens Edinburgh work with volunteers who make a significant contribution to the Garden. *'The Gardens offer sheltered placements, in conjunction with a national charity, to individuals to assist with their social integration and provide opportunities for the charity's client group to undertake voluntary work, possibly as a step towards finding employment. They also provide mini-allotments for school children to stimulate their interest in and understanding of mainly edible plants and to understand the concept of conservation and its importance and relevance.'*

³⁷ Holmlea Gardens (Allotment) Association – contact Glasgow City Council allotments officer

³⁸ "Shaping neighbourhoods - a guide for health, sustainability and vitality" Baton, Grant and Guise Spoon Press 2003 ISBN 0-415 29009-4 Published under the auspices of the World Health Organisation – Healthy Cities Movement

³⁹ www.csv.org.uk

⁴⁰ www.operation-eden.org.uk/documents/AsylumLinkUpdate2006-July.pdf

⁴¹ Scottish Gardeners Forum data

⁴² Dobbies Garden Centres plc ^ Annual Report and Accounts 2006)

Section 6: Education- Gardening and life-long learning.

6.1 Introduction

'Learning For Our Future: Scotland's First Action Plan for the UN Decade of Education for Sustainable Development' highlights the *'major opportunity to strengthen the contribution that education for sustainable development can make'*.

Sustainable development is part of the *Ambitious, Excellent Schools* programme in which the Scottish Executive pledges to continue to support the development of the Eco Schools Programme and *'raise the profile and uptake of outdoor education as a whole school approach which can effectively knit together many of the strands of sustainable development in a rich learning environment.'* It notes that

- *'Universities clearly have a key role in developing knowledge, understanding and professional skills among learners and the wider community'*
- *there is still much work to be done to develop routes for learning about, and engaging with, sustainable development outside the formal education system*

Gardens, including school, local community gardens and allotments provide numerous opportunities for imparting practical gardening skills, increasing the knowledge of horticulture and biology and training observational techniques. In the professional sector there is a need to increase the training opportunities available for horticulturalists⁴³. For amateur gardeners there are a lack of workshops and seminars.⁴⁴ In the school sector there is a need to include gardening opportunities in all Eco-school programmes and ensure that teachers are properly supported.

6.2 School Gardens:

*'Children in primary schools and secondary schools as well as students of universities should be given the opportunity to participate in gardening and human-scale farming so that they become familiar with the natural world. If every school can have a playground, why can it not also have a garden?'*⁴⁵

In 2006 almost 90% of the primary and secondary schools in Scotland registered with the Eco Schools programme.⁴⁶ Part of this programme may involve developing a school garden *'A school garden is a special place for the young to explore and discover the natural world, playing creatively and imaginatively.. a space that has secret and magic places where the children can dream, walk, sit, picnic, run through, touch, marvel at the colours and smell of plants. A garden bringing life, colour and song, where the children, their families and local people can relax and enjoy their surroundings'*⁴⁷

In some schools, gardens are being integrated into the educational curriculum to teach children not only about plants, nature, and the outdoors, but about history, economics, poetry, and maths as well. Curricular links with the school gardens are made in home economics, biology, guidance/ geography, art & design, and the technical courses. Duchy Originals Garden Organic for Schools currently have 48 primary and 11 secondary schools in their programme⁴⁸.

However teachers who may have no experience of gardening activities, encouraging biodiversity and maintaining sustainable systems need help and training if these kinds of initiatives are to flourish.

6.3 Continuing Professional Development (CPD) courses for teachers:

In Scotland the Royal Botanic Gardens Edinburgh⁴⁹ deliver the Royal Horticultural Society's Continuing Professional Development (CPD) Programme⁵⁰ for teachers, support staff, school governors and others who are involved in teaching and inspiring children about plants and gardening. A wide range of topics are available, encompassing the use and development of school grounds, providing practical experience, activities and ideas for utilising horticulture in all areas of the

⁴³ see Section 2

⁴⁴ see Section 7.5

⁴⁵ Satish Kumar, Editor resurgence magazine

⁴⁶ www.ecoschoolsscotland.org

⁴⁷ Cowgate Under 5's Centre Edinburgh

⁴⁸ Garden Organic www.gardenorganic.org.uk.

⁴⁹ www.rbge.org.uk

⁵⁰ www.rhs.org.uk/learning/education/documents/cpdprogramme2006-07.pdf

curriculum. In 2003/04 more than 10,000 school students visited the Garden. CPD workshops and in-service training were provided for nursery, primary and secondary school teacher and 12 secondary school teacher placements are offered in the specialist courses

6.4 Volunteer training

Several community farms and gardens run accredited training with their volunteers, many of whom have learning difficulties. Eg: NPTC or Skills Accreditation with Borders College. BTCV Scotland run 15 Green Gyms, a Numeracy & Literacy horticultural programme in Ayr, Highland Youth Environment Programme in Inverness, and Jupiter Wildflower nursery in Grangemouth. Horticulture offers real opportunities for people (especially young people) who are classed as NEET (Not in Education, Employment or Training).

