

Great Outdoors: How Our Natural Health Service Uses Green Space To Improve Wellbeing

An action report



FACULTY OF
PUBLIC HEALTH

A Faculty of Public Health report

In association with Natural England



**'Access to nature can
significantly contribute
to our mental capital
and wellbeing'**



Great Outdoors: How Our Natural Health Service Uses Green Space To Improve Wellbeing

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Green spaces can play a vital role in the health of the nation. Access to a park or green space can have wide-ranging benefits for our health and wellbeing. A safe, natural environment can be a break from our busy lives – a place to get some fresh air, to exercise or play – a place to go and relax.

This paper argues that green space can play an important part in tackling a range of health and social problems – obesity, cardiovascular disease, mental ill-health, antisocial behaviour, and health inequalities. It outlines the evidence that the natural environment can enhance our health and wellbeing, and explains how town planners, health professionals, policymakers and people themselves can work together to create more green space and make better use of it for the benefit of all.

Green space and mental health

Almost one in six people in the UK will suffer from mental ill-health, such as anxiety or depression, in their lifetime.ⁱ Mental ill-health can cause, and be caused by, health and social inequalities. It accounts for almost 20% of the burden of disease in Europe.ⁱⁱ Poor mental health also costs the economy an estimated £26.1 billion a year, because of the thousands of people unable to work due to their mental illness.ⁱⁱⁱ Safe, green spaces may be as effective as prescription drugs in treating some forms of mental illnesses, without the costs of side-effects and ever-rising numbers of prescriptions.

Making the connection between health and green space is hardly new thinking though. There is a long history, stretching back to the 18th century, of good quality natural environments being promoted as an important determinant of health. David Hume acknowledged the impact of green spaces on people's health when he lobbied Edinburgh council in 1724 to build a path up Calton Hill, 'for the health and amusement of the inhabitants', and you can still walk up Hume Walk today.

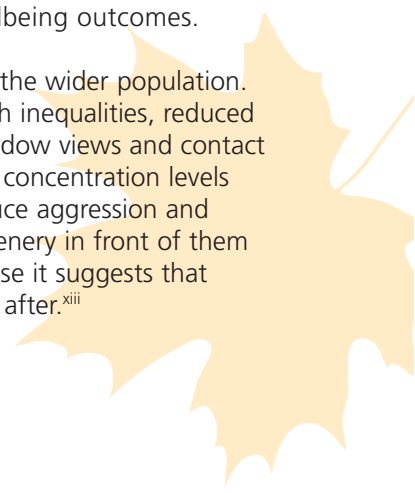
'Safe, green spaces may be as effective as prescription drugs in treating some forms of mental illnesses'



The workers' village of Saltaire, Yorkshire, built in 1853 by Sir Titus Salt, included green spaces such as a park and allotments for the health and wellbeing of his mill's employees. Ebenezer Howard's Garden City movement was borne out of a desire to create "a healthy, natural, and economic combination of town and country life".^{iv}

A current example of how green space can improve the public's health can be found in attitudes to mental health and wellbeing of children. For young people with Attention Deficit Hyperactivity Disorder (ADHD), contact with green spaces can reduce symptoms.^v Even a walk in a park can have the same level of benefits as medication.^{vi} 'Natural' environments in urban settings can increase the likelihood of physical activity and play. Children who play in green spaces also develop better motor skills than those who don't.^{vii} People who are more physically active in leisure-time tend to have higher rates of wellbeing and lower rates of depression.^{viii} A recent study suggests that anti-depressants confer only modest advantage over a placebo, and are generally most effective only for the most severely depressed.^{ix} In England, prescribing of ADHD drugs to under-16s went up by 33% between 2005 and 2007.^x This suggests that doctors need to consider alternatives to medications such as talking therapies or other activities. Anti-depressant drugs may also increase the risk of obesity in children^{xi}. Encouraging more children with ADHD to take up active play and sport in safe, green spaces could be a natural and effective alternative to medication, while simultaneously improving other health and wellbeing outcomes.

