



nature's
voice

EVERY CHILD OUTDOORS WALES

Children need nature. Nature needs children.





INTRODUCTION

RSPB Cymru believes that every child should be entitled to regular contact with the natural environment.

I clearly remember my first experiences of pond dipping at school. Discovering the wealth of wildlife hidden beneath the pondweed inspired my imagination, long before I understood the complex webs of life humans depend on.

Every year, thousands of children engage with nature with the RSPB. Here in Wales, 8,000 schoolchildren visit our five Quality Badge-awarded outdoor learning centres, and over 4,500 take part in the Big and Little Schools' Birdwatches in their school grounds. We have over 200,000 junior members across the UK, of whom almost 6% live in Wales, including 2,000 Welsh teenagers.

Our ongoing partnership with Girlguiding Cymru has enabled thousands of girls to experience nature, take action on environmental issues they care about, and enjoy outdoor activities in Wales.

Every day, we see and hear about the fantastic impression these experiences make on children and young people – on their learning and discovery, their health and emotional wellbeing, and on inspiring them to be environmentally responsible citizens.

Many of our nature reserves offer activities for families to enjoy together, giving them the chance – and perhaps more importantly, the confidence – to try new things and experience the natural world in an informal and fun way.

To many people it would seem obvious and unquestionable that exploring the world around you is a crucial part of childhood, whether that is through climbing trees and collecting conkers, looking for insects or feeding birds. Unfortunately, as a recent survey starkly demonstrated, this is far from the case, and the amount of time and contact children are having with nature is declining steeply.

Our *Every Child Outdoors Wales* report draws together the findings from the wide range of research that has been carried out into the positive impacts that contact with nature has on children, as well as on the environment. It also explores some of the consequences of the loss of such experiences and, sadly, the increasingly used term of nature-deficit disorder to describe the phenomenon.

Finally, we present independent research from Ipsos MORI, commissioned by the RSPB, on the most remembered childhood experiences of nature amongst the Welsh public. This also reveals that the vast majority of people in Wales agree that these experiences are still important to children today, and that schools should play a role in providing them to all children.

RSPB Cymru is committed to continuing to play our part in ensuring that as many children as possible have contact with nature, and working with partner organisations to do so. We believe it is essential that all parts of government and society play their role too.



A handwritten signature in green ink that reads "Katie-Jo Luxton". The signature is fluid and cursive.

Katie-Jo Luxton
Director, Wales



CHILDREN NEED NATURE

Over the last decade, a large amount of research has been carried out into the diverse benefits for children of contact with nature and outdoor experiences. These benefits include positive impacts on education, physical health, emotional wellbeing and personal and social skills, including the development of responsible citizens.

This report draws together the main findings and recommendations from this rich evidence. As well as academic research from a number of countries, the research includes official reports from the Welsh schools inspectorate, which reflects the increasing recognition of the role that learning outside the classroom plays in enabling children to experience nature.

Some of the key conclusions are:

EDUCATION – “Most practitioners report that learning outdoors promotes children’s engagement and enjoyment in learning. This in turn impacts positively on children’s personal and social development, general behaviour and wellbeing. Children persevere with activities for longer periods outdoors and will attempt new things more readily. They learn to co-operate and apply their thinking skills to real problems.” (Estyn, 2011b)

HEALTH AND WELLBEING – “Children increase their physical activity levels when outdoors and are attracted to nature... All children with ADHD [Attention Deficit Hyperactivity Disorder] may benefit from more time in contact with nature...” (Bird, 2007)

PERSONAL AND SOCIAL SKILLS – “Experience of the outdoors and wild adventure space has the potential to confer a wide range of benefits on young people... Development of a positive self-image, confidence in one’s abilities and experience of dealing with uncertainty can be important in helping young people face the wider world and develop enhanced social skills.” (Ward Thompson et al, 2006)

The findings are presented according to the separate areas of benefit shown above, but there is a great deal of overlap between these areas and the benefits reinforce and catalyse each other. This not only highlights the extent of the positive impacts on children and young people that contact with nature can have, but also the broader effects these impacts have on schools, communities and society.

A list of the key research and books discussed is included at the end of the report to provide a starting point from which you can find out more information.

Evidence of educational benefits

The majority of research into the educational benefits that contact with nature has on children is related to the practice of learning outside the classroom – ranging from the use of school grounds to residential fieldwork.

A review of the broad range of research in this area found that “substantial evidence exists to indicate that fieldwork, properly conceived, adequately planned, well taught and effectively followed up, offers learners opportunities to develop their knowledge and skills in ways that add value to their everyday experiences in the classroom” (Rickinson et al, 2004).

