

## **How do environmental policies fit within larger strategic planning processes**

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## **Chapter 6**

### **How do environmental policies fit within larger strategic planning processes?**

#### **Overview**

This chapter explores how environmental policies fit within larger strategic processes relevant to sport management and development. It identifies key policy areas such as environmental impact assessment, sustainable land use planning, environmental protection and visitor impact management. Good practice and guidelines which will enable sport managers to integrate their work with these environmental policies are explored. Detailed guidance on design and longer term management and maintenance to enhance and protect the natural environment are provided.

#### **Introduction**

Sustainable development, at its most simplistic, seeks to balance economic development with social equity and environmental protection. There are many complex academic debates surrounding the definition of the term sustainable development, but a particularly relevant and useful approach for the sport and recreation manager is summarised by Wheeler *'sustainable development is development that improves the long-term health of human and ecological systems'* (Wheeler, 2013: 30)

One of the most influential reports on the problems of unrestrained economic growth was the 1987 report of the World Commission on Environment and Development, chaired by the Norwegian Prime Minister, Gro Harlem Brundtland. Following the release of the Brundtland Commission report *Our Common Future* in 1987 and the United Nations Rio de Janeiro Earth Summit conference in 1991, calls for sustainable development entered the official mainstream internationally.

The Rio summit also marked the first international attempt to draw up action plans and strategies for moving towards a more sustainable pattern of development. One of the main products of the Rio summit was Agenda 21 - a non-binding, voluntarily implemented action plan for the UN, other multilateral organisations, and individual governments around the world that could be executed at local, national, and global levels (Elliot, 2012). Following the Rio Earth Summit, national programmes, such as the *Sustainable America* report of the President's Council on Sustainable Development in 1991, attempted to establish sustainable development directions for particular countries (cited in Wheeler, 2013).

As national and local governments have implemented their own Agenda 21 programmes to demonstrate their commitment to sustainable development, sports institutions, teams and sponsoring organisations have had to recognise the need to better understand the environmental impacts of the activities they sponsor, host and regulate. This has been considered alongside debates that have encompassed the social impacts of major sporting

events and of associated facilities; for example the imposition of environmental costs (noise, congestion, pollution etc.) on existing populations and businesses (see for example, Collins *et al*, 2009).

For example, the UK Government launched a new strategy for sustainable development, '*Securing the Future*', in March 2005. All UK Government Departments now share responsibility for making environmentally sustainable development a reality. In turn, Sport England (the UK Government's main agency promoting sport in England) has prepared a Sustainable Development Strategy which reviews the contribution of Sport England in meeting the Government's national sustainable development goals. The Strategy commits Sport England to actively promote environmental objectives and strengthen environmental advice in its published design guidance.

In addition to international and national policies advocating sustainable development, there is now the specific urgency around our response to climate change. The UK government has produced guidance to other agencies, businesses and developers to encourage them to plan and adapt to potential changes. Extreme events, such as the flooding which occurred throughout the UK in late 2012, or the drought of early 2012, are likely to become more frequent and more severe in the coming decades, bringing potential disruption to the economy (UK CCRA 2012).

However, future climate and economic circumstances are uncertain, and with uncertainty comes risk that needs to be accounted for. In response to this uncertainty, the UK government has just published its National Adaptation Programme (HM Government 2013), which encourages all organisations to consider the impacts of climate change when planning, designing and implementing new initiatives.

So sporting bodies at all levels and in all nations are recognising the need to integrate their plans and policies with the increasing focus on sustainability and environmental management. What might this mean in practice?

### **Sustainability Planning for Sport and Recreation**

Wheeler (2013) advocates a major shift in the planning and managing of different activities and resources, which historically have often been undertaken in very narrowly focused sectors by compartmentalised professions, and he refers to this approach as sustainability planning. Sustainability planning is a holistic outlook that emphasises the relationships between the different elements of human and natural systems, works across disciplinary boundaries, and operates across different scales of planning.

Sport and recreation managers are part of this process. They also need to look beyond the confines of their own discipline, and explore the importance of planning new projects and initiatives strategically; integrating the development and management of sports facilities with associated environmental objectives and land management strategies.

There are a number of principles which can be followed to ensure that new projects enhance and protect the natural environment as far as possible. These principles have been recently

articulated in guidance from the UK government to its own sports agencies (Sport England, 2013c), but would apply to similar agencies in any country.