Adults and young people find out how to grow their own vegetables through volunteering. Many volunteers also undertake formal training, perhaps even at SVQ level, with a view to working in the horticultural industry. In this way community gardens play an essential role in passing on horticultural knowledge and skills to a wide and varied audience, many of whom might not have become involved in gardening through other routes

6.5 Examples of Further Education and Training:

The School of Horticulture with the Scottish Agricultural College runs a HND/BSc (Hons) course in Horticulture with Plantsmanship; the RHS Level 2 Certificate in Horticulture, and a new part-time Diploma in Garden Design. There are also plans to expand the range of professional horticulture courses in the future. The Science Division of the RBGE is responsible for a full time, one year MSc programme in Biodiversity and Taxonomy in conjunction with the University of Edinburgh. It also provides supervision and facilities for PhD students. The Threave School of Practical Gardening offers a one year contract for students on ND, HND and degree courses who require a sandwich year of practical experience, or for those students seeking a post course experience of structured tuition. The Royal Caledonian Horticultural Society has a series of training events and workshops. The Calyx project⁵¹ has developed a partnership with Perth & Kinross Council and Perth College to build a working glasshouse that will enable their staff and volunteers and students to use its lecture facilities along with courses and demonstrations for the general public.

6.6 Gaps in training:

However there are fewer and fewer people who have appropriate skills.⁵² The Horticultural Trades Association (HTA) has identified a shortage of skills in the sector, a high demand for skilled workers, but a low number of students entering training and a need for improvements in the quality of training available. The opportunity for employment in this sector is immense and should be reflected in the school curriculum, government training schemes and specialist courses. COSLA could be asked to develop training standards and degree courses for practitioners in the gardening sector just as it has for public health officers in local authorities.

The CABE research document (op cit) identified an urgent need for a structured framework of CPD for workers already in the sector as well as apprenticeships and school work experience placements. *'At the managerial level there is a clear need identified for training in strategic thinking, vision and leadership across the sector'* There is a deficiency in specific skills at all levels within the sector attributed to lack of apprenticeships and provision of more than short, basic mandatory training (e.g. health and safety). The HTA review shows that only 6% of people with somewhere to grow plants described their knowledge of gardening as very good and even of those rated as keen gardeners only 26% were in this category. 28% felt their knowledge was 'not very good' and 17% felt it was poor. An interesting figure indicating 'barriers to gardening' is that 16% of respondents stated they would do more gardening if they knew more about it or got better results. These statistics highlight the opportunities for improving gardening skills from cradle to grave.

⁵¹ www.thecalyx.co.uk

⁵² Parks need People The skills shortage in parks. CABE research document

Section 7: Biodiversity - Gardens and biodiversity.

7.1 Introduction

An aim of the Biodiversity Strategy 2004⁵³ is to ‘*increase awareness, understanding and enjoyment of biodiversity and engage many more people in conservation and enhancement*’. Gardening is a way in which people can become involved in, learn about and contribute to increasing local biodiversity.

The BUGS (Biodiversity in Urban Gardens) project⁵⁴ gathered basic information on 250 gardens in Sheffield revealing that 14.4% of these had ponds and 48% had trees. This indicates that the pond density in urban areas is now greater than that in rural areas. In addition, mean garden size was found to be 151m²; with extrapolation gardens are therefore estimated to cover 23% of the urbanised area of Sheffield. In the absence of similar studies conducted in Scottish cities, but with broadly similar findings elsewhere in the UK, these figures could be tentatively applied to Scottish urban areas. With increasing interest in wildlife gardening,⁵⁵ garden areas could become even more important habitats for biodiversity.

7.2 Ponds

Ponds are known to be among the best habitats for wildlife, and are present in many gardens, while declining in the wider countryside – around 1 million ponds have been lost throughout the UK in the last one hundred years⁵⁶. When garden ponds are designed for the benefit of wildlife, and planted with native species, they will provide habitat for declining species such as amphibians and for those invertebrates that have specific relationships with native plants, such as China-mark moth caterpillars feeding on Broad-leaved pondweed (*Potamogeton natans*). Even newly created ponds can become as species-rich within 3 or 4 years as some 50-year-old ponds, and some insect species can fly into a new pond habitat within hours⁵⁷. In rural areas garden ponds can be important for UK Biodiversity Action Plan species such as the water shrew⁵⁸. Ponds are also important as an educational resource⁵⁹. They are among the most useful habitats to study for Biodiversity action plans, cycles of life, food chains and habitats as well as having curriculum links to Mathematics, Geography, English, History,⁶⁰