Green spaces can also have a positive impact on the wider population. Evidence links green spaces with decreased health inequalities, reduced crime, and increased workplace productivity. Window views and contact with nature are closely associated with increased concentration levels and productivity.^{xii} Natural environments can reduce aggression and violence, while houses with plants and other greenery in front of them make properties less attractive to burglars, because it suggests that someone is present and the house is well looked after.^{xiii}





'Evidence links green spaces with decreased health inequalities, reduced crime, and increased workplace productivity'

Green space and health inequalities

Green space can help to reduce health inequalities. A recent large-scale study in the UK of 336,348 patient records showed significantly less health inequality between rich and poor groups in areas with higher levels of green space than between similar groups in areas with less green space.^{xiv} The association between income deprivation and mortality differed significantly across the groups. There was 25% lower all-cause mortality in areas with high concentrations of green space compared to areas with low concentrations. For circulatory disease, there was a one-third (29.7%) lower mortality in greener areas.

Proximity and accessibility of green spaces to residential areas is positively associated with increased overall levels of physical activity across age groups.^{xv, xvi} Being outdoors is the most powerful correlate of physical activity, particularly in pre-school children^{xvii}, whilst amongst older people five year survival rates are positively associated with proximity of access to space for walking, nearby parks and tree-lined streets, independent of socioeconomic status.^{xviii} Tree-lined routes offer extra motivation to walk compared to routes without trees. The National

Institute for Health & Clinical Excellence (NICE) recommends incorporating green spaces into area cycling/walking infrastructures and promoting maintained, safe green spaces to encourage physical activity (PH8: 2007, PH17: 2009).

Green space may also have an impact on communities' resilience and wellbeing. A series of studies in deprived, urban areas in the US showed that presence of green spaces contributed to an increased ability for the poorest, single-parent mothers to cope with major life issues^{xxix}, reductions in crime, and in aggression indicators.^{xx} A further study showed reduced admissions for mental illness associated with increasing access to green space.^{xxi} Contact with nature was linked to fewer clinic visits in prisoners.^{xxii}

Green spaces are not just effective at preventing ill health, they can also aid in recovery and rehabilitation. Studies where patients had views of nature through hospital windows found more rapid post-operative recovery and lower need for pain relief, while patients with anxiety disorders exhibited lower levels of fear and anger.^{xxiii, xxiv} Women with breast cancer showed better tolerance of their treatment if they had regular contact with natural environments.^{xxv}

Green space and climate change

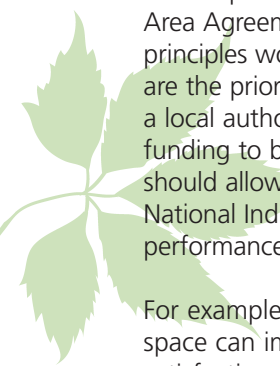
Green spaces can play a key part in reducing 'greenhouse gases', particularly carbon dioxide. For example, a mature tree can save 22kg of CO₂ in a year.^{xxvi} The Read Report, commissioned last year by the Forestry Commission, recommended the enhancement of woodland in the UK to act as a 'carbon sink'.^{xxvii} Of course, this is just one strategy in the many needed to combat climate change, but one that brings the co-benefits of green spaces outlined elsewhere in this paper.

Green spaces can also help in adapting to the extremes of climate change. Green shade in hot weather can help to keep us cool, and green areas have less of a 'heat island' effect than built-up areas. Green spaces also improve air quality and reduce noise in urban areas.^{xxviii, xxix}

Green space in policy and practice

We could increase the many benefits of green space by fully implementing current policy across local government, central government and the third sector.

Local government



Green space is relevant to many of the National Indicators applied to Local Area Agreements (LAAs) in England (listed in Appendix A). The same principles would apply to local government across all four nations). LAAs are the priorities for a local area agreed between central government and a local authority with other key partners at local level.^{xxx} They allow funding to be used more flexibly and sensitively to meet local needs. This should allow local government to be innovative in the use of green space. National Indicators are used by central government to assess the performance of local authorities, so addressing these is core business.

For example, increasing provision of, and access to, safe, clean green space can improve scores for National Indicator 5 (overall/general satisfaction with local area) and National Indicator 188 (adapting to climate change).

‘Until recently there has been little policy in place encouraging mental health practitioners to be innovative in including green space in their therapy options’



Central government

Although day-to-day responsibility for parks, woods, and other green spaces falls to local authorities, the green spaces agenda falls naturally into cross-departmental concerns as well. We have outlined in Appendix 1 where green spaces impact upon Departmental Strategic Objectives (DSOs) and Public Service Agreements (PSAs). Through these Objectives and Agreements, central government steers the direction of local authorities.

