

An environment for health

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The Network is a resource for anyone wanting to share knowledge or learn about the practical benefits of an ecosystems approach. The Network draws together experience from the UK and elsewhere to assist organisations to understand how an ecosystems approach can help us build sustainable communities. It provides the expertise and experience of a growing UK-wide active community.

Opportunities to get involved

There are lots of ways to participate in the Network, which is free to join.

The best starting point is ekn.defra.gov.uk/about/participate, where you will find links to:

- register as a Member and tell us what the Network can do for you;
- a form to propose an activity that is aligned with the aims of the Network. Limited practical and financial assistance is available to support these activities; and
- contact us with details of a relevant project, tool or scheme that will be of interest to other members.

Front cover photo: Garscadden Wood Fun Day, Glasgow, August 2012. Forestry Commission/Iain McLean © Iain McLean

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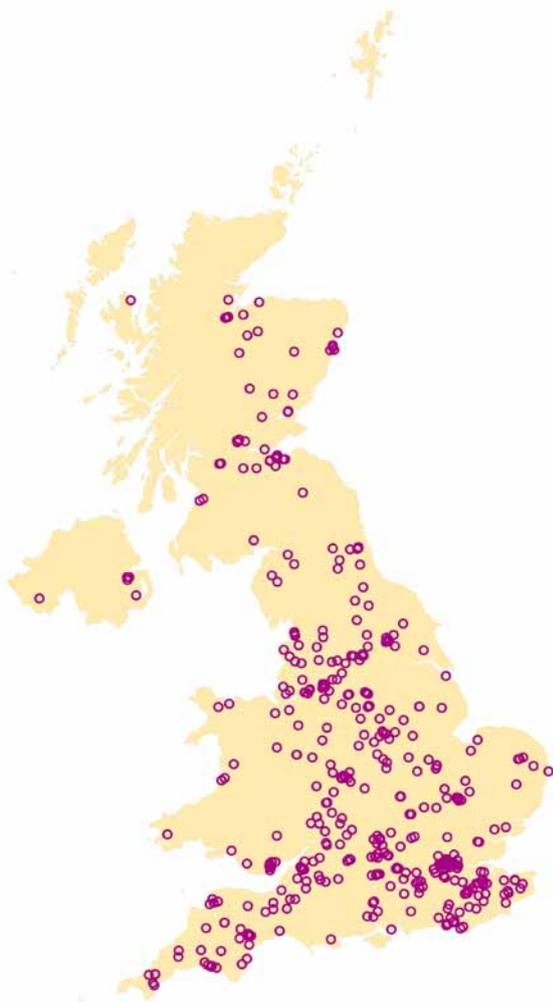
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Making the right connections

Bruce Howard, Network Co-ordinator

The Ecosystems Knowledge Network continues to grow not just numerically, but also in the breadth and depth of the know-how, project experience and people involved. In amongst the 700 members, we have expertise in everything from education to economics and from planning to permaculture. It is a powerful practitioner community for delivering all the ideas, practices and principles that stem from an ecosystems approach.

The Network's learning themes were selected by projects from all over the UK who participated in the inaugural learning forum in February 2012. One of these themes is the connections between diverse areas of policy and practice in order to improve the way that land and marine areas are managed for people and nature. In this issue, we place a spotlight on the links between health and the natural environment. While the realisation that healthy places mean healthy people is nothing new, many opportunities to deliver on this remain untapped. The Network is a place to bring together the relevant professions and sectors to make the most of these opportunities.



Map showing the location of Ecosystems Knowledge Network members in December 2012 based on UK postcodes. The network membership of 712 people includes 24 members from other parts of Europe and 23 members from outside Europe. Contains Ordnance Survey data © Crown copyright and database right 2012. Contains National Statistics data © Crown copyright and database right 2012. Administrative boundaries: © EuroGeographics, UN-FAO, Turkstat.

One of the most helpful ways of understanding what an ecosystems approach means in practice is to see how it has been applied in particular local contexts. This issue of Ecosystems News looks at a range of different practical applications. We report on a recent Network workshop where several innovative approaches to mapping ecosystem services were shared. In addition, we profile two projects that reflect an ecosystems approach in their work; one from the Cairngorms in Scotland and one which is all about the Celtic Sea.

There is also an introduction to the next special focus for the Network: valuing ecosystem services in the context of an ecosystems approach.

The Ecosystems Knowledge Network is here to help members connect with each other over the array of challenges and benefits that stem from an ecosystems approach. Your suggestions for activities, as well as your ideas for information to share and comments, are all welcome. Please follow the 'How to participate' link at ekn.defra.gov.uk



Bruce Howard, Centre for Ecology and Hydrology

Good places, better health

Public health expert, Professor George Morris, introduces the cover theme for this issue of Ecosystems News by providing a historical perspective on how the natural environment has been considered as a determinant of health. He highlights the role of members of the Ecosystems Knowledge Network in showing what an 'ecological' view of public health means for particular places and communities.

Some of public health's greatest triumphs have been achieved through policies that target protection of the natural environment. Take, for example, 19th Century sanitary campaigns against infectious disease, which included getting communities together to clean up waterways. During the 20th Century, however, strategies to improve health became increasingly targeted towards individuals rather than communities and the places where people lived and worked. It was as though people adopted and sustained behaviours that damage health in a cultural, physical and social vacuum. Environment generally, and certainly the natural environment, was played down as a determinant of health.