7.3 Butterflies and moths

Some of Scotland’s butterflies and moths are in serious decline due to the destruction of their habitats and unsympathetic land management. Thus gardens are becoming increasingly important in the conservation of some species of butterfly and moth. Anyone with a garden, no matter its size or location, can encourage butterflies, moths and other wildlife. Most gardens, even quite small ones in built up areas, are able to attract several species of butterflies provided the right plants are grown and the right conditions created. All stages of a butterfly’s lifecycle can be provided for in a garden environment and this encourages other wildlife as well. Butterflies and moths are attracted to gardens planted with suitable nectar-rich flowers as well as food-plants for the caterpillars. The more types of nectar-producing plants are grown, the more species of butterflies and moths are attracted.

As an example of the impact gardens may have, two of the most rapidly declining moth species (the V moth and the Spinach) utilise currants as their caterpillar food-plants, and it is thought their decline may be due to fewer people growing these in their gardens as well as greater use of insecticides. The presence of butterflies in gardens, as well as simply being a delight, can provide a clear indicator that lots of other creatures are also likely to be present and that the environment is relatively healthy.

⁵³ www.scotland.gov.uk/library5/environment/sbiyh-00.asp

⁵⁴ Gaston, K.J., Smith, R.M., Thompson, K. and Warren, P.H. (2004) Gardens and Wildlife – the BUGS project. *British Wildlife* 16 (1): 1-9

⁵⁵ J. Trotter, pers. Comm. To Suzanne Cooper

⁵⁶ Pond Conservation Trust, 2003

⁵⁷ Pond Conservation Trust, 2001

⁵⁸ Carter, P. and S. Churchfield (2006) *Distribution and habitat occurrence of water shrews in Great Britain* Environment Agency Science Report SC010073/SR

⁵⁹ <http://www.ehsni.gov.uk>

⁶⁰ <http://www.cornwallwildlifetrust.org.uk>

7.4 Hedges are another traditional feature of the countryside that has declined dramatically⁶¹ Hedges in gardens often are quite formal and use non-native species, but where a more relaxed approach to their management takes place, and native species such as holly, hazel and hawthorn (this last having around 150 associated insect species) are used then their benefits to wildlife increase. Over 1500 insect species have been recorded in hedgerows.⁶² Habitat and food for birds, mammals and other invertebrates is also provided, and the semi-shade/shade allows the growth of woodland edge plants such as foxglove and primrose, which have additional benefits to wildlife⁶³.

7.5 Fungi can benefit from good grassland or lawn management. In occasional cases where nutrient levels are low, e.g. if the grassy area is managed for wildflowers, the conditions may be ideal for the Waxcap fungi, including the UK BAP species *Hygrocybe calyptriformis* which has been found in gardens in Edinburgh⁶⁴. In a Welsh lawn of less than 0.2ha, 27 Waxcap species were found⁶⁵. Fertile lawns, more typical of urban gardens, are also useful habitat for a number of fungi species such as *Mycena* and *Conocybe* species.

7.6 Species migration and climate change

Changing phenology has attracted much attention recently, increased migration of butterflies to Great Britain⁶⁶ and the northwards movement of plant species such as Bee Orchid (*Ophrys apifera*) is already being seen⁶⁷ This may be caused by climate change. Wildlife habitats with gardens can provide important corridors/refuges for such species, so the potential for appropriately managed gardens to contribute to species conservation is great. In Scotland this is particularly valuable across the Central Belt, as this narrow urbanised area could be a barrier to species migration.

7.7 Enhancing Urban Biodiversity

‘Our cities are in serious need of environmental regeneration. We see a regular image of grey post-war housing surrounded by expensively-mown sterile grass. The occasional young tree dots these prairies, but they tend not to be big enough to encourage birds to nest and they are often non-native species which discourages the rich diversity of invertebrates, lichens and fungi.’⁶⁸

Gardeners and gardening groups can reverse this dismal picture. For example in 2005 members of the Glasgow Allotments Forum, the Scottish Allotments and Society and the Glasgow City Council biodiversity officer wrote a booklet on ‘Allotments and Biodiversity – gardening in harmony with nature’⁶⁹ This was distributed to all plot-holders in Glasgow and used as a template by the Biodiversity officer in Edinburgh to produce 10,000 booklets which were distributed to all libraries, schools, gardening societies as well as all plot-holders in Edinburgh. There are many opportunities for LBAP officers to work with local gardeners to increase the biodiversity of their neighbourhood.

⁶¹ Racham 1986

⁶² http://www.buglife.org.uk/html/conserving_managing_habitats_ancient_hedge.htm

⁶³ Baines, C. (2000) *How to Make a Wildlife Garden*. Francis Lincoln Ltd, London.

⁶⁴ Edinburgh Biodiversity Partnership (2004) Edinburgh Biodiversity Action Plan: 2004-2009.