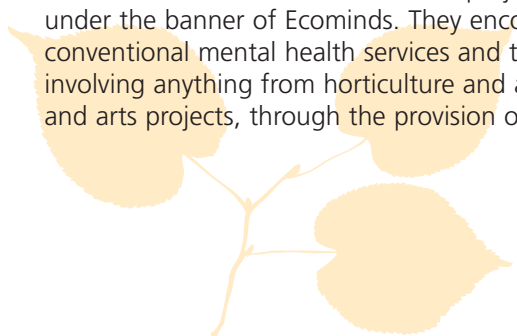
Of particular interest is the current direction of mental health policy. Department of Health policy is beginning to encourage integration between environment and health. *Confident Communities, Brighter Futures* makes explicit reference to the benefits green space to mental health, underlining that “access to nature can significantly contribute to our mental capital and well being.”^{xxxi}

Until recently there has been little policy in place encouraging mental health practitioners to be innovative in including green space in their therapy options; such as allotments, environmental volunteering, green gyms. *Confident Communities, Brighter Futures*, and indeed the mental health strategy outlined in *New Horizons* provides encouragement to think about interaction with natural environments to maintain good mental health.

Third sector

The voluntary sector has been key in recognising the value of green spaces. Mental health charity Mind, and conservation organisation British Trust for Conservation Volunteers (BTCV) have provided pioneering work, and we provide case studies as examples of each organisation's projects here.

Both charities were quick to grasp the links between the outside world and our own health. Mind work with service users, providing projects such as allotments and conservation projects as a means of therapy under the banner of Ecominds. They encourage closer links between conventional mental health services and therapy for service users involving anything from horticulture and allotments to outdoor exercise and arts projects, through the provision of a range of grants.



BTCV have a long history of encouraging people to involve themselves in their local natural environments, and particularly in the last decade have undertaken innovative work to involve older people, younger people (with their Millennium Volunteers project) and their groundbreaking Environments for All programme which reached out to new volunteers, particularly from black and minority ethnic and marginalised communities. BTCV is an excellent example of an organisation maximising the potential of the natural environment to build stronger communities and improve public mental and physical health. In particular, from a health perspective, BTCV has pioneered the development of “green gyms,” which combine principles of conservation and keeping fit and active, providing a stimulating exercise regime for those less interested in conventional gyms.

Ten years after these green gyms were first launched, Natural England started a campaign in 2008, calling for a Natural Health Service.^{xxxii} Seeking to underline the links between green space and health. They have two key aims: to increase the proportion of households within five minutes walk of green space of at least two hectares, and to support primary care teams in signposting patients to an approved health walk or outdoor activity programme.

With funding from the Department of Health (DH), Natural England have further developed this latter objective with their programme Walking for Health.^{xxxiii} This provides support for people, particularly older people, those with existing health problems (either physical or mental) and young families, to take regular, brisk walks as a means of improving their health. Schemes in different parts of England provide structured support to encourage informal physical activity in green spaces, linking up with the DH’s *Walk4Life* public health campaigns, as well as their new physical activity care pathway, *Let’s Get Moving*.

The Commission for Architecture and the Built Environment (CABE) also provide key examples of how town-planners and architects can use green space more effectively. They are currently running a campaign, *Grey To Green*, which encourages cities to map their green spaces so that they can be used more effectively. They advocate a new kind of planning built around green spaces; again to realise the benefits of green spaces in urban places.^{xxxiv}

Case study

BTCV – Glasgow Midweek group

Jo Ridley coordinates a midweek group in Glasgow, which heads out Monday to Thursday to local nature reserves, parks, allotment sites, community woodlands and sometimes as far as Loch Lomond. Her group of around a dozen volunteers carry out a range of conservation tasks throughout the day, including planting trees, digging ponds, clearing paths and general gardening.

Some volunteers are referred by their social workers, while others find out about the group themselves. The group is made up of a very diverse range of people, from different backgrounds and nationalities. The work is hard, but rewarding, and fosters a real team ethic. Jo says that when members first attend the group they can be quite introspective and shy, but that the teamwork required to engage with the green space encourages people to talk to each other and get to know someone they might not usually have anything to do with.