Another study defines the outcomes of learning outdoors as “changes in thinking, feeling and/or behaviour resulting directly or indirectly from outdoor education” (Dillon et al, 2005). It identifies four specific types of impact:

COGNITIVE IMPACTS – concerning knowledge, understanding and other academic outcomes.

AFFECTIVE IMPACTS – encompassing attitudes, values, beliefs and self-perceptions.

INTERPERSONAL AND SOCIAL IMPACTS – including communication skills, leadership and teamwork.

PHYSICAL AND BEHAVIOURAL IMPACTS – relating to physical fitness, physical skills, personal behaviours and social actions.

Looking more closely at cognitive impacts, “both students and their teachers reported increases in knowledge and understanding as a result of experiences in the outdoor classroom. Whenever students were asked about their learning, they were generally able to explain something that they had seen, learned or understood on the visits... Developments in knowledge and understanding appeared to be from across a range of cognitive domains” (Dillon et al, 2005).

One explanation for this is that “outdoor natural space provides additional opportunities for critical thinking, creative inquiry and problem solving; fundamental life skills permitting students to ‘think critically about issues pertinent to their lives and the world outside the classroom’” (Pretty et al, 2009).

This is also shown in findings by Estyn – the Welsh schools inspectorate – which published an evaluation of outdoor learning for children under five. They found that:

“In most cases, children’s enjoyment, wellbeing, behaviour, knowledge and understanding of the world, and their physical development improve as a result of using the outdoors.”

“A majority of practitioners say that boys benefit most, as the outdoors lends itself to a more active approach to learning that many boys enjoy.”

“Very young children developed an awareness of what they did well and what they need to do better” (Estyn, 2011b).

To encourage and facilitate teaching and learning outdoors, certain standards have been applied on a mandatory basis under the Qualified Teacher Status Standards Wales 2009, No. 25. Trainee teachers are required to demonstrate, as relevant to the age range they are trained to teach, that they are able to plan opportunities for schoolchildren to learn in out-of-school contexts (Welsh Assembly Government, 2009a).



Evidence of positive impacts on health and wellbeing

“Children acquired better physical skills because they had more opportunities for outdoor play on equipment that was physically challenging, such as climbing trees.”

(Estyn, 2011a)

PHYSICAL HEALTH

Below are the key findings from broad reviews of studies and research relating to children, nature and physical health.

- ▶ Modern life has brought astonishing technological advances, but it has also led to rapid changes in ways of living that have pervasive health outcomes.
- ▶ Lifestyles have so changed that obesity has within a generation risen in incidence to take it from 3–6% of adult populations to more than 25% in many industrialised countries.
- ▶ Wales has among the highest levels of overweight or obese children in European and North American countries, at 21% and 18% for 15-year-old boys and girls respectively.
- ▶ Physical inactivity costs Wales an estimated £650 million per year.
- ▶ Seven out of ten people in Wales do not undertake enough physical activity to gain any significant health benefits, with only 36% of men and 22% of women meeting recommended levels of activity.
- ▶ There is strong evidence to show that by the time children leave secondary school their attitude to exercise is highly predictive of whether they will be physically active as adults.
- ▶ The strongest relationship is with the quality of exercise they have experienced, as opposed to the quantity of exercise.
- ▶ Nature is a major motivating factor for exercise. There is very strong evidence that being outdoors is the most powerful correlate of physical activity, particularly in pre-school children.
- ▶ Children increase their physical activity levels when outdoors and are attracted to nature.

Sources: Bird (2004); NHS Wales (2006); Pretty et al (2009); WAG (2009b)

MENTAL WELLBEING

Building on the research on physical health benefits, researchers subsequently reviewed studies about nature and mental wellbeing, finding:

- ▶ The estimated total cost of mental health problems in Wales is £7.2bn per year.
- ▶ Conduct disorders are the most common mental health problem in childhood, affecting 5.8% of all UK children aged five to 16.
- ▶ There is a steady increase in the use of medication in childhood mental illness. The number of children using anti-depressants has risen sharply in recent years.
- ▶ The immediate outcomes of contact with nearby nature include enjoyment, relaxation and lowered stress levels. The longer-term, indirect impacts also include increased levels of satisfaction with home and work life, and with life in general.
- ▶ Children with stressful life events are more likely to develop mental health problems. There is evidence that children who experience stressful events in their lives are less stressed and have a higher global self-worth the more they are exposed to nature.
- ▶ Attention Deficit Hyperactivity Disorder (ADHD) is a significant public health problem that affects 5–10% of schoolchildren in the UK. It is characterised by overactive and impulsive behaviour and difficulty in paying attention, causing disruption to others and reducing the chance of success as an adult.
- ▶ Outdoor activities in nature appear to improve symptoms of ADHD in children by 30% compared with urban outdoor activities and threefold compared with the indoor environment. All children with ADHD may benefit from more contact with nature, greener routes to school and more natural views from their windows.