⁶⁵ Griffith G.W., Bratton, J.H. and Easton, G. (2004) Charismatic megafungi – the conservation of waxcap grasslands. *British Wildlife* 16 (1): 31-43.

⁶⁶ Sparks, T.H., Dennis, R.L.H., Croxton, P.J. and Cade, M. (2007) Increased migration of Lepidoptera linked to climate change. *Eur. J. Entomol.* 104: 139–143

⁶⁷ Braithwaite, M.E., R.W. Ellis and C.D. Preston (2006) *Change in the British Flora, 1987-2004* Botanical Society of the British Isles, London

⁶⁸ www.beehive.thisisnorthscotland.co.uk - Kevin O’Kane

⁶⁹ www.glasgow.gov.uk

Section 8: Environment – Gardens and the Environment

8.1 Introduction

Climate change is considered to be one of the greatest environmental challenges facing the world today. Rising global temperatures will bring changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather events⁷⁰. Climate change is the result of human activity and its impact will be exacerbated by continual change in the Earth's surface --. forests have been cleared, grasslands ploughed and fields covered with houses, factories, motorways and airports. The report on 'Gardening in the Global Greenhouse: The Impacts of Climate Change on Gardens in the UK'⁷¹, suggests that 'By regarding the garden as a microcosm of the wider environment and using it to develop and demonstrate practices which will alleviate and mitigate the adverse effects of climate change, the gardening community has the potential to set an example of good practice which will further increase public appreciation of and support for gardens and which could ultimately alter the course of climate change.'

8.2 Gardens and Climate change

The report (op cit) suggests that gardens and parks are invaluable components in a green web. They support and at times replace the fragile network of natural ecosystems and will have a vital role to play in extending a system of ecological corridors through which wildlife can migrate in response to climate change. Good soil management and maintenance of a healthy plant cover in gardens provide a model which, if reproduced on a national and international scale, will do much to slow the pace of climate change and to reduce its impact.

8.3 Soil management and climate change⁷²:

Soils are significantly affected by climate change. Increase in temperature will increase the rate of loss of soil carbon by oxidation leading to loss of soil structure and reducing permeability, so that intense rainfalls may cause run-off leading to erosion and flooding. Decreased rainfall will slow conversion of soil carbon to carbon dioxide, plants will cease to take up nitrates which will accumulate in the soil and be leached out in heavy rains polluting rivers and lakes. Gardening which involves caring for and covering the soil can help to reduce all these problems and thereby reduce the cause, as well as the impact, of climate change.

8.4 Plants and air pollution⁷³

Airborne particulates and some other types of chemical compound tend to get trapped in the leaves, branches and stem surface areas of plants. Plants are also known to absorb some gaseous pollutants and sequester them in their leaves. Research in Germany has shown that urban streets with trees have only 10 to 15 per cent of the total dust particles found on similar streets without trees.

8.5 Rain Gardens⁷⁴

Covering previously absorbent land surfaces with concrete alters the hydrological balance and exacerbates the severity of floods and droughts caused by extreme weather events. Climate change is likely to intensify the hydrological cycle. Rates of evaporation will increase due to higher temperatures, variability of precipitation will increase (with increases in winter and decreases in spring, summer and autumn), as will variability of run-off owing to more intense rainfall. Stormwater runoff from roofs, driveways and other hard surfaces is typically directed towards the street and into the municipal storm sewer system. This stormwater runoff picks up harmful substances such as road salt, heavy metals and oils, that end up in streams, lakes or other water bodies, where they can harm water quality and aquatic habitat. Gardens can be designed to reduce runoff by use of storage systems and to let stormwater soak slowly into the ground, as it does in nature. When planted, such areas can also provide habitat for

⁷⁰ www.defra.gov.uk/environment/climatechange/index.htm

⁷¹ Bisgrove, R. and Hadley, P. (2002) *Gardening in the Global Greenhouse: The Impacts of Climate Change on Gardens in the UK*. Technical Report. UKCIP, Oxford. www.rhs.org.uk/research/climate_change/documents/climate_technical.pdf

⁷² Bisgrove at al op cit.

⁷³ www.ec.gc.ca/envirozine/english/issues/19/any_questions_e.cfm

⁷⁴ www.cmhc-schl.gc.ca/en/co/maho/la/la_005.cfm

birds, butterflies and other fauna.

8.6 Compost

Gardeners have experience and skill in composting. People with allotments and gardens can compost and then use all their organic waste. This is quite a key time in the development of composting in the light of the new composting targets the Scottish Executive has recently set in the Household Waste Prevention Action Plan. WRAP (Waste Reduction Action Plan) estimate that the current penetration of home composting in Scotland remains low when compared with the rest of the United Kingdom. Several local authorities such as Aberdeen City Council are working with local allotment sites to introduce neighbourhood composts and develop a strategy for community composting for allotments.