It is this collaborative and social aspect, alongside the fresh air and natural environment, that really makes a difference according to Jo. She says she has seen a real change in the people attending the group, with members reporting newfound confidence, greater ability to cope with life's challenges, and in good physical shape.





Case study

Trees for Cities – *Growing Skills* training programme

The Growing Skills training programme is one of the projects run by Trees for Cities in London. Some parts of London benefit from a rich Victorian legacy of parks and street trees while other areas are desperately lacking in green space. The Growing Skills project had been running for three years in Tower Hamlets and recently received a grant for its work from Mind's ecotherapy grants programme Ecominds. The grant has helped with the cost of horticulture therapy, soft skills development and accredited training of people with mental distress.

The project runs from 9–4pm on Monday to Thursday, and provides training for people who may not necessarily have diagnosed mental health problems, but have been out of work for six months. Volunteers are usually referred by advisors at Jobcentre Plus (although some are self-referrals), and may face multiple barriers to employment, such as family breakdown or substance abuse. Attendees of the group work over a 13-week period towards a qualification in horticulture, giving them the skills and knowledge that will help them towards finding long-term employment.

Project coordinator Suzanne Fane-Saunders agrees that the physical activity plays a key part in the success of the project, – “volunteers feel they’ve earned a good night’s sleep”. She says that when green spaces are designed and maintained by local people they are valued by members of that community. She’s seen a decrease in vandalism and an increase in people using local parks.

Conclusion

Green spaces can have a positive effect on our mental and physical health and can improve community cohesion and enhance our living environment.

To harness these benefits a concerted and coordinated effort is needed from policymakers, town-planners, public health practitioners, health professionals, the voluntary sector, community groups, local media and the public themselves. This collaborative effort needs to identify available green spaces, make them safe and accessible for everyone, make use of them for community and group activities, and prescribe their use to promote health and wellbeing and help treat a number of conditions, particularly mild to moderate depression.

Recommendations:

- Local authorities should provide more accessible green spaces and open-air leisure facilities in which children, families, adults and older people can safely play and exercise.
- Local strategic partnerships, especially those in urban areas, should maximise the use of available green space for health-promoting activities
- GPs should consider providing advice about physical activity in green spaces as an alternative or adjunct to medication for patients with milder forms of depression or anxiety
- Exercise prescription schemes in general practice could usefully be extended to cover supervised physical activity in green spaces
- Programmes, such as Walking for Health and others, which encourage physical activity in green spaces and natural environments should continue to be fully supported
- Major research-funding bodies should specifically commission research on the potential role of green space in preventing mental and physical ill-health and reducing health inequalities

Related policy documents

UK

New Horizons available at
<http://www.dh.gov.uk/en/Healthcare/Mentalhealth/index.htm> accessed
 on 14.10.09

Choosing Health available at
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4094550 accessed on 14.10.09.

HM Government. *Be Active, Be Healthy: A plan for getting the nation moving*. London: Department of Health; 2009.

2009 Annual Report of the Chief Medical Officer. DH. 2010.

Sustainable Communities: Building for the Future available at
<http://www.communities.gov.uk/communities/sustainablecommunities/sustainablecommunities/> accessed on 14.10.09

Every Child Matters (health and well-being) available at
<http://www.dcsf.gov.uk/everychildmatters/healthandwellbeing/> accessed
 on 14.10.09

Climate Change Act

http://www.opsi.gov.uk/acts/acts2008/ukpga_20080027_en_1

This has obligations for all agencies to consider adaptation and carbon budgeting.

Health Inequalities: The Marmot Review Final Report.

<http://www.ucl.ac.uk/gheg/marmotreview>

Europe

Zagreb Declaration for Healthy Cities 2009 focuses on creating caring and supportive environments, healthy living and healthy urban environment and design

WHO European Healthy Cities Network a network of cities from around Europe that are committed to health and sustainable development (for further information on WHO Healthy Cities Programmes
http://www.euro.who.int/healthy-cities/city/20040714_1)

Appendix

Local Area Agreements (LAAs) (England) National Indicators

Green spaces are relevant to a number of the National Indicators (NIs) below and highlight common health and wellbeing outcomes. This broader, public health approach integrates physical and mental health and the impact of wider social, economic and cultural determinants on mental health and well-being.