Sources: Freidli and Parsonage (2009); ONS (2006); Munoz (2009)



Evidence of contributions to personal and social skills

As well as developing knowledge and understanding, and having health and wellbeing impacts, experiences with nature have also been shown to provide many personal and social skills and benefits.

Research into teenagers' informal (out-of-school) encounters found that "experience of the outdoors and wild adventure space has the potential to confer a wide range of benefits on young people... Development of a positive self-image, confidence in one's abilities and experience of dealing with uncertainty can be important in helping young people face the wider world and develop enhanced social skills" (Ward Thompson et al, 2006).

Other research into outdoor learning found that "one of the main benefits of outdoor activities... appeared to be the development of social and interpersonal skills... These novel experiences, in addition to the freedom and encouragement that children were given to try new activities, were also thought to be helping to increase students' confidence and self-esteem... Educators reported that such activities gave students an opportunity to meet new people, with different teaching styles, and also involved activities which required co-operation and teamwork" (Dillon et al, 2005).

Developing the mental wellbeing benefits, research has also been carried out into impacts on aggression and crime. Several studies support the belief that contact with nature can reduce aggressive behaviour, possibly due to the restorative process in the brain that helps reduce irritability. The subject of these studies ranges from domestic violence in the inner city to aggressive behaviour in Alzheimer's patients (Bird, 2007).

One of the theories behind the mental wellbeing impacts – the Attention Restoration Theory – shows that "with increased contact with nature the brain can be restored from fatigue and so reduce many unwanted symptoms such as impulsive behaviour, irritability and aggression. Studies point to 50% less crime and domestic violence in families with views of increased vegetation in a poor housing estate compared to identical blocks with no vegetation" (Bird, 2007).

The impacts have even been shown to extend beyond individuals into the local community and environment. Studies from the USA found that educational programmes relating to the local community and environment improved young people's attachment to place, civic engagement and environmental stewardship (Duffin et al, 2004).

They also found evidence that environmental action builds young people's capabilities for further participation and contributes to both personal and community transformation.



NATURE NEEDS CHILDREN

“Children’s knowledge of biodiversity is in decline at a time when we need future generations to be more engaged and aware in order to halt its loss. There is a very real need to educate our children as the future guardians of our planet, to provide them with the knowledge they need today to preserve the natural world for tomorrow.”

Dr Ahmed Djoghlaif, Executive Secretary of the United Nations Convention on Biological Diversity

Building on the positive impacts of contact with nature for children, research has also looked at the benefits to the environment itself.

In a study of the benefits of Forest Schools, participants were shown to “benefit in many ways including self-confidence and self-esteem, team work, motivation, skills and knowledge, and pride in, and understanding of, their surrounding environment” (O’Brien and Murray, 2003).

Significantly, “an adult’s attitude to the environment and time spent outdoors in green space is strongly influenced by their experience as a child” (Bird, 2007).

The University of Wales’ Centre for Outstanding Education Research recently published a paper stating that “outdoor educators have a significant role to play in ensuring that students begin to identify their relationship with the landscapes in which they interact”. It goes on to say that “understanding the way in which students engage in experiential outdoor learning and interact and perceive landscape has important implications for education for sustainability” (Tinney and Emanuel, 2009).

In 2006, an academic paper proposed a pair of theoretical life pathways between which all our lives are shaped, in part determined by childhood contact with nature (Wells and Lekies, 2006).

On one pathway – where as children they were ‘free-range outdoor’ – people live longer with a better quality of life; on the other – where as children they stayed indoors and became disconnected from nature – they die earlier and often have a lower quality of life. On the first pathway, adults tend to engage with natural places, be active, be connected to people and society, eat healthy foods, be members of groups and volunteer more.

Reflecting these connections, in 2011 Estyn noted an example of the impact of a wildlife and learning garden on a playgroup: “The Wildlife and Learning Garden encourages children’s natural curiosity and desire to explore with their senses. Learning is fun and the children show high levels of motivation and perseverance. Children’s understanding of the seasons, living things and natural materials are increased through the first-hand experiences that the garden provides of the natural world. Children learn to show respect and appreciation for the natural world and how to care for it.” (Estyn, 2011b).