8.7 Reducing the environmental foot-print.

Eating food that has been grown locally reduces the environmental foot-print. A government report⁷⁵ in 2005 put the environmental, social and economic cost of food transport at £9bn annually, and pro rating suggests that it costs Scotland about £1bn.

Ten million tonnes of carbon dioxide were emitted in the UK in 2002 as a result of food transportation which accounts for a quarter of all HGV vehicle miles. 29% of the vegetables and 89% of the fruit we eat are imported⁷⁶ and Sustain found that one basket of imported organic produce could release as much CO₂ as a family produces from cooking an evening meal for 8 months.⁷⁷ Travelling to shops for food causes air pollution and accounts for 1% of total UK greenhouse gas emissions⁷⁸.

Growing your own food reduces the waste - estimates suggest that it takes 10 tonnes of raw material to produce 1 tonne of processed food. The remaining 90% is discarded as 'waste', including 12 billion plastic bags and 29 million food and drink cans every year in the UK⁷⁹. UK households produce the equivalent of 245 jumbo jets a week in packaging waste⁸⁰. If you grow your own food you do not have to package it and food packaging is a major environmental issue.

Gardens and gardening could make a significant contribution to reducing our environmental footprint.

⁷⁵ The Validity of Food Miles as an Indicator of Sustainable Development, Department for Environment,

⁷⁶ The Mayor's Food Strategy - www.lda.gov.uk

⁷⁷ Sustain, 1999. City Harvest: the feasibility of growing more food in London.

⁷⁸ Transport 2000 Trust, 2003. Wise Moves: Exploring the relationship between food, transport and CO₂.

⁷⁹ Defra, 2002. The Strategy for Sustainable Farming and Food.

⁸⁰ www.wasteonline.org.uk

Section 9 Regeneration – Gardens and the Quality of Life

9.1 Introduction

The aims of the Regeneration Policy 2006⁸¹ are ‘*the lasting transformation for the better of places and communities*’ and ‘*capturing the unrealized potential of people and places must be at the heart of our approach to regeneration*’. The opportunity to garden is not prioritized in new developments or regeneration schemes yet surveys show that gardening and enjoying gardens is a strong factor in the quality of life for many people. In the past parks have been seen as ‘an embodiment of civic pride bringing economic, social and environmental benefits to people and places’⁸² but today parks and gardens are often neglected by planners and developers.

The Glasgow City Council Local Plan Review 1998⁸³ considering reasons for migration from the city states “...*first priority is buying a bigger house with a garden in a better quality environment*”.

Gardens are also seen as an extension to the home and research shows that a well kept garden can increase the value of a property⁸⁴ by up to 6% - estimated at about £12,000 on the price of the average house in 2004.

Garden areas are often being reduced through new developments and in many areas of Scotland, both rural and urban, people do not have an opportunity to garden. This is especially relevant in areas of multiple deprivation. Planners should ensure that regeneration schemes and new developments contain opportunities for people to garden and recognize that gardens and gardening contribute an important contribution to the quality of life of most people.

9.2 Enjoyment of gardening

The Horticultural Trades Association ‘Gardeners Profile 2006’ found 90% of gardens were well maintained with keen gardeners spending over 9 hours a week tending their gardens and the average spent across all social groups is 2-3 hours. While enjoyment of gardening increased slightly with age the enjoyment reported is almost the same for both sexes and all social groups. These statistics confirm that gardening is an ubiquitous pastime enjoyed by over half the population.

Figure 9.1 Percentage of the population who enjoy gardening



⁸¹ www.scotland.gov.uk/Publications/2006/06/01145839

⁸² ILAM Information Centre Policy Position Statement No 23.