### **The Importance of Strategic Planning**

If sports and recreation managers are to integrate their proposals into a wider sustainable context, then they need to reflect on the local, regional and national planning policy frameworks in their own constituencies.

Wheeler (2013) provides an excellent overview of sustainability planning in practice. He explains how environmental review legislation, such as the National Environmental Policy Act in the United States and subsequent state environmental policy acts, have required since the 1970s a relatively contextual evaluation of proposed projects. These frameworks require public agencies, and occasionally private developers, to consider a wide range of environmental impacts, traffic and historical records, housing, recreation and cultural resources. Agencies compile and analyse this information within environmental impact statements and assessments according to the legal requirements of their area.

In the UK, a similar approach is advocated through the National Planning Policy Framework, the UK government policy which requires local planning authorities to contribute to and to enhance the natural and local environment, and ensure that development is sustainable (Department of Communities and Local Government, 2012).

In many jurisdictions, an Environmental Impact Assessment may be needed if proposed developments are either significant in scale or have an impact on protected landscapes or habitats. The International Association of Impact Assessment (IAIA) defines EIA as the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made (IAIA, n.d.). Strategic environmental assessment (SEA) is a systematic decision process, aiming to ensure that environmental issues are considered effectively in policy, plan and programme making (Fischer, 2007). It should be a structured, rigorous, participative, and open process, often prepared by public planning authorities and at times private bodies. The European SEA Directive 2001/42/EC requires that all member states of the European Union should have ratified the Directive into their own country's law by 21 July 2004 (Strategic Environmental Assessment Information Service, 2013).

At a strategic level, many local planning authorities will be required by their own statutory legislation to provide development plans which set out a clear vision of the development potential of their area. This will generally include consideration of residential and economic development needs, transport and waste management, environmental designations and protected areas, alongside recreation and leisure policies. Many such policies advocate a strategic approach to the provision of green space to provide a range of public benefits - often a network of natural areas, green corridors and other land which can contribute to what has become known as 'green infrastructure' (see, for example, Natural England, 2009).

Green infrastructure - although far from a new concept - was first identified in the 1990s in the United States as a strategic, multi-scale approach to land conservation and land use planning, with particular emphasis on the life support functions of natural processes or

ecosystems (Natural England, 2009). Defined in the UK's National Planning Policy Framework as 'a network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities' (Department of Communities and Local Government, 2012:n.p.), green infrastructure can provide a range of informal and formal recreation opportunities, as well as a much broader range of so-call ecosystem services such as climate change and flood regulation, biodiversity enhancement, and water catchment management.

### **Strategic Needs Assessment and Visitor Impact Management**

In terms of conflicts between environmental protection and sport and recreation provision, many people working in this area remain focused on the potential impacts of participants on the resource itself and regard recreation as a major problem to be managed. This perception is contrary to much of the available evidence (see for example House of Commons, 1995). It appears that concern about direct damage to the natural environment from recreational use is often more of a philosophical standpoint, rather than a conclusion based on any hard data. Other pressures - agricultural intensification, urban development, extensive pollution - can be far more significant in terms of impacts on our environment (English Nature, 2003).

Many researchers now believe that the focus on achieving a balance between sport and recreation and environmental protection is no longer as relevant to current leisure and sport management practices as had previously been thought. Indeed, in most cases, it is possible to meet the demand for leisure and to promote further opportunities through sensitive planning and management based on a series of principles contained within established frameworks. Rather than discussing a balance or compromise between these two objectives, far better to aim to achieve the 'best of both worlds'.

Elson, Heaney and Reynolds (1995) conclude that six major factors are pivotal in good management practice:

- Understanding the state of the environment – establishing baseline environmental conditions on site, and an agreed view of the nature of any impacts;
- Clarity of purpose – setting unequivocal objectives forming a realistic framework for future action;
- Participatory management – regarding management as a process, guided by regular engagement with and negotiations between relevant interests;
- Importance of voluntary agreements – the operation of restraint and self-policing by clubs and governing bodies;
- Local involvement – regular liaison and negotiation with local populations and sports organisations;
- Monitoring and review – a conscious, systematic process which informs future management decision, and any changes in direction to site management.