Despite the tenacity of this narrow view, many people retained a wider social and ecological perspective on what mattered for health and well-being. Certainly, for public health professionals, the notion of health and disease as products of a complex interaction of individual characteristics with societal influences, including the environment, remained logical and compelling. Increasing healthcare costs and the limited impact of policies targeting unhealthy behaviours of individuals, particularly the socially disadvantaged, provided strong motivation to take the policy focus beyond the individual to a wider set of issues.

In the 21st Century, the challenges of spiralling healthcare costs and stubborn health inequalities have not gone away. Policy makers still confront real difficulty in how to conceive and implement effective policies when "everything matters". They must plainly reach out to all of those whose actions can influence health and well-being.

In accordance with an ecosystems approach, the natural environment is now being reinstated in policy as a key driver of good health. This is helped by improved understanding of a psycho-social dimension in the relationship between people and places. There is also mounting evidence of the health-nurturing potential of high quality environments, notably green, blue and natural spaces.

In 2008, the Scottish Government introduced a policy initiative on environment and human health: *Good Places, Better Health*. This recognised the many factors that combine to influence health, and the real potential of better places, not least natural environments, to create improved and more equal health across society.

This used a modified version of the World Health Organisation's 'driving forces, pressures, state, exposures, health effects and actions' model (DPSEEA) to frame selected environment and health issues in a more holistic way. The model allows the higher level drivers that shape the environment (such as cultural, economic and demographic factors) to be represented alongside social and other factors (positive or negative) that influence the health of individuals. The model also allows the policies and actions that already exist, and those that might make a difference, to be mapped onto the model, making the approach especially useful for policy makers and practitioners. The process of populating the model for different issues has facilitated stakeholder engagement and consensus building.

Good Places, Better Health illustrates the potential of a systematic approach to policies on environment to improve and protect health. In particular, the model has helped to show the environmental contribution to health inequalities. There is real potential to apply this approach to show how environmental action at the practical level might help address the social and public health challenges of an ageing population.

There is a lot of talk today about a return to an ecological view of public health. This fits well with the concept of ecosystems services and the mindset of an ecosystems approach. Members of the Ecosystems Knowledge Network can play an important role in showing what an ecological view of public health means for particular places and communities. Practical projects that demonstrate in robust ways that good places mean better health have strong potential to inform and motivate those who formulate policy in this area. They can contribute to a new era for public health in the 21st Century.

Professor George Morris *has a distinguished career in the environment-related aspects of public health. This has included ten years as a consultant in environmental health for NHS Scotland and five years as scientific policy adviser to Scotland's Chief Medical Officer. He continues to advise on the implementation of Good Places, Better Health. Now working independently, he was recently appointed as Honorary Visiting Professor at the European Centre for Environment and Human Health, University of Exeter Medical School.*



Getting to the heart of healthcare

An ecosystems approach provides the basis for all professions to work together to realise the full potential for the natural environment to improve people's well being. Rachel Stancliffe, Director of the Centre for Sustainable Healthcare, outlines how the health sector is being engaged to ensure that the natural environment delivers greater health benefits.

The National Health Service (NHS) has contact with one million patients every 36 hours and employs over 1.7 million people. An organisation of this size has huge potential to influence employees, patients and wider society with positive messages about health, resource use and the environment. It can also make an invaluable contribution to bringing about a step change in recognition of the benefits the natural environment brings for health.

The 2010 NHS White Paper, *Equity and Excellence: Liberating the NHS*, recognises the financial challenge for the present day healthcare system to meet demand. It also points to spiralling costs in the future. The current system focuses on treating ill health in hospitals and treatment centres. Not only does this place a burden on the public purse, it also has significant costs for the natural environment, individuals and society.

The Centre for Sustainable Healthcare has developed a model for sustainable healthcare based on four principles: prevention, patient-centred care, lean pathways (making sure that everything you do adds value to the outcome) and low carbon interventions. In this model, the natural environment in and around places where people live and work is especially relevant to prevention. Contact with the environment can also engage people in sustainability at any point in the healthcare system.

Both patients and healthcare professionals would agree that preventing illness is better than treating it. If we are serious about increasing our emphasis on preventing ill-health, rather than just treating it when it occurs, then we must do two things:

- Demonstrate to organisations which provide crucial elements of the wider determinants of health (such as buildings, transport and education) that what they do has an effect on health by finding ways to measure this and therefore give value to it; and
- Dis-invest from high cost, low value healthcare interventions and re-invest in effective interventions for prevention, positive health and wellbeing, again based on evidence and cost-benefit comparisons.

In order to engage the main core of the NHS, there is a need to engage with healthcare specialties such as diabetes, surgery and mental health. These specialities are where the majority of people work and where the majority of the money is spent. In response to this, the Centre for Sustainable Healthcare has developed a Sustainable Specialties Programme.

Practical projects provide an ideal way of helping professional groups to play their part in maximising the benefits provided by the natural environment for individuals and society. The NHS Forest Project, co-ordinated by the Centre for Sustainable Healthcare, is a response to this for NHS staff, patients and local communities. The Project uses the symbolism of a tree to encourage people to look outside the buildings in which they work and then to get involved in a nature based project. NHS Forest projects are constantly winning over clinicians who start off asking "why is money being spent on trees?" but end up sponsoring one because they completely see the point.

The new configuration within healthcare, in which buying power is moved closer to communities, presents new opportunities for delivering change. So how can we get Clinical Commissioning Groups (CCGs) in England to buy locally run projects in the environment instead of drugs from a multinational? How do we raise awareness of Green Gyms among General Practitioners throughout the UK? The way forward for those in the environment sector is by building relationships with individuals in the healthcare sector and working in partnership to deliver demonstration projects.