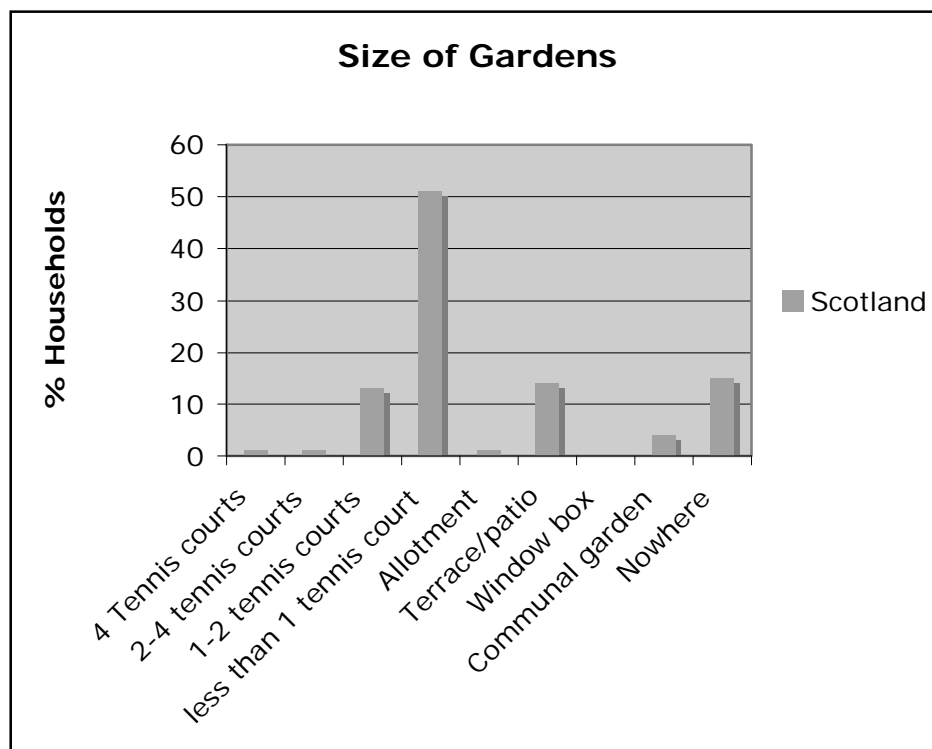
⁸³ Glasgow City Council Local Plan Review 1998

⁸⁴ <http://cms.the-hta.org.uk>

9.3 Availability and size of gardens:

The HTA review highlights the real decrease in the average size of gardens. Part of the reason for this is the high density of new build which results in smaller gardens. Between 1998 and 2005, 5% of current households were new build. In addition many large houses are converted and often the gardens are split between the flats. Finally large gardens in urban or suburban areas are treated as brown field sites creating opportunities for developers to build two or more houses on a site that previously only had one. All these factors contribute to a continued trend in the reduction in the average garden size. The survey shows that half the population has a garden less than the size of a tennis court with 15% having nowhere to garden and 14% of the population only having access to a window box or patio area.

Figure 9.2 Size of Gardens in Scotland



To counter this lack of gardens, there has been a revival in the popularity of allotments. A recent survey⁸⁵ shows that in the UK the number of people reporting access to an allotment has doubled since 2002. This indicates that, when available, allotment gardens are popular. This is born out by the statistics for waiting lists for allotments in Edinburgh and Glasgow. In both cities some allotment sites have waiting times of over eight years. It should be noted that in London 14% of the population have access to an allotment whereas in Scotland only 0.1% have a plot.

9.4 Lack of access to gardening opportunities

The 'Consultation on Scottish Planning Policy 11: *physical activity and open space*' contains recommendations for minimum standards of open space in new developments. Allotments and community gardens are included in the figures for all kinds of open space. There is no discussion on the environmental justice issue of an opportunity to garden although the benefits of horticulture are explained.

Gardening is one of the fastest growing leisure pursuits, extolled for contributions to health, stress release, biodiversity. Beechgrove Gardens and TV gardening programmes are watched by millions of viewers. However, at the present time this activity is mainly only available to people who have access to private gardens. The Glasgow City Council Ward Fact Sheets 2003 show that 73% of the population live in flatted accommodation.

⁸⁵ The Survey of Allotments, Community Gardens and City Farms: Urban Research Summary 23 DCLG Sept 2006

area	population	%children	Flats	without car	no in houses with gardens	Access to gardening
Glasgow	609,370	20.4%	73%	67%	162,000	27%
Bridgeton	7113	19.2%	88%	84.2%	435	6%

In some areas of Glasgow, over 80% of the population does not have a garden as part of their dwelling nor do they own a car. Therefore they would require access to an allotment or community garden within walking distance of their dwelling for ease of working and harvesting the crops. The enjoyment of gardening cannot be currently be experienced by the urban population who live in areas like these.

Figures from the HTA review indicate that 1 in 5 people in urban areas do not have the opportunity to garden and that even in rural areas 1 in 10 people do not have access to gardening opportunities.

9.5 Planning and Gardening Space

The quality of life for many people is enhanced by their gardens and described in numerous magazines and television programmes.