Outdoor recreation managers are generally faced with an environmental resource used by a multitude of individuals and organisations, with many different interests and concerns. An early approach to the issue of potential conflict was the concept of carrying capacities - 'the level of recreation use an area can sustain without an unacceptable degree of deterioration

of the character and quality of the resource or the recreation experience` (Countryside Commission, 1970, cited in Hall & Page, 2002: 135). However, the chief problem in utilising this concept lies in what different individuals and groups construe as unacceptable recreational use. Not only is this an issue when related to social and perceptual factors, but it is also true of ecological change. Indeed, it has been notoriously difficult to provide any empirical evidence which can confidently demonstrate causal links between numbers of participants and environmental change.

Despite carrying capacity being highly elusive to implement successfully due to these difficulties, many practitioners continue to refer to it as a useful concept. However, there are other techniques which may be more useful in the field - a range of `Visitor Planning Frameworks` which seek to achieve the best of all worlds (Crowe, 2005). One of these alternatives is a framework known as Limits of Acceptable Change (LAC). Instead of asking `How much is too much?` the LAC approach rephrases the question by asking `How much change is acceptable?` (Newsome *et al*, 2002). The concept was first developed by Stankey and McCool (1984) in response to perceived difficulties in establishing a numerical recreational carrying capacity for wilderness and white water rivers in protected landscapes in the US. In the UK, Sidaway (1991) has simplified the LAC process into four steps:

- Detailed objectives to be agreed for each site by interested agencies and individuals;
- Thresholds for deterioration (i.e. the limits of acceptable change) to be agreed in advance;
- Regular, systematic measurements to be taken so that management can monitor change; and
- Management responses triggered when these values are exceeded - also agreed in advance.

The emphasis is very different from the carrying capacity concept, and particularly highlights the need for robust and up to date user and visitor needs assessments, as well effective monitoring of environmental change.

The LAC approach has been used extensively in North America, Australia and New Zealand.

#### **CASE STUDY 6.1**

An excellent case study is found at the Bob Marshall Wilderness Complex, Montana, USA (US Forest Service, no date).

The Bob Marshall Wilderness Complex, in north central Montana, is managed by the US Forest Service (USFS). It comprises 600,000 hectares of temperate forest and attracts 25,000 visitors a year, primarily from June to November. June to September is dominated by backpacking and horse- supported backcountry trips. In the autumn, most use is for big game hunting.

In 1982, the USFS embarked on a planning effort based on the Limits of Acceptable Change process, largely because of the perceived need to involve the public more closely in the management process. It involved continuous public participation through a taskforce consisting of a range of stakeholders: the public, scientists and managers. The process took

five years. The LAC framework focused effort on addressing how much change in wilderness, biophysical and social conditions was acceptable. By designing a public participation process that incorporated the full range of values involved in the Wilderness area, participants developed a set of management actions that were effective in reducing and controlling human-induced impacts, and achieved the social and political acceptability necessary for implementation.

The plan has three broad characteristics:

- (1) It establishes four zones designed to protect the pristine character of the wilderness, yet realistically permits some trade-offs between recreation use and human-induced impacts.
- (2) It identifies indicator variables – things to monitor to ensure conditions remain acceptable and to use to establish the effectiveness of actions implemented to control or mitigate impacts. For each indicator, quantifiable standards exist, indicating what limit of change from the natural baseline is acceptable in each zone.
- (3) It indicates for each zone the management actions in order of their social acceptability. This gives the manager a choice of tools and determines what management action will be most acceptable in controlling impacts. This procedure encourages the least intrusive management action first.

Some of the management actions implemented have been successful at reducing impacts on the ground while other actions have caused unexpected results that have actually led to the degradation of the overall resource condition in some locations. Lessons learnt include:

- **Education / Enforcement** - Direct visitor contacts by experienced wilderness rangers are important to educate the public about the value of wilderness.
- **Prepare for potential shifts in visitor use** - e.g. due to fire activity - managers need to prepare for increased pressure from the public in popular locations not impacted by fire.
- **Encourage the proper `Leave-No-Trace` principles for camping** - encouraging future users to camp at already popular sites, because research shows that approximately 90% of the resource impact to a previously unused location is caused in the first 4 nights of use.
- **Closing campsites can lead to a net increase in resource impact** - temporary closure of campsites for “rehabilitation” has not led to an improvement in their condition. Campsite rehabilitation needs to minimise the future expansion of a site.
- **Coordination among commercial services** - Active work with guides to minimize overlap of itineraries reduces the likelihood of organised groups being at the same place at the same time.
- **Stock Holding Facilities** - Temporary hitch rails or high-lines encourages stock holding in more durable areas and reduces the spread of resource damage.