CONNECTEDNESS TO NATURE

In 2009, the RSPB looked into the relationship between the feelings of connectedness to nature that UK adults have and their beliefs about environmental concerns and how this influences their behaviours.

Connectedness to nature is assessed on a scale by asking a number of questions relating to ecological knowledge and understanding, such as whether or not the respondent thinks of the natural world as a community to which they belong, or if they have a deep understanding of how their actions affect the natural world (Mayer and Frantz, 2004).

Our previously unpublished work found that over three-quarters of people who felt connected to nature had changed their behaviours in the previous year out of concern for the environment – compared to significantly fewer of those who did not feel connected. These pro-environmental behaviours include attending a public hearing or meeting about the environment, and no longer buying a product they previously would have because it caused environmental problems.

A report by Keele University on the Environment Agency's (EA) involvement with environmental

citizenship found that some of its work already encouraged citizenship actions.

The report suggests that extending this approach to environmental citizenship could significantly benefit the EA, and the environment.

It concludes that "there is strong evidence that giving people the chance to be responsible for, and make choices about, their environment produces environmental benefits that could not be achieved through conventional regulatory approaches" (Dobson, 2010).

MAKING A CONTRIBUTION NOW

In addition to inspiring behaviours in the future, children who are connected to nature also take immediate action to the direct benefit of the environment.

In 2009, BBC Cymru Wales conducted a survey on people's attitudes to climate change. It found that 93% of Welsh people believe that the world's climate is changing, 75% believe this is a result of human behaviour, and 72% think that the lead to combat climate change should come from the Government, even if it means changing the law.

The survey revealed a lot of confusion and uncertainty about climate change and what people should do in response. One of the ways to address this problem is to raise awareness and suggest potential solutions at an early age.

The RSPB offers a variety of ways for children and young people to overcome these barriers, and tackle their local and global concerns. Over 8,000 children are taking part in our Wildlife Action Awards – at home, in school or as part of a community or youth group.

This scheme awards young people who are committed to undertaking a range of tasks that benefit wildlife, including setting up compost bins and taking part in wildlife surveys.

Since 2002, our junior membership has raised over £250,000 in support of our major campaigns, such as protecting the Sumatran rainforest. We also have over 200 conservation volunteers aged under 18 – regularly making a hands-on contribution to protecting the environment.





EVERY CHILD OUTDOORS?

“Children’s view of nature is increasingly distant, abstract, and utilitarian. However affluent, their lives are impoverished by diminishing contact with nature. Their imaginations, simulated by television and computers, are being impoverished ecologically, socially, and spiritually.”

Professor David W. Orr, Environmental Studies and Politics, Oberlin College, Ohio

THE EXTINCTION OF EXPERIENCE

Despite the advantages to children and young people of contact with the natural environment – for their education, health and wellbeing, and social skills – as well as critical benefits to the environment, research has shown that the amount of time and experiences children have with nature is declining.

Over recent years, a significant decline in young people’s understanding of the natural environment has been widely reported, particularly in urban areas of industrialised communities. The culmination of this phenomenon has been described as the “extinction of experience”, whereby children are experiencing nature far less than ever before in history (Kahn and Kellert, 2002; Pyle, 2003).

Professor David Orr has questioned the role of the commercialisation of childhood in this decline. He notes

that “we have little idea of the long-term effects of excessive materialism on the child, but it is reasonable to think that its hallmarks are satiation, shallowness, and the loss of deeper feelings having to do with a secure and stable identity rooted in the self, relationships, and place” (Orr, 2002).

UK research has also shown that alongside children losing their connection with nature, there is also a “disparity in children’s access to high quality natural environments. All children benefit from opportunities provided by access to outdoor space but these benefits are not equally distributed. Whilst children have universal rights and needs, poverty places severe limits upon the extent to which they can be recognised” (Thomas and Thompson, 2004).



NATURE-DEFICIT DISORDER

In 2005, the American author Richard Louv published his influential book *Last Child in the Woods*. Louv brings together many of the early studies about children and nature that have subsequently led to a great deal of the research in this report.

He discusses how children now wander less, discover less and are losing some important connections to nature and place. He also suggests some of the reasons behind this – the commercialisation of childhood, parental fear of crime and road traffic, loss of natural spaces for free play and the

attractions of indoor alternatives, such as computer games and TV.

Of perhaps most impact was the phrase that Louv coined to capture the negative consequences of the extinction of experiences of nature: nature-deficit disorder. While not referring to a specific medical condition amongst individual children, Louv suggests that the term “does offer a way to think about the problem and the possibilities – for children, and for the rest of us as well.”