9.5 Allotments and Community Gardens

Allotments and community gardens can transform local neighbourhoods. There are many examples of 'micro- garden regeneration' and the positive contribution it makes to the local community and quality of life of the residents. In 2003 Glasgow Allotments Forum and the Scottish Allotments and Gardens Society produced a CD after a successful 'Celebrating Allotments' event. This shows the joy that allotments can bring⁸⁶

Examples of other schemes are:

- Bridgend Allotments, situated in the Craigmillar district of Edinburgh in an area of multi-deprivation with all the associated problems and, until now, few residents had access to gardening opportunities. Letting of plots was targeted to Craigmillar residents within walking or cycling distance and the opportunity has been met with enthusiasm. (see section 5.3)
- Healthy Roots⁸⁷ is a community-led initiative to transform 2 hectares of derelict land in the Middlefield area of Aberdeen into a new public park. Work has involved clearing the derelict site and the creation of a path network, flower beds, picnic benches, vegetable plots, composting, wildlife gardens and several play areas. The scheme offers multiple benefits with a focus particularly on encouraging social inclusion, healthy eating and urban regeneration. The site also provides 'horticultural therapy' for a number of mental health and disability organisations in the city.
- Slateford Green, Edinburgh⁸⁸ is a mixed tenure development by Canmore Housing Association of 69 flats for social rent, 39 for shared ownership and 12 for outright sale. It is built on a former railway goods yard with good access to many facilities and public transport and is a car-free residential development. The space that would have been devoted to parking spaces has instead been used for gardens, children's play areas and allotments. The allotments are bounded by hedgerows and wild life habitats. This development shows the potential for incorporating allotments and private gardens in sustainable housing developments.

A wonderful possibility is described by Kevin O'Kane⁸⁹ 'Imagine in a few years' time you are working in the centre of Edinburgh and you go into Princes Street Gardens and pick an apple off a tree for lunch. This may seem like a pipe dream, but if you lived in India this is what you can already do as a quarter of all urban trees are fruit trees. Even in Prague and Stockholm open spaces are full of apple, pear and plum trees.'

⁸⁶ available from secretary @sags.org.uk

⁸⁷ www.scotland.gov.uk/Topics/SustainableDevelopment/CaseStudies/HealthyRoots

⁸⁸ www.scotland.gov.uk/Topics/SustainableDevelopment/CaseStudies/SlatefordGreen
www.dunedincanmore.org.uk/

⁸⁹ www.beehive.thisisnorthscotland.co.uk - Kevin O'Kane

Section 10 Conclusion

This report is a result of discussions with and input from the interested parties. It has been shown that there are excellent projects being under-taken already but, to reach the full potential of the contribution gardening could make to the Scottish agenda, there is a need for action in all the main areas. Appendix 1 details the aims of the organizations involved with the gardening agenda in Scotland. While all aspects of gardens and gardeners are covered by these organisations there is no one body that acts as an advocate for the community nor any channel by which the opportunity for Scotland to flourish through the energy, participation and co-operation of its gardeners is recognized. Gardens and gardening have been shown to improve the overall well being of the Nation economically, physically and mentally. The benefits to the economy, employment, regeneration, health, communities, biodiversity, environment and education need to be championed in a vision for Scotland's gardens.

Gardeners

- generate employment both as practitioners, purchasing products and as visitors to the many great gardens of Scotland which are part of our heritage.
- grow vegetables, fruit, flowers and herbs thus contributing to one of the few growth industries in Scotland
- practice one of the best forms of physical exercise and so save massive costs to the National Health Service.
- cook their own produce, realising the relationship between diet and health that improves the Nation's health both physically and mentally
- make important contributions to the Nation's biodiversity by nurturing the soil and caring for the plants
- have skills and understanding that are essential for combating the current environmental disasters.
- enjoy gardening and the natural environment

Gardeners of all abilities need specialist advice on the plants and their provenance, eco-systems and garden design. The figures for interest in acquiring gardening skills shows there is clearly an unmet need for specialist courses, apprenticeships and gardening advice throughout Scotland. In the education sector there is an identified need for more programmes and support for those who are involved with teaching about plants, eco-systems and other gardening topics, using gardens as an educational resource and maintaining school gardens. There is a danger that such knowledge, skills and understanding are being lost, gardens are deteriorating and our cultural and native, natural heritage disappearing

Many opportunities arise at the level of local governance but require recognition and support from the Executive. For example the new Scottish Planning Policy (SPP11) will undoubtedly recommend the provision of greenspace in new developments and, in the main, the developers will fund this. However there has to be a strategic plan at the local government level that is overseen by the Executive. Another example is the provision of allotments. While the Allotment Acts require Councils to provide allotments if there is an identified need, the Acts do not stipulate a time scale in which they are to be provided. The people want equal gardening opportunities. Clearly central direction and support is required.

Gardens and Gardening can play a major role in all aspects that affect the well being of the Nation. However even where the benefits of existing initiatives have been demonstrated, experience shows that these have not been exploited to their maximum advantage because gardens are not explicitly recognized by the government and lack a role in the strategic thinking of the Scottish Executive. To support gardens and the gardening community should be an important part of Government policy.

Appendix 1: Organizations contributing to the Gardens agenda.

BTCV aims through a 'hands-on' approach to conservation activities to create a better environment where people are valued, included and involved. To create a more sustainable future by inspiring people and improving places.

Butterfly Conservation Scotland is a wildlife charity taking action to save butterflies, moths and their habitats.