Overall, the implementation of the LAC process at the Bob Marshall Wilderness Complex has been regarded as a success, and the planning and management activities continue today as does the involvement of the task force.

One of the most critical aspects of developing a LAC approach has been establishing stakeholder endorsement and support. Stakeholders from the local tourism sector and communities can provide valuable input to determining desired outcomes, and are usually essential in providing the economic and political support necessary to ensure programmes can be effectively delivered and monitored.

### **Site Management Strategies and Techniques**

Visitor management frameworks also require the implementation of effective site management actions to implement policies aimed at reducing the impact of users on the environment. Sidaway (1991) has suggested that the following techniques are generally worth considering:

- Zoning
- Regulating access
- Self-regulation, voluntary codes and voluntary agreements
- Information and interpretation
- Monitoring and review

One of the key strategies for managing the environment is through zoning. This involves recognising smaller zones or units within areas, each with prescribed levels of environmental protection and certain levels and types of use. Most planning frameworks include identifying and managing zones over large areas. But this process can also work effectively at a detailed, site level.

Zoning helps to provide choice for visitors, as well as clarifying future intentions. Zoning can be used to separate incompatible uses in space and time (spatial and temporal zoning). Spatial zoning might segregate different recreational uses, such as motorised and non-motorised users on water or land, or horse riders and cyclists on multi-user routes. An example of temporal zoning might include limiting access to particular areas of a site, such as a nature reserve during bird nesting seasons.

The provision, location, style and quality of site infrastructure are key components of the management of visitors and of regulating access. Infrastructure provides an indication of the quality of management and can be an interface between organisations and visitors. But the first question must be – do we need any infrastructure at all? Particularly in more natural areas, there may be special qualities such as a sense of `wilderness` which should not be sacrificed. Often, people services – such as a ranger service or educational service – can be more effective in resolving management issues than new infrastructure.

However, infrastructure may be needed. The general issues which relate to the use of such tools include (adapted from Keirle, 2002):

- The design of the item - as reflected in its function and anticipated users;
- The nature of the site, and location of the item;
- Creation of local distinctiveness - through selection of appropriate materials, scale and design;



- Costs - both of the initial installation and long-term maintenance requirements;
- Robustness (for example, against vandalism);
- Needs of participants with disabilities;
- Health and safety issues.

The acceptance of responsibility for protecting the environment by participants themselves is one of the most effective measures. Self-regulation is most successful when there is an affinity of interests between the participants. This is usually more easily achieved when most participants belong to the same organisation or club, which can then negotiate use with a landowner or public body. It can, however, lead to difficulties of exclusive agreements between a limited group of stakeholders. For example, attempts to resolve conflicts surrounding access to water by both anglers and canoeists have been made through the development of access arrangements between either or both of these groups and the waterway owners. However, even where voluntary agreements between these groups can be negotiated, often the needs of the informal participant, with no access to special arrangements or information, can remain unclear and ambiguous.

High quality information, both on and off site, is needed to enable participants and spectators to make informed decisions; whereas interpretation might be needed to help visitors to understand and enjoy a site. Keirle (2002) outlines a range of information that can be provided at recreation sites and the variety of methods for providing that information. He also suggests how information provision can be used to influence users:

- Where people go – by providing information we can influence the sites that people go to, or the locations within sites that people go to.
- When people go – by letting people know about opening times, or the timing of events.
- How people get to a site – provision of clear information on how to get to a site by car, public transport or bike.
- What they do when they get to the site – what are the attractions of the site and how do they get to them?
- Who goes to a site – information can be targeted at particular market segments.

Interpretation goes beyond just information provision. An early definition of interpretation states that it is 'An educational activity which aims to reveal meanings and relationships through the use of original objects, by first-hand experience, and by illustrative media, rather than simply communicate factual information' (Tilden 1957:8). Good interpretation enhances enjoyment and understanding. But as well as adding to the visitors' experience, interpretation can also develop visitors' understanding and support for the managers' role, and their objectives and policies.