Stronger Communities

NI 5: Overall/general satisfaction with local area DCLG DSO

NI 2: Percentage of people who feel that they belong to their neighbourhood (PSA 21)

NI 3: Civic participation in the local area PSA 15

NI 17: Perceptions of anti-social behaviour PSA 23

Children and Young People

NI 50: Emotional health of children PSA 12

NI 55: Obesity among primary school age children in Reception Year DCSF DSO

NI 56: Obesity among primary school age children in Year 6 DCSF DSO

NI 57: Children and young people's participation in high-quality PE and sport DCSF DSO

NI 110: Young people's participation in positive activities PSA 14

Adult Health and Well-being

NI 119: Self-reported measure of people's overall health and wellbeing DH DSO

NI 138: Satisfaction of people over 65 with both home and neighbourhood PSA 17

Environmental Sustainability

NI 185: CO2 reduction from Local Authority operations PSA 27

NI 186: Per capita CO2 emissions in the LA area PSA 27

NI 188: Adapting to climate change PSA 27

NI 189: Flood and coastal erosion risk management Defra DSO
 NI 197: Improved local biodiversity – active management of local sites
 PSA 28
 NI 198: Children travelling to school – mode of travel usually used DfT DSO

Related Public Service Agreements (PSA) and Departmental Strategic Objectives (DSO)

PSA 12 Improve the health and well-being of children and young people
 PSA 18 Promote better health and well-being for all
 PSA 21 Build more cohesive, empowered and active communities
 PSA 23 Make communities safer
 PSA 27 Lead the global effort to avoid dangerous climate change
 PSA 28 Secure a healthy natural environment for today and the future
 DCMS DSO Encourage more widespread enjoyment of culture and sport
 DCSF DSO Secure the well-being and health of children and young people
 DEFRA DSO: Climate change tackled internationally; and through domestic action to reduce greenhouse gas emissions
 DEFRA DSO: Economy and society resilient to environmental risk and adapted to the impacts of climate change
 DEFRA DSO: Sustainable patterns of consumption and production
 DEFRA DSO A healthy, resilient, productive and diverse natural environment
 DH DSO Ensure better health and well-being for all
 HO DSO Help people feel secure in their homes and local communities