The Calyx is working toward setting up a stimulating world class true living landmark in Perth to celebrate our natural environment through a magnificent garden and community visitor facility.

Community Food and Health (Scotland) supports initiatives in low-income communities which help people take up a healthy diet.

Eco Schools is an international initiative designed to encourage whole-school action for the environment. It is an environmental management tool, learning resource and recognised award scheme.

Federation of City Farms and Community Gardens is the representative body for city farms, community gardens and similar community-led organisations in the UK.

Garden for Life is a network of organisations, supported by SNH with the aims of

- To increase enjoyment and understanding of biodiversity
- To support action by gardeners for the benefit of Scotland's biodiversity
- To promote the benefits of gardening for health and well-being.

Garden Organic, the working name of the Henry Doubleday Research Association (HDRA) is dedicated to researching and promoting organic gardening, farming and food.

Greenspace Scotland - transforming urban spaces into people places, is a national organization, supporting all aspects of urban greenspace. raising the profile and understanding of the multiple impacts of greenspace to make policy connections with politicians and national organisations. It commissions research, works to influence, shape and access national funding streams and programmes, supports strategic greenspace partnerships and develops and shares good practice.

Grounds for Learning is the Scottish school grounds charity, part of the UK charity Learning through Landscapes. It campaigns on behalf of all children for better outdoor environments in education and childcare. It undertakes research, develops programmes and provides training, resources and support to help schools and early years settings improve their grounds and use them to promote positive play, learning and personal development.

The Horticultural Trades Association represents over 2500 garden centres and other garden retail businesses, landscapers, growers and suppliers to the garden trade.

The Institute of Horticulture is the authoritative organisation representing all those professionally engaged in horticulture in the UK & Ireland. Its membership comprises, and represents, all those involved in the management, growing and marketing of all edible and decorative horticultural crops, and the research, education and consultancy concerned with them. It also includes those concerned with botanic gardens and landscaping, and the full range of horticulture within leisure industries and those working in associated supply industries. The Institute offers, not only recognition of status in the horticultural industry, but provides the opportunity to make a really effective contribution to the future of horticulture, and its importance as a career.

ISPAL is the new, professional body for the sport, parks and leisure industries. It provides qualifications, CPD, training, career and job advice and a high tech and fast access information service.

Keep Scotland Beautiful is an environmental charity which aims to achieve litter free and sustainable environments. It co-ordinates a number of programmes, including Beautiful Scotland, Eco Schools for schools, People and Places for Local Authorities and major landowners

The National Trust for Scotland is the conservation charity that protects and promotes Scotland's natural and cultural heritage for present and future generations to enjoy.

Plantlife Scotland is the Scottish office of Plantlife - the leading charity working to protect wild plants and their habitats.

The Royal Botanic Gardens Edinburgh Our mission is to explore and explain the world of plants

The Royal Caledonian Horticultural Society recognises and promotes horticultural excellence and achievement in Scotland. It co-ordinates national events and, by closely associating with all gardening societies and organisations, represents the horticultural movement in Scotland.

The Royal Horticultural Society is the UK's leading gardening charity dedicated to advancing horticulture and promoting good gardening. Its goal is to help people share a passion for plants, to encourage excellence in horticulture and inspire all those with an interest in gardening. It is involved with horticultural science, plant trials, advisory service, education, shows and events.

The Scottish Allotments and Gardens Society (SAGS) represents Allotment Associations and plot holders throughout Scotland

Scottish Environment LINK is the forum for Scotland's voluntary environment organisations - 36 member bodies representing a broad spectrum of environmental interests with the common goal of contributing to a more environmentally sustainable society.

The Scottish Gardeners Forum is an association, founded in 1999, of around 100 Horticultural Societies, Gardening Clubs and other horticulturally-related organisations acting together for their mutual benefit.

The Scottish Landscape Forum was established by SNH with the support of the Scottish Executive in June 2006. It brings together some of the key stakeholders with an influence upon or stake in the state of the landscape. Its terms of reference include facilitating discussion, preparing advice and promoting action for the better care of Scotland's landscape, thereby enabling its diversity, quality and integrity to be maintained for future generations to enjoy.

The Soil Association : the environmental charity promoting sustainable, organic farming and championing human health.

Scotland's Gardens Scheme (SGS) is a registered charity which opens mainly privately owned Scottish gardens to the public.

Slow Food Edinburgh is part of an international non-profit association founded in 1986 as a response to the standardising effects of the fast food and frenetic pace of the "fast life".

Trellis is the national Scottish charity that supports, promotes, and develops the use of horticulture to improve health, well-being and life opportunities for all.



Scottish Allotments
and Gardens Society

Published by Scottish Allotments and Gardens Society

www.sags.org.uk

Pictures courtesy Ernie Watt and Barbara De La Rue