Monitoring and review is now an accepted stage in any programme or project management cycle, although all too often it is still under-resourced and ineffectively used. Managers need to accurately evaluate the performance of their decisions in terms of implementing policies, and reflect on the results of such monitoring to then increase the effectiveness of their work. As part of this process, managers should ask themselves '*what will success look like?*', and consider how their objectives are to be measured. At a local level, managers need to collect

input, output and outcome data – each of these will assist in evaluating the success of any project.

Often by demonstrating a contribution to wider public benefits, the sport and recreation manager can also enhance the justification of their work. This may be particularly important in the public sector, where competing priorities for scarce resources increases the pressure on leisure budgets. So monitoring the wider public benefits which participation provides becomes an important tool for the sport and recreation manager.

### **Good Facility Design and Management**

Environmental policies are meaningless without detailed action plans and proposals for implementation which successfully put into practice their defined strategic targets. In the sport and recreation sector, these can often be achieved through the good design of new facilities and better long term management. Sport England (2007) has produced a detailed guide to provide practical information to assist the design and management of sports, recreation and leisure facilities to promote the UK's commitments to delivering environmentally sustainable development.

The aim of the guide is to encourage clients, designers, contractors and facilities managers to embrace the environmental sustainability policies developed by government, and to treat sustainability as an integral concern from the inception of any project. This Sport England guide covers every phase of a project from the development of a vision for sustainability shared between client and design team, through to good practice in the day to day operation of the completed facility.

While some principles, like energy conservation, are fundamental, there are many emerging technologies that are undergoing rapid development. Many of the issues are posed in the form of questions, challenging the delivery team to assess feasibility in the context of a specific project. The following areas provide a useful checklist (adapted from Sport England, 2007):

- Client and design team vision
- Transport arrangements
- Site appraisal and renewable energy
- Protecting and enhancing biodiversity
- Building design
- Construction elements
- Low environmental impact materials and components
- Lighting, heating and ventilation systems
- Water conservation measures
- Commission and hand-over arrangements
- Longer term management practices

There are many examples of sporting organisations developing their own good practice in terms of sustainable design. The Olympics movement has recently led the way (IOC Sport and Environment Commission, n.d.)

The Vancouver Organising Committee (VANOC) for the Winter Olympics in 2010 was the first Organising Committee to create a Sustainability Department. For VANOC, sustainability meant managing the social, economic and environmental impacts and opportunities of the Vancouver Olympic Games to create lasting benefits both locally and globally. To achieve this, VANOC established a set of six corporate-wide sustainability performance objectives, including accountability; environmental stewardship and impact reduction; social inclusion and responsibility; aboriginal participation and collaboration; economic benefits; and sport for sustainable living.

The London 2012 Organising Committee (LOCOG) produced the London 2012 Sustainability Plan (London 2012 Olympic Delivery Authority, n.d.). The Plan was a framework for how LOCOG and its partners would address sustainability, and reflected the Organising Committee's ambition to deliver truly sustainable Olympic Games. The Plan was structured according to five priority themes:

- Climate change
- Waste
- Biodiversity
- Inclusion
- Healthy living

A report compiled for the Economic & Social Research Council (ESRC, 2010) suggests that it is still too early to fully assess the sustainability of the London 2012 Games. But the London 2012 Olympic Delivery Authority (n.d.) has published its own achievements, which include:

- Reusing or recycling 98 per cent of demolished materials, and transporting 63 per cent (by weight) of construction materials to the site by rail or water;
- Establishing a new energy infrastructure to reduce carbon emissions;
- Optimising the opportunities for efficient water use and creating more than 100 hectares of open space, designed to reduce the risk of flooding in the river valley and enrich the biodiversity of the area;
- Relocating species, including birds, bats and lizards, and cleaning over a million cubic metres of soil;
- Setting itself and its contractors working on the Olympic Park, a comprehensive range of targets that were embedded in systems, processes, tools and the culture of the project.

### **Ensuring Stakeholder Involvement and Community Participation**

Sustainable development depends on economic and social sustainability, as well as environmental. The involvement of local people and indeed, all relevant stakeholders, in the design and management of projects and facilities, can help to ensure that environmental objectives are met.

An effective sport or leisure manager will base their decision-making on sound evidence about their customers' needs and demands, and on the special characteristics of their resource. In order to develop clear objectives, owned and shared by all stakeholders, it is essential that information and data is gathered from all those with an interest in a site. The different aspects of a site to be monitored must be agreed and performance measures decided in advance. All of these issues require resources in terms of staff time and finance. Both internal and external stakeholders should be involved in all stages of the process. External facilitators may be required to ensure the process is a full and open engagement with all stakeholders.