The problem we have had while trying to do this is that if you want to be rigorous about the costs and benefits of your project as an intervention in order to demonstrate the intended outcomes, it is often necessary to invest substantially in the project before the health sector will 'buy' in.

An ecosystems approach provides the motive for joining up all professions and sectors. In the case of healthcare, it has the potential to go well beyond the public health profession. To start the process of transformation, however, we must meet other professions on their own turf and speak their language while, at the same time, showing them how the natural environment can be part of the core business of healthcare.

Rachel Stancliffe is founding Director of the Centre for Sustainable Healthcare, previously called the Campaign for Greener Healthcare, which she started with Muir Gray in 2008 to help transform healthcare for a sustainable future. www.sustainablehealthcare.org.uk



Delivering health benefits from nature and outdoor spaces

Three innovative projects share their learning in an Ecosystems Knowledge Network webinar



Participant with leader in the Branching Out programme © John McFarlane/Forestry Commission Picture Library

When presented with the idea that natural outdoor spaces might be used to provide mental and physical health benefits for more people, some will respond by asking “what’s new?” “Surely,” they might say, “it was the basis for so many urban parks being set up by the Victorians as ‘green lungs’ for the masses?”. Those involved in this topic in more recent decades will point out that many successful schemes date back to the 1990s. These include the Sonning Common Green Gym in Berkshire, which was pioneered by General Practitioner Dr William Bird.

Few could argue that action to deliver health benefits from natural outdoor spaces is anything new. Nevertheless, one question remains: are those who seek to manage particular places for nature and people going to make the most of the increased opportunities to deliver on this challenge in the coming decade? An ecosystems approach invites – and requires – a proactive response to this question.

The Ecosystems Knowledge Network held a webinar for members to learn and gain inspiration from three programmes that have made particular progress in delivering targeted health benefits by improving access to good quality natural spaces. The event took place on 30th November 2012.

In opening the webinar, Dave Stone, who has championed Natural England's work on links between nature and health, pointed to the timeliness of the topic and the opportunities opening up. He referred, for example, to the fact that the National Institute for Clinical Excellence (the official body for healthcare practice in England and Wales) has recently published guidance for healthcare professionals on walking and cycling.

"Health professionals want to fund the outcomes, not the park" Paul Nolan, The Mersey Forest

Sarah Dewar of Liverpool Primary Care Trust (PCT) and Paul Nolan from the Mersey Forest provided an overview of how their organisations have worked together to address health inequalities in Liverpool. The focus for their work is improving green infrastructure: the arrangement of natural elements in the landscape such as parks, woodlands and wetlands. They showed how the process of forming the **Liverpool Green Infrastructure Strategy** (itself a partnership between the Liverpool PCT and the City Council) had highlighted health within the range of benefits of green and blue infrastructure. The Strategy presented the evidence behind this in a considered and rational way. This provided the basis for Liverpool PCT providing £300,000 for community initiatives that set out to increase use of green space for health and well being.

The presentation of the work in Liverpool closed with some crucial but simple advice for nature-based projects aiming to work with the health sector: focus on the outcomes. As Paul Nolan summed up; "Health professionals want to fund the outcomes, not the park."

Dean Hill from Dudley PCT described the innovative **Healthy Towns Initiative**, situated on the western edge of the Birmingham conurbation in the West Midlands (one of nine Healthy Towns awarded Government funding in 2008). Its starting point was the need to tackle rising childhood obesity. The programme was designed and delivered jointly by Dudley PCT and Dudley Metropolitan Borough Council. Since work got underway, £4.5 million of funding has been used in part to deliver improvements to urban parks and developing on-road and off-road routes that are designed to increase travel on foot and cycle throughout the Dudley Metropolitan Borough. This has included the provision of outdoor gyms (exercise areas), new buildings for education and events, and staff training. The parks are known as 'Healthy Hubs'. The job of park keepers has been transformed into park rangers who are able to assist people in making the most of the facilities specifically for their health. Dudley Healthy Towns now supports the local Cardiac Rehabilitation Service and General Practitioner referral schemes. Dean Hill cited the great success of the scheme. He said, "We have people queuing up to use the outdoor gyms... we have people who have lost four and five stones."

The webinar also heard from Kirsty Cathrine of Forestry Commission Scotland, who presented the award-winning mental health and green space referral programme known as **Branching Out**. She pointed out that programmes that provide access to the natural environment can be particularly important for people with mental health issues because they are often less likely to venture outdoors.

"We have people queuing up to use the outdoor gyms. We have people who have lost four and five stones." Dean Hill, Dudley Primary Care Trust

Branching Out was set up in 2007. While initially operating in the Glasgow and Clyde area, it is now being rolled out across seven NHS Board areas in Scotland. Each Branching Out course involves a series of three hour sessions, which take place each week over three months. The sessions are based in woodland areas and involve physical activity such as health walks, tai chi and conservation work. The exercise associated with conservation work is particularly valuable as it helps people for whom the traditional indoor gym is unattractive as a way to get active. Over 70% of participants maintain attendance throughout Branching Out courses.

The Branching Out programme benefits from having a full set of written policies to ensure that the activities are safe. Staff training is a vital part of the success of the programme. Each Branching Out group is run by one environmental organisation and one mental health service, both of which follow a set of core principles and have clearly defined roles and responsibilities. Kirsty Cathrine said "We have a very clear structure as to what the environmental services can provide and what the mental health services can provide."