He goes on to state that:

“Nature-deficit disorder describes the human costs of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of emotional and physical illnesses. The disorder can be detected in individuals, families, and communities.”



Reconnecting Children and Nature – new research from the RSPB

In July 2010, the RSPB commissioned new research into the important issue of childhood experiences of nature. Building in particular on Natural England's *Childhood and Nature* report, we asked Ipsos MORI to look into which outdoor experiences a representative sample of the British population remembered, and their views about them.

The first part of our research asked the public which of 12 outdoor experiences they remembered having as a child. These included climbing trees, looking for insects, swimming in a river and feeding birds.

For each of the 12 activities, across Britain at least half of the people remembered having experiences of them as a child. The most remembered experiences were climbing trees and playing conkers, both of which were remembered by 70% of the public surveyed.

In Wales, recollections were higher, with all people asked remembering having at least one of the outdoor experiences in their childhood. In addition, five of the experiences were remembered by at least three-quarters of Welsh people, which included pond dipping or looking for tadpoles, exploring rock pools on the beach, and building a camp or den*.

However, the over-arching figures also conceal the fact that, across Britain, significantly more of those aged 15–34 years claimed not to have had, or remember having, these childhood experiences compared to those aged over 55 years (8%, compared to 2%).

Given the broad positive impacts to children and nature from such experiences, and evidence of a sharp decline in children today having them, the second part of our research asked for the public's views on this issue, including how important they considered them.

► In Wales, 92% agreed that it is important that children have these types of experiences today.

As much of the research into the relationship between children and nature relates to educational benefits, and the contribution of learning outside the classroom, we also asked

about the role schools should play in ensuring every child has contact with nature.

► In Wales, 78% agreed that schools should play a role in ensuring all children have these types of experiences.

Collectively, this evidence clearly emphasises why it is important for governments and schools to recognise the crucial role they should play in entitling all children to experience, enjoy, learn and benefit from contact with the natural environment.

* Ipsos MORI questioned a much smaller sample population in Wales than the overall British sample.



CHILDREN NEED SUPPORT

Government is uniquely placed to ensure every child in Wales experiences outdoor education.

Outlined in this report are the proven positive impacts of children's contact with nature, not only in terms of educational benefits, but also improvements in physical and mental health and wellbeing, as well as in developing responsible citizens. Children are the future custodians of the planet, so we must invest in their environmental education.

We all have a role to play in reversing the trend towards the extinction of experience amongst children. RSPB Cymru is committed to playing its part on reserves and beyond, and is continuing to build innovative partnerships with others to deliver more for children. Individuals, communities and schools also have a part to play.

Politicians from all parties agree with the message that out-of-classroom learning is important. However, we now need this political commitment to become action. Government should take the lead in ensuring that every child in Wales has access to, and support for, outdoor learning.

In recognition of the importance of out-of-classroom learning, the Welsh Government has introduced a number of welcome developments including the Foundation Phase, Education for Sustainable Development and Global Citizenship, the Curriculum Cymreig and the Welsh Baccalaureate.

OUR CALL TO WELSH GOVERNMENT

RSPB Cymru believes that there are five key areas where Government action should be taken:

- ▶ Provide adequate funding and guidance for all schools to be able to ensure that every disadvantaged child and young person has the opportunity to have regular first-hand experiences of the natural environment.
- ▶ Ensure the whole teaching profession is confident, competent and committed to teach outside the classroom by including the necessary skills and understanding across the repertoire of practices included in initial teacher training, early career and ongoing professional development.

- ▶ Enshrine the value of outdoor learning and environmental responsibility in national curricula.
- ▶ Support Estyn in embedding the assessment and reporting of schools' performance in providing outdoor teaching, including through the suitable training of all inspectors.
- ▶ Establish and protect natural green spaces that are easily accessible for all children and young people.

A close-up photograph of a child's hand reaching towards a white daisy flower in a grassy field. The child is wearing a blue and white striped long-sleeved shirt. The background is a soft-focus green field with a plaid blanket visible in the distance.

92%

of people in Wales agreed that it is important that children have outdoor experiences today

78%

of people in Wales agreed that schools should play a role in ensuring children have these experiences

Ipsos MORI questioned 1,012 members of the British public (of whom 50 were in Wales), aged 15 years and over, between 2-8 July 2010 as part of their weekly face-to-face Capibus omnibus survey. The data was weighted to ensure that the profile used was representative of the over 15 years British adult population.

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The RSPB speaks out for birds and wildlife, tackling the problems that threaten our environment. Nature is amazing – help us keep it that way.

RSPB Wildlife Explorers is the junior membership of the Royal Society for the Protection of Birds.

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