Useful organisations

Natural England: www.naturalengland.org.uk

Faculty of Public Health www.fph.org.uk

CABE (Commission for Architecture and the Built Environment):
www.cabe.org.uk

CIEH (Chartered Institute of Environmental Health): www.cieh.org

RTPI (Royal Town Planning Institute): www.rtpi.org.uk

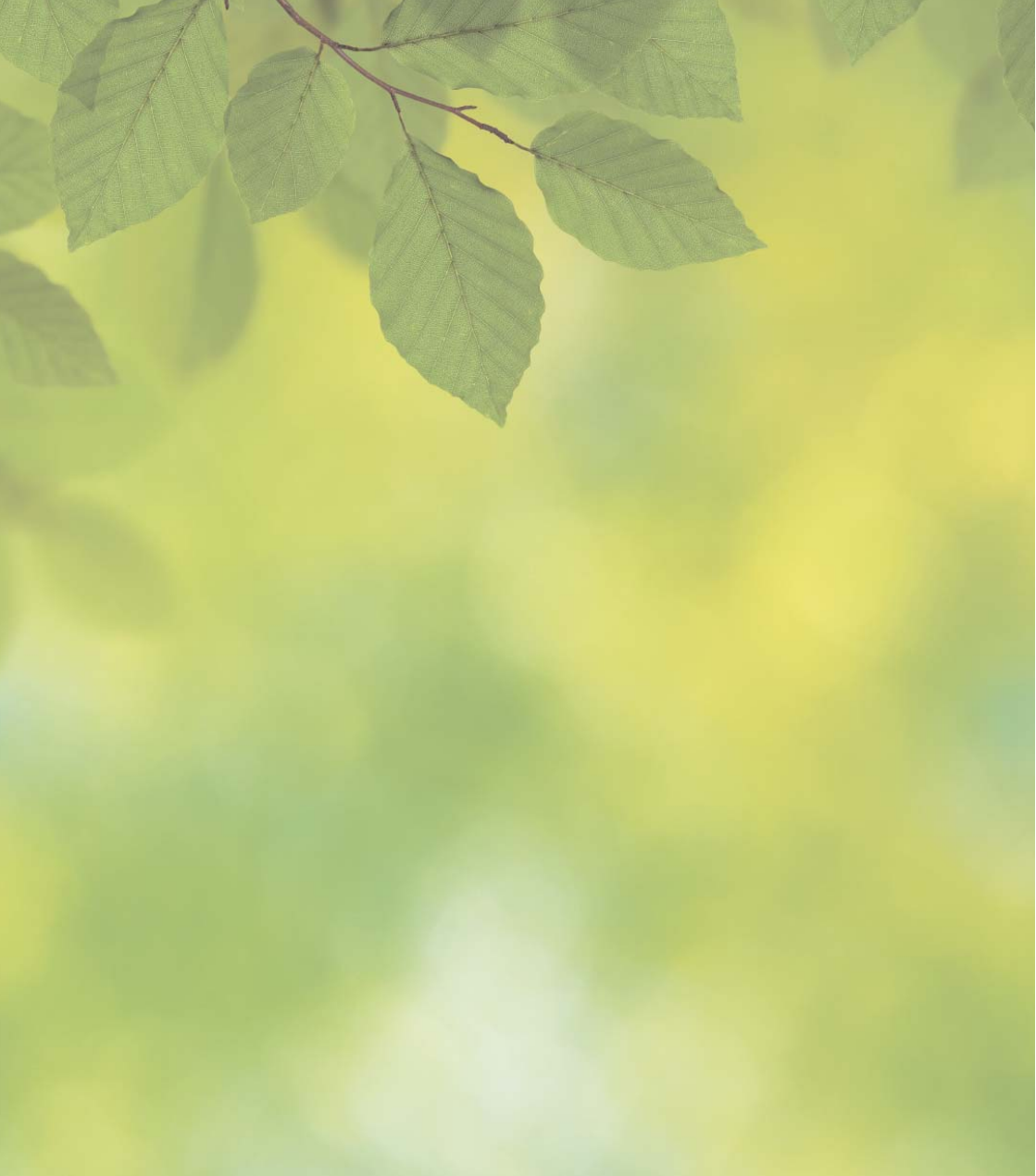
HPA (Health Protection Agency): www.hpa.org.uk

DH (Department of Health): www.dh.gov.uk



- i Office for National Statistics (2001), *Psychiatric Morbidity Among Adults Living In Private Households*, 2000 http://www.statistics.gov.uk/downloads/theme_health/psychmorb.pdf
- ii World Health Organisation (2001) "Mental And Neurological Disorders Factsheet", *The World Health Report 2001* http://www.who.int/whr/2001/media_centre/en/whr01_fact_sheet1_en.pdf
- iii King's Fund "Paying The Price: The Cost Of Mental Health Care In 2026" http://www.kingsfund.org.uk/research/publications/paying_the_price.html
- iv Ebenezer Howard (1902) *Garden Cities of To-Morrow* Faber and Faber
- v Bird W (2007) *Natural Thinking: Investigating The Links Between The Natural Environment, Biodiversity and Mental Health*. RSPB. http://www.rspb.org.uk/Images/naturalthinking_tcm9-161856.pdf
- vi Faber Taylor.A (2009) *Children With Attention Deficits Concentrate Better After Walk In The Park* J. of Att. Dis. 2009; 12(5) 402-409) Abstract at: <http://jad.sagepub.com/cgi/content/short/12/5/402>
- vii Bird W (2007) *Natural Thinking: Investigating The Links Between The Natural Environment, Biodiversity And Mental Health*. RSPB
- viii Biddle, S.J.H., and Ekkekakis, P. (2005). "Physically Active Lifestyles And Wellbeing". In F.A. Huppert, B. Keverne & N. Baylis (Eds.), *The Science Of Wellbeing* Oxford University Press
- ix Kirsch et al (2008) *Initial Severity And Antidepressant Benefits: A Meta-Analysis Of Data Submitted To The Food And Drug Administration*.
- x The Guardian (2009) "Tories Slam Doctors For Drugging Children" in *The Guardian* Oct 30th 2009. at <http://www.guardian.co.uk/society/2009/oct/30/conservatives-nhs-children-drugs-mental-health>
- xi Vieweg et al (2005) "Newer antipsychotic drugs and obesity in children and adolescents: how should we assess drug-associated weight gain?" *Acta Psychiatr Scand*.
- xii Judith H. Heerwagen.(2000) "Green Buildings, Organizational Success, And Occupant Productivity" *Building Research and Information* Vol. 28 (5), 2000:353-367
- xiii Kuo FE and Sullivan WC (2001) "Environment And Crime In The Inner City: Does Vegetation Reduce Crime?" *Environment and Behaviour* 33 May 2001 pp343-367
- xiv Mitchell R. and Popham F. (2008) "Effect Of Exposure To Natural Environment On Health Inequalities: An Observational Population Study" *The Lancet*, Volume 372, Issue 9650, Pages 1655 - 1660, 8 November 2008, [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(08\)61689-X/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(08)61689-X/abstract)
- xv Cooper.R et al, (2008) "Mental Capital And Wellbeing: Making The Most Of Ourselves In The 21st Century" *State-of-Science Review: SR-DR2.The Effect Of The Physical Environment On Mental Wellbeing*. GO Science/ Foresight
- xvi Bird W (2007) *Natural Thinking: Investigating The Links Between The Natural Environment, Biodiversity and Mental Health*. RSPB. http://www.rspb.org.uk/Images/naturalthinking_tcm9-161856.pdf