The importance of evaluation

All three presentations referred to evaluation work that was ongoing. The work in Liverpool is now subject to formal evaluation by green space and healthcare specialists at the University of Essex. In the case of Dudley Healthy Towns, an evaluation has shown substantial increases in the use of parks specifically for exercise, a general increase in levels of walking and a reported increase in people's confidence to manage their own weight. An expert evaluation of the Branching Out Programme made use of the Scottish Physical Activity Questionnaire to show that people were more active after the course rather than before. It also highlighted the associated benefits of participation, such as weight loss.

"We have a very clear structure as to what the environmental services can provide and what the mental health services can provide." Kirsty Cathrine, Forestry Commission Scotland

Lessons for those starting out

All of the presenters involved in the webinar shared some valuable learning points for projects who wish to address this topic area. Some examples are:

- **Engaging the health professions.** Paul Nolan suggested that building links with healthcare organisations is about finding the right individuals within them. Kirsty Cathrine encouraged those with projects providing health benefits to get out and about to speak about their findings at meetings of local health professionals.
- **Linking policy areas.** Dean Hill emphasised the value of linking up different areas of policy as the basis for partnership between land managers and health professionals. He gave the examples of air quality targets and climate change adaptation strategies. For England, the National Planning Policy Framework provides a basis for action. Sarah Dewar highlighted the contribution that green infrastructure projects can make to the NHS Heatwave Plan for England.
- **Forming distinctive partnerships.** The presentations in the webinar clearly showed that there is now the policy environment – and underpinning evidence – for creative and innovative schemes run as partnerships between those who care for natural outdoor places and those charged with looking after our health. Kirsty Cathrine noted, however, that these partnerships need to be based on the distinctive contributions that each party can provide.
- **Focusing on well being.** Several presenters highlighted that well being goes hand in hand with health. Sarah Dewar pointed out that people readily take ownership of the goal of improving well being. Involvement in green space is a way of growing that sense of ownership.

The projects featured in the webinar featured examples of what can be achieved when nature-based projects set out to deliver health benefits in a targeted way. Many more exist around the country, such as the Naturally Active programme described on Page 21.

Follow-up

- A recording of the webinar is available on the Ecosystems Knowledge Network website at <http://ekn.defra.gov.uk/about/events/past/health-webinar/>. This page also contains links to the websites of programmes featured in the webinar, along with the the evidence and evaluations and other documentation referred to by the presenters.
- View a series of links to tools and guidance on incorporating public health goals into ecosystem management at <http://ekn.defra.gov.uk/resources/tools-guidelines/health/>

Mapping ecosystem services: learning about tools and applications

Mapping ecosystem services is a rapidly developing area that forms one of the Ecosystems Knowledge Network's learning themes. The use of maps to communicate the diversity of services that nature provides for people – as well as building understanding and participation – is an important dimension of applying an ecosystems approach.

In November, the Ecosystems Knowledge Network, in partnership with Durham Wildlife Trust, held a workshop to help Network members learn from a selection of projects that have mapped ecosystem services. The style of the event reflects a major aspect of the Ecosystems Knowledge Network – shared learning between practical land and marine management projects working in different contexts around the UK.



Participants of the Sheffield workshop consider opportunities and limitations in the use of ecosystem service maps © Ivan Gajos/Countryside

The Sheffield event on mapping ecosystem services involved 60 participants from local authorities, charities, universities, consultancies and public agencies from across the UK. Many of these people are running initiatives and projects that could benefit from the use of ecosystem service maps. They all showed a real enthusiasm for making the most of both the process and outputs of mapping exercises.

In the first part of the workshop, participants had the opportunity to learn from three innovative ecosystem service mapping initiatives.

EcoServ-GIS



Chloe Butler and Jonathan Winn, Durham Wildlife Trust.

Chloe Bellamy and Jonathan Winn (Durham Wildlife Trust) presented the EcoServ-GIS toolkit that they have developed. This identifies where land can provide (supply) ecosystem services, where there is demand for those services, and also how many services are being supplied. EcoServ-GIS was developed to meet the need for a rapid, generic and transferable method to map ecosystem services at the local level for use by conservation organisations and local authority staff. The tool is expected to be particularly useful in informing spatial planning at the county scale.

EcoServ-GIS is designed to strike a balance between the complexity of mapping systems (making them expensive to generate and difficult to interpret) and over-simplicity (as is the case if they are based purely on basic habitat categories). The data it uses are widely accessible. At the same time, these data have been shown in the scientific literature to be linked to ecosystem services supply or demand.

EcoServ-GIS uses ArcGIS Geographical Information Systems (GIS) software to produce a detailed habitat base map, using Ordnance Survey Mastermap® layers. Local authority open space surveys and biodiversity data are integrated into the base map. The resulting habitat and land use information layer supports the techniques to map individual ecosystem services.

The tool has the capability to map 24 ecosystem services. Durham Wildlife Trust will release the first phase of the toolkit and user guide in January 2013. Organisations wishing to use the toolkit should contact their local Wildlife Trust.

Polyscape



Tim Pagella, University of Bangor.

Tim Pagella from Bangor University presented the Polyscape tool, which he developed with Bethanna Jackson (now at Victoria University of Wellington, New Zealand). The Polyscape tool was developed as part of research into flood risk management in the Pontbren river catchment in Mid Wales. The starting point for the development of Polyscape was the farmers of Pontbren, who joined together to plant 130,000 trees to provide improved shelter for their livestock. The tool was designed to increase engagement with local farmers and landowners, using their knowledge to 'ground truth' existing data

maps. In particular, it helped to identify where the potential for tree planting was most likely to provide multiple ecosystem service benefits.