## **CASE STUDY 6.2**

An excellent example of this approach is provided by the Stanage Forum located in the Peak District National Park in the UK (Peak District National Park Authority, n.d.).

The Stanage/North Lees Estate is owned and managed by the Peak District National Park Authority (NPA). Its landscape value is exceptional, with internationally rare heather moorland and blanket bog, and its recreational value is equally outstanding. The Estate receives over half a million visitors per year, with a wide range of activities including walking, cycling, hang-gliding and paragliding, and bird watching. Stanage Edge is perhaps best known as an internationally important gritstone climbing edge, arguably one of the birthplaces of the sport.

In 2000, the NPA wished to review the Management Plan for the Estate. It was perceived that there were real conflicts between the various activities on the Estate, and its management for conservation and farming interests. Rather than embark on a traditional process involving the production of a draft plan followed by various consultation exercises, the NPA began with a blank sheet of paper and commissioned an independent facilitator to guide the subsequent process.

A website was established with an on-line discussion board to enable as wide a debate as possible. An open public meeting was held, attended by over 70 people, in August 2000. This wider Forum agreed a set of consensus building principles in order to develop a shared vision for the Plan and a steering group was created. The Steering Group framed a number of specific problems, which were then discussed in smaller technical groups. The emphasis was on consensus building and improving understanding in order to reach agreed solutions.

Over the next two years, large amounts of time were voluntarily given by individuals and groups contributing to the shared development of the Stanage/North Lees Estate Management Plan. A total of 285 people receive the Forum newsletter, and in total 135 different people attended public events. From the first Forum event in August 2000 up to the production of the draft plan at the end of June 2002, there were 21,300 hits on the Forum website. The final ten year Management Plan was agreed in October 2002.

Since then there have been notable successes. The rare *mountain blackbird*, the Ring Ouzel, is now successfully breeding on the Edge following close co-operation with local climbers to avoid their nesting sites. Difficult negotiations between different groups over the legal use of a byway by motorised vehicles has led to the agreement of voluntary codes of conduct by the motoring groups, including speed limits and other restrictions (although this

issue remains particularly contentious). An annual public forum reviews progress and continues to seek to encourage anyone with an interest in the area to become involved in its future management.

Due to the nature of land ownership and land use, the range of stakeholders with an interest in any sport or recreation development is likely to be large. Equally, resources are often limited and this can lead to managers focusing on those stakeholders with the 'loudest voice', or where traditional relationships are already well established (such as with significant non-governmental organisations, national sports bodies, and known user groups). Particular difficulties are faced in trying to work with 'hard to reach' groups, such as the elderly or young people, spatially or socially isolated groups, and other minorities who may not be formally represented or organised.

Considerable support may be needed to enable some participants to engage meaningfully. Managers need to be creative and imaginative in reaching a wider audience and enabling them to engage as fully as possible. This could mean developing partnerships with groups not normally associated specifically with sports activities such as community groups or youth services. Wider social benefits can also be achieved by promoting community use of existing sports facilities, particularly on school sites and other educational establishments.

## **Conclusions**

The natural environment is a hugely important leisure resource, in all its many and varied forms. There is increasing recognition that the use of the natural environment for leisure can bring a range of important public benefits, not just to individuals but also to society more generally. Increasingly, these public benefits are included within a wider range of public benefits, defined as 'ecosystem services' by the United Nations 2005 Millennium Ecosystem Assessment. The wider benefits to society of a healthy and well management environment underline the importance of maintaining and enhancing that environment. So sport development must also be achieved through sustainable planning and sustainable management in order to achieve the long term health of both humans and ecosystems.

## **References**

Collins, A, Jones, C., & Munday, M. (2009) *Assessing the environmental impacts of mega sporting events: Two options?* Tourism Management 30, pp 828–837.

Crowe, L. (2005) *Promoting Outdoor Recreation in the English National Parks: Guide to Good Practice*, Countryside Agency CA214.

DCLG (2012) National Planning Policy Framework, last accessed November 2013 at <https://www.gov.uk/government/publications/national-planning-policy-framework--2>.

Elliott, J.A. (2012) *An Introduction to Sustainable Development*, Abingdon, UK:Routledge.