- xvii Baranowski T, Thompson WO, Durant RH, et al. (1993) "Observations On Physical Activity In Physical Locations: Age, Gender, Ethnicity, And Month Effects" *Res Q Exerc Sport*; 64:127-33.
- xviii T Takano, K Nakamura, and M Watanabe (2002) "Urban Residential Environments And Senior Citizens' Longevity In Megacity Areas: The Importance Of Walkable Green Spaces" *J Epidemiol Community Health* 56: 913-918. 2002
- xix Kuo F (2001) "Coping With Poverty: Impacts Of Environment And Attention In The Inner City" *Environment and Behavior*, Vol 33 No 1 January 2001
- xx Kuo FE, Sullivan WC (2001) "Aggression And Violence In The Inner City: Effects Of Environment Via Mental Fatigue". *Environment And Behaviour* 33 No4 July 2001 543-571
- xxi C. Philip Wheeler et al (2008). *Returning Urban Parks To Their Public Health Roots*. Manchester University and John Moores University.
- xxii Moore EO. (1982) "A Prison Environment's Effect On Health Care Service Demands" *J Environ Syst*. 1981-1982; 11:17-34.
- xxiii Ulrich RS. (1984) "View Through A Window May Influence Recovery From Surgery" *Science*. 1984;224:420-421.
- xxiv Ulrich RS, Simons RF, Losito BD, Fiorito E, Miles MA and Zelson M. (1991). "Stress Recovery During Exposure To Natural And Urban Environments" *Journal Of Environmental Psychology*, Vol 11, pp.201-230.
- xxv Cimprich B (1993) "Development Of An Intervention To Restore Attention In Cancer Patients" *Cancer Nursing* 1993;16:83-92
- xxvi Department of Health (2008) *The Heatwave Plan For England*. TSO.London
- xxvii Forestry Commission (2009) *National Assessment of UK Forestry and Climate Change Steering Group* TSO
<http://www.tsoshop.co.uk/bookstore.asp?FO=1159966&Action=Book&ProductID=9780114973513&From=SearchResults>
- xxviii Department of Health (2008) *The Heatwave Plan for England*. TSO. London
- xxix Green Space Scotland (2008): *Transforming Urban Spaces: The Links Between Green Spaces And Health - A Critical Literature Review*
- xxx Department of Communities and Local Government, Local Area Agreements website accessed 19 March 2010
<http://www.communities.gov.uk/localgovernment/performanceframeworkpartnerships/localareaagreements/>
- xxxi HM Government (2010) *Confident Communities, Brighter Futures: A Framework For Developing Wellbeing* TSO London
<http://newhorizons.dh.gov.uk/Resources/reports/confident-communities-report/index.aspx>
- xxxii Natural England – Our Natural Health Service website
<http://www.naturalengland.org.uk/ourwork/enjoying/health/ournaturalhealthservice/default.aspx> accessed 19 March 2010
- xxxiii Natural England – Walking for Health website <http://www.whi.org.uk> accessed 19 March 2010
- xxxiv Commission for Architecture and the Built Environment (2009) *Grey To Green* CABE



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