Tim highlighted that ecosystem service maps give stakeholders a platform to debate issues on a relatively equal footing. As a result, the process of forming maps is as important as the maps that are produced. He explained that many approaches to mapping ecosystem services focus on the places where ecosystem services arise (such as woodland). They then map the synergies and trade-offs between these services. Polyscape has broadened this to look at the spatial dimensions of ecosystem services, following them from where they arise to where they are received.

Tim highlighted the need for better mapping of how ecosystem service provision changes over time.

Using Ecosystem Services mapping



Tom Butlin, The Mersey Forest.

Tom Butlin from The Mersey Forest outlined how maps can be used in planning, in design, for justifying and targeting investment, and to help to generate funding. The Mersey Forest has developed a mapping method, endorsed by the Ordnance Survey, which provides data for 28 ecosystem services. It has been applied to many different landscapes from large rural areas such as Ayrshire through to urban areas such as Liverpool, and smaller sites such as Everton Park.

The Mersey Forest has also developed an online GI tool called a Site Informer. This gives councils and other organisations access to information on existing GI, the services it provides and the demand for those services. This is a way to give people access to data if they don't have GIS or the skills to use it.

The mapping method has also helped to demonstrate the economic benefits of incorporating GI into developments. When a multi-billion pound scheme to redevelop Birkenhead Docks was proposed, the Green Infrastructure Valuation Toolkit (for which the mapping can be an input) showed that £2 million of GI investment (a small fraction of the total budget) and a small annual maintenance budget would deliver £30 million in benefits over five years. As a result of this, the developers established a Community Environment Fund.



Examining ecosystem service maps © Ivan Gajos/Countryscape

Using and applying maps

Participants at the workshop had the chance to work in groups to examine different types of ecosystem service maps and consider how they could be applied. One exercise focused on a hypothetical situation in an urban area where noise was a problem. The discussion groups were presented with the following:

- An aerial photo of an area on the edge of a town.
- A map showing only the ecosystem service potential of the area (in terms of the capacity of the environment to buffer noise).
- A map showing demand for that service (based on how noisy the area was, and how many people were likely to be affected by it).
- A map that overlaid the potential and demand maps to show the gaps (areas where there was high demand but no potential), improvement zones (areas of high demand and low potential) and hotspots (areas of high demand and high potential).
- A map showing how multiple ecosystem services could be delivered across an area.
- Participants were invited to consider what each map showed, how they related to each other and which were most useful for their work. They also considered what action could be taken in areas identified on the maps as gaps, improvement zones and hotspots for service provision.

Among the learning points from this session were:

- Maps are tools for engagement; they don't provide definitive 'answers'.

- In relation to ecosystem services, terms such as 'potential', 'need' and 'demand' can be interpreted in different ways. Careful explanation is needed.
- Ecosystem service maps have strong potential to help people evaluate scenarios and understand the impact of built development.



Ecosystem service map layers used in group discussions at the Sheffield event © Ivan Gajos/Countryside

Resolving the limitations of maps

A second interactive session involved participants in assessing the limitations to creating and using ecosystem service maps. Each discussion group also deliberated how these might be resolved. The following is an example of a limitation identified by participants, together with a way of addressing it.

- **Limitation:** different stakeholders view maps in different ways, making it difficult to use them for deliberation and to inform decisions.
- **Resolution:** develop mapping tools that stakeholders can contribute to. For instance, the marine mapping tools Marine Map and SeaSketch have data layers that different stakeholders can access from different locations.

Groups all sent out a clear message that ecosystem service maps are a valuable education tool. They are a starting point for communicating what an ecosystems approach means in practice, and for engaging people in discussions about the relationship between people and nature.

Bringing existing mapping work together

During the workshop, Nick Dales from Natural England described a project that is currently underway to collate information about ecosystem services mapping projects. This is being run by Natural England. It is hoped that this will draw together relevant tools, techniques and applications from throughout England. The tool will be updated as initiatives arise and when existing projects are updated.

Follow up

- Read the full report about the event at ekn.defra.gov.uk/about/events/past/mapping-sheffield/
- Read about other Ecosystems Knowledge Network learning themes at ekn.defra.gov.uk/about/themes/
- If you are involved in an ecosystem service mapping project and would like to share this within the Natural England project, contact Nick Dales. nick.dales@naturalengland.org.uk
- If you would like to contribute to planned further development of the EcoServ-GIS tool, contact Chloe Bellamy at Durham Wildlife Trust. cbellamy@durhamwt.co.uk or visit <http://www.durhamwt.co.uk/what-we-do/current-projects/ecoserv-project/>
- It is hoped that Polyscape will be freely available on web-based Quantum GIS (QGIS) software in the next year. It will be customisable for different users. For more information, please contact Tim Pagella at afse0c@bangor.ac.uk
- For more information about the mapping work of the Mersey Forest, please contact Tom Butlin at tom.butlin@merseyforest.org.uk. Mersey Forest's mapping method is available at http://www.merseyforest.org.uk/files/The_Value_of_Mapping_Green_Infrastructure_pdf.pdf and the Green Infrastructure Valuation Toolkit is available at <http://bit.ly/givaluationtoolkit>

Engaging with the valuation challenge

By Robert Fish, University of Exeter

Valuation, valuation, valuation! While it would be a mistake to equate this issue with the means and ends of an ecosystems approach, it is clearly an important area of innovation and interest, and let us be frank, no little confusion and critique. Members of the Ecosystems Knowledge Network will probably need no reminding that the Coalition Government's 2011 Natural Environment White Paper came under the strap-line of "securing the value of nature", while the UK National Ecosystem Assessment (NEA) argued that "ecosystem services...are consistently undervalued in conventional economic analyses and decision making".