Elson, M., Heaney, D., & Reynolds, G., (1995), *Good Practice in the planning and management of sport and active recreation in the countryside*, Sports Council and Countryside Agency, England.

Economic & Social Research Council (2010), *Olympic Games Impact Study – London 2012 Pre-Games Report*, accessed at <http://www.esrc.ac.uk/files/news-events-and-publications/news/2014/olympic-games-impact-study-london-2012-pre-games-report/> , last accessed 20 November 2013.

Fischer, T. B. (2007) *Theory and Practice of Strategic Environmental Assessment*, London: Earthscan.

Hall, C.M. and Page, S.J. (2002) *The Geography of Tourism and Recreation: Environment, Place and Space*, London:Routledge.

House of Commons (1995) *Environment Committee report on The Environmental Impact of Leisure Activities*, London:HMSO.

HM Government (2013) *National Adaptation Programme - Making the country resilient to a changing climate*, last accessed on 8 August 2013 at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/209866/pb13942-nap-20130701.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209866/pb13942-nap-20130701.pdf).

International Association of Impact Assessment (IAIA) - last accessed November 2013 at <http://www.iaia.org/>.

International Olympics Committee - Sport and Environment Commission (no date) - last accessed on 27 August 2013 at <http://www.olympic.org/sport-environment-commission?tab=games>.

Keirle, I. (2002) *Countryside Recreation Site Management: A Marketing Approach*, London: Routledge.

London 2012 Olympic Delivery Authority (n.d.) `Sustainability`. Available on line at <http://learninglegacy.independent.gov.uk/themes/sustainability/index.php>, last accessed November 2013.

Natural England (2009) *Green Infrastructure Guide*, Natural England, NE176, England. Available at [www.naturalengland.org.uk](http://www.naturalengland.org.uk)

Newsome, D., Moore, S.A., Dowling, R.K. (2002), *Natural Area Tourism: Ecology, Impacts and Management*, Clevedon, UK:Channel View Publications.

Peak District National Park Authority (n. d.) *Stanage Forum*. Available on line at [www.peakdistrict.org/index/looking-after/stanage.htm](http://www.peakdistrict.org/index/looking-after/stanage.htm), last accessed November 2013.

Sidaway, R., (1991) *Good Conservation Practice for Sport and Recreation*, UK: Sports Council and Countryside Commission.

Sport England (2007), *Environmental Sustainability: Promoting Sustainable Design for Sport*, England:Sport England. Available on line at

<http://www.sportengland.org/media/32366/Environmental-sustainability.pdf> . Last accessed on 8 August 2013.

Sport England (2013a) `Planning for Sport`. Available on line at <http://sportengland.org.facilities-planning/planning-for-sport/>. Last accessed on 6 August 2013.

Sport England (2013b) `Planning for Sport Development Management`. Available on line at [http://www.sportengland.org/media/166625/planning-for-sport\\_development-management-june-2013.pdf](http://www.sportengland.org/media/166625/planning-for-sport_development-management-june-2013.pdf). Last accessed on 8 August 2013.

Sport England (2013c) `Planning Tools and Guidance`. Available on line at <http://sportengland.org.facilities-planning/planning-for-sport/planning-tools-and-guidance/>. Last accessed 20 November 2013.

Stankey, G.H. & McCool, S.F. (1984) `Carrying capacity in recreation settings: evaluation, appraisal and applications`, *Leisure Science* 6: 453-473.

Strategic Environmental Assessment Information Service (2013) `About SEA`. Available on line at <http://www.sea-info.net/> . Last accessed 8 August 2013.

Tilden, F. (1957) *Interpreting Our Heritage* (3rd Edition), Chapel Hill, NC: The University of North Carolina Press.

UK Climate Change Risk Assessment (2012), accessed on line at <https://www.gov.uk/government/publications/uk-climate-change-risk-assessment-government-report>, last accessed November 2013.

United Nations Millennium Ecosystem Assessment (2005) - accessed on line at <http://www.unep.org/maweb>, last accessed 20 November 2013.

United States Forest Service (2013), `Home Page`. Available online at <http://www.fs.fed.us/r1/flathead/wilderness/bmwcomplex.shtml>, last accessed 20 November 2013.

Wheeler, S.M. (2013) *Planning for Sustainability: Creating livable, equitable and ecological communities*, Abingdon, UK: Routledge.