The extent to which the practice of valuation is reducible to putting a 'price' on nature is of course an important pretext for debate. Certainly environmental economists have long prevailed upon decision makers that money is the great political leveller; if scientists and policy makers cannot reveal nature's value in monetary terms, then it cannot expect to influence those who matter in decision making. This is a point that sits uncomfortably with some, but it is also one that cannot be easily ignored. A key concern for policy advisors and scientists is now, it seems, to intensify understanding and application of non-market economic valuation techniques within practical decision making. Among other things the valuation agenda has also led to a huge flowering of interest in the development of 'payments for ecosystem services' schemes.

Yet it would be wrong to characterise valuation agendas as no more than an effort to 'marketise' the environment; to construct resource management in the image of a private dialogue between economists, ecologists and policy analysts. The White Paper for instance follows the NEA in advocating innovation in the way diverse values for nature are incorporated into decision making; the development of novel monetary valuation methodologies is just one part of what this might entail. As the White Paper explains: "taking account of all the economic and noneconomic benefits we get from these [ecosystem] services enables decision makers to exercise judgement about how we use our environment". The development of integrated approaches to valuation is thus also an important underpinning aspiration of the valuation agenda and precisely what an ecosystems approach to resource management should be all about.

Valuation and the Ecosystems Knowledge Network

As an integral part of the decision making landscape, it is important that the Network provides a space in which practitioners can understand better the assumptions upon which the valuation agenda is built, and what approaches and techniques might usefully help them engage with the challenge of valuation within practical decision making. The Network team are therefore delighted to announce a series of events and activities in the first half of 2013 that will help members address these issues. These include:

- A webinar co-organised with NERC's *Valuing Nature Network* exploring practical approaches to valuation at the local level.
- A workshop offering a one day introduction to *InVEST*, a family of tools to map and value ecosystem services produced by the Natural Capital Project in the United States.
- A workshop on the principles and practice of payments for ecosystem services schemes, based on the Defra Guide and Action Plan (due for publication in the New Year).

Later in the year, there will be a field excursion to the Lewes and Ouse Valley eco-nomics project, which is developing processes to engage local people in the valuation of nature.

Members will be notified early in the New Year about how to participate in these activities.

Watch this space!

Robert Fish is a social scientist in the University of Exeter. His research focuses on understanding the emerging contours of land use policy, including applications of an ecosystems approach in rural environments. Contact r.d.fish@exeter.ac.uk



The Network's recent webinar (see Page 9) featured three projects that have made good progress in ensuring that the natural outdoors plays a bigger role in improving people's health. For this edition of Ecosystems News, we invited another innovative project to summarise its experience of working to support health outcomes. It illustrates what can be achieved when a nature-based partnership project sets out to make its contribution to improving the health of communities, all in line with an ecosystems approach.

Naturally Active in Kent

Naturally Active, now in its fourth year, is working to enable people from all sectors of society to benefit from the opportunities for exercise in the Kent countryside. It is run by the North West Kent Countryside Partnership (hosted by Kent County Council) and has been funded by the Big Lottery Fund.

Based on the theme of 'Getting back to Nature', Naturally Active has made use of the green spaces and beauty spots of north-west Kent for a range of activities that promote mental and physical health. These include organised walks, kite flying, treasure hunts and light sports such as disc golf.



River dipping session at Foots Cray Meadows (London Borough of Bexley) © Mark Gallant

The programme had a three step strategy to:

- Offer one-off taster sessions to introduce as many people as possible to exercising in local green spaces.
- Deliver multi-session activities to increase participants' engagement and commitment to healthy activities.
- Provide in-depth activities for smaller groups with specific needs, such as those referred by GPs for particular health reasons.

During the first three years of the project, the focus was on people in the most socially and economically challenged parts of Dartford and Gravesham. Much of the work was with retired people who were socially isolated, children and young people at risk of obesity, and members of the local Sikh population who have a genetic predisposition to Type 2 diabetes.

Conservation has been a major theme of the project. As part of this, a number of 'enviro gyms' were set up in which participants were guided through practical environmental tasks such as tree planting and laying paths. This had the dual benefit of improving people's strength, stamina and confidence, while also benefiting local green spaces.

The project has provided a community resource for hospital and General Practitioner (GP) referral schemes. It provides a better alternative to the simple advice to "join a gym".

Participants in Naturally Active have said that taking part in exercise in the countryside made them feel calmer, fitter and less isolated. A care worker from a special needs school involved in the project said that one of the children she worked with barely lifted his head up in everyday life, but that he was looking around and far more engaged while taking part in the project's activities. Other people said that once they were familiar with a walk they were far more likely to take other people there too.

Feedback from people who took part raised the following points:

- Trips further afield, for longer, were seen as a good thing, and participants said that they would be willing to contribute money themselves to cover the extra costs.
- While people wanted the walks to take place in a variety of locations, they also liked having a regular meeting place and a regular time for the walks.
- The best way to persuade people to take part was to emphasise that they didn't have to be too fit.
- The benefits included lifting people's mood, discovering the local countryside and having fun.
- A survey of GPs in the local area showed that they were generally supportive of the first phase of Naturally Active and what it set out to achieve.

The following survey raised some points which might be useful for other people considering running similar schemes:

- Before referring patients to the service, the GP wanted to know what it meant for their practice, what it meant for their patient, and what the evidence was that it actually worked (for example a reduction in Body Mass Index or blood pressure).
- Many GPs said that it would be best to encourage nurses to refer people to programmes such as Naturally Active, as they have longer sessions with patients and are involved in disease management clinics.

- A holistic approach was best, linking in physical and mental health with conditions such as heart disease and diabetes.
- It was important to communicate a sense of shared goals as the role of outreach services could sometimes inadvertently compete with that of a GP practice.
- GPs saw their practices as independent entities and so it was important to establish relationships with individual practices.

Naturally Active has been granted another 12 months of funding by the Big Lottery Fund. The second phase of the project is primarily focusing on improving people's mental well-being, with physical improvement as a secondary benefit. The project is setting up groups with activities and creating outdoor spaces for them to manage, so that participants will take ownership of the activities and continue with them beyond the life of the project.

The project has played a role in meeting the Countryside Partnership's access and engagement targets.

For more information, contact Jenny Messer at Jennifer.Messer2@kent.gov.uk

More information is available at www.kentcountryside.org.uk and www.nwkcp.org

Why apply an ecosystems approach?

Sharing the learning from a workshop for practitioners in Scotland

On 3rd October 2012, Scottish Natural Heritage held an event for the exchange of ideas on how to put an ecosystems approach into action at a local level. It involved more than 70 people, drawn from the public, private and non-profit sector. Ten case studies of the application of an ecosystems approach to a diverse range of land and marine areas were presented. The findings will be of interest to Ecosystems Knowledge Network members throughout the UK.

In the event report (see web link below), the contributions from all participants are organised as answers to a series of key questions.

- What does an ecosystems approach mean?
- Why apply an ecosystems approach?
- How do you apply an ecosystems approach?
- What is needed to help apply an ecosystems approach?

In response to “why apply an ecosystems approach?”, the workshop helped to distil a series of benefits that serve as a useful checklist for people to advocate the approach within their own organisations or communities of interest. The benefits included:

- Helping to make visible ecosystem services that don't have a market value, showing that we need ways to pay for management that secures their provision.
- Helping to link people to the land, link public and private interests, and show how benefits from nature can underpin a viable and dynamic economy with strong community buy-in.
- Helping people to think about the capacity for change, the knock-on impacts of local actions through space and time, and how their actions fit into a bigger picture.

Participants of the event picked up on one of the Ecosystems Knowledge Network's most popular learning themes: linking together different policy areas.

Many of the suggested actions flowing from the question “What is needed to apply an ecosystems approach?” cut to the heart of the way the natural environment is governed in the UK. Other actions can be delivered immediately without much cost, such as the sharing of examples to explain what is new and different about the approach in urban and rural areas.

Presentations and the full report from the event are available at http://www.snh.gov.uk/policy-and-guidance/sharing-good-practice/presentations/document/?category_code=SGP&topic_id=1578

New guidance on citizen science for the environment

Volunteering is part of the life blood of many of the practical projects that are applying an ecosystems approach. It can help to create and maintain places for the benefit of both people and nature. Over and above this, the experience of volunteering can be a vital part of building an understanding of nature and its value.

Citizen science—the involvement of volunteers in science—has grown rapidly in scale and diversity over the last decade. There are many different approaches, ranging from citizen-led projects with local community groups through to scientist-led mass participation initiatives that are open to everyone. If it is well planned and carried out, citizen science can help to increase scientific knowledge, raise people's awareness of their environment and allow like-minded people to share knowledge.

In November 2012, a new citizen science guide was published. This was based on a review of 234 projects. It was prepared by scientists from the NERC Centre for Ecology and Hydrology and the Natural History Museum. The work was funded by the UK Environmental Observation Framework.

The guide is aimed both at people already involved in citizen science and those who are new to it and will help people to determine whether citizen science is the right approach. It addresses every stage of a project: setting up a team and defining the project's aims; securing funding; designing a survey and deciding what data are needed, publicising the project; and evaluating it to understand the lessons that can be learnt.

The guide, *Understanding Citizen Science and Environmental Monitoring*, is available at <http://www.ukeof.org.uk/documents/understanding-citizen-science.pdf>

Ecosystem services appraised in English National Character Area review



Southern Pennines National Character Area © Robert Goodison/Natural England

Natural England is currently reviewing and updating all 159 National Character Area profiles within England. For the first time, these profiles will address key ecosystem services and how these benefit people, wildlife and the economy. They also identify potential opportunities for positive environmental change and provide evidence and information to help local decision-making.

Twenty profiles have been published so far. The remaining 139 will follow by April 2014.

National Character Areas are defined at a national level and cover wide tracts of landscape with distinct and recognisable features that create a strong sense of place. They follow changes in landscape character rather than administrative boundaries and are defined by a unique combination of landscape, biodiversity, geodiversity (the variety of rocks, minerals, fossils, soils, landforms and natural processes), as well as cultural and economic activity.

Within these areas, more detailed Local Character Assessments, often led by local authorities or by local projects, are carried out to provide more detailed information about the landscape. Together, the profiles and assessments provide guidance to enable individuals and communities to make decisions that will achieve a more sustainable future for the environment.

This review is part of Natural England's work in delivering the European Landscape Convention. It is also sharing its review with the Countryside Council for Wales and Scottish Natural Heritage, and plans are being developed in Wales for Regional Landscape Character Areas.

More information is available at <http://www.naturalengland.org.uk/publications/nca/>

Project profiles

Ahead of each issue of Ecosystems News, we ask some of the Projects represented in the Network membership to answer some a few questions about their work. The answers illustrate the diversity of settings in which an ecosystems approach is being applied. They also provide valuable learning points about what the approach means in practice.

Cairngorms Futurescapes



Grazier (a pastoral farmer) on the Insh Marshes Reserve near Kingussie © RSPB

What does the project aim to achieve?

The Cairngorms Futurescapes project started in January 2012 and will run until December 2014. Futurescapes is the RSPB's contribution to landscape-scale conservation. It aims to enhance habitats for wildlife, and diverse spaces for people to enjoy, beyond nature reserves. It tries to lay down a firm foundation of partnership working so that the partnership's shared vision can continue beyond the end of the project.

What is the project area like?

There are two inter-related focal areas:

The Badenoch and Strathspey Farmed Floodplain Futurescape, part of the River Spey and its tributaries, has a focus area of 23,640 hectares. This area is under active upland farming operations, mainly wet grassland used for cattle and sheep grazing, with some cropping. In the heart of the area is the Insh Marshes National Nature Reserve which is mainly extensively grazed wetland.

The Caledonian Pinewoods Futurescape encompasses the whole of the Cairngorms, covering 458,300 hectares. This includes a significant area of high mountain plateau surrounded by lower ground, much of which was originally part of a significantly larger pine forest.

How do you use an ecosystems approach in your work?

The ecosystems approach is a mechanism that we use to ensure that all ecosystems services are taken into consideration at the outset, and it will be used as the basis for engaging local communities. Ultimately, the objective is to deliver for nature while also delivering for the primary land use, whether that is forestry, farming or recreation. We are looking to build partnerships with all stakeholders to ensure that other services the land offers are fully taken into consideration when improving habitats for nature, and to find innovative ways to integrate all uses. Partners include other environment organisations, local communities, businesses and government bodies.

What are the main challenges of designing a project like this?

A key challenge is ensuring everyone's buy-in to a project that is designed to find synergies and multiple benefits without knowing the answers and the final actions that the project will deliver. It is also important not to underestimate the timescales of running a project that is based on building partnerships.

Describe one lesson you've learned that other projects might benefit from:

The enthusiasm to become involved in a 'stakeholder group' may seem logical to those designing the project, but in some areas, such as a National Park, the turnover of projects can seem daunting to many. Some stakeholder groups produce meaningful outputs, while others seem to disappear without a trace. This can present a 'chicken and egg' situation where vital partners want to know the outcomes at the outset, which is impossible for a project designed to deliver maximum outputs by integrating a broad spectrum of ecosystem services. Cairngorms Futurescapes has taken the decision that the best way to get multiple stakeholders involved is to be flexible and to involve partners in a way that suits them, rather than expecting them to fit into a structure that does not suit their ways of working. Projects need to be outcome-focused rather than process-focused.

For more information, contact Hebe Carus at Hebe.Carus@rspb.org.uk or on **01540 661518**.

PISCES – a joined up approach to managing the Celtic Sea



Working on the Celtic Sea © Toby Roxburgh/2020VISION/WWF Canon

What does the project aim to achieve?

PISCES (Partnerships Involving Stakeholders in the Celtic Sea Ecosystem) is a pioneering project that has worked with the groups of people who use the Celtic Sea to produce a guide for operating sustainably and taking a joined-up approach to marine management. This is the first project that has translated marine policy into a practical guide for multiple sectors across a multi-national area. It is hoped that the guide will be a blueprint for how an ecosystems approach can be implemented through European marine policy and replicated in other places.

What is the project area like?

The Celtic Sea, like most oceans and seas, is in need of protection because it is under growing pressure from human activities. This is one of the most heavily-used seas on the planet and both the ecosystem and people's livelihoods are under threat from pollution, over-fishing, shipping and extraction of aggregates and other resources. The project area includes British, Irish and French coasts and marine areas.



Location of the Celtic Sea; the focus for PISCES

How do you use an ecosystems approach in your work?

PISCES has tried to promote a better understanding of what an ecosystems approach means in practice in the Celtic Sea, by focusing on stakeholder engagement and by empowering stakeholders to create their own guide. Stakeholders included representatives from the renewable energy sector; offshore infrastructure such as cable laying; fisheries; mariculture (the cultivation of marine organisms for food in the open ocean); shipping; ports and harbours; coastal tourism and recreation; and statutory government agencies.

Describe one lesson you've learned that other projects might benefit from.

PISCES has aimed to increase the understanding of the ecosystems approach among stakeholders. This was achieved by sharing 'real life' examples and by working with the group to develop their own set of principles for the ecosystems approach, drawing on the Convention on Biological Diversity's principles and outputs from previous PISCES workshops. This not only increased understanding but also helped to unite the group with shared knowledge and an agreed approach.

What are the main challenges of designing a project like this?

The project area crosses political, administrative and management boundaries and there is a wide range of cultures and languages. The area does not have as strong a cultural identity as other areas such as the North or Baltic Seas and many marine governance arrangements have not been clear. Fisheries are often managed on a sectoral basis and there is a lack of regionally co-ordinated marine spatial planning. Effective stakeholder engagement with a cross-sectoral group of stakeholders is time-consuming and resource intensive, but is necessary to create valid and supported outcomes.

For more information, contact Lyndsey Dodds at pisces@wwf.org.uk

The PISCES Guide to implementing an ecosystems approach is available at <http://www.projectpisces.eu/guide/>