

Sphere

Environment Systems newsletter

Autumn 2011

Woods For People



As well as being places to exercise, play and relax, woods are a key part of the green space, so important to peoples' surroundings and quality of life. Trees and woods store carbon, generate

oxygen, stabilise the soil, and help to improve water quality. They can help mitigate the affects of climate change by providing a cooling effect in urban areas, and flood alleviation in those places increasingly affected by this problem. Trees and woods are also essential to biodiversity, providing habitats rich in wildlife.

'Woods for People' is a partnership between the Woodland Trust and the Forestry Commission with the specific objective to improve public access to woodland within the UK. Part of this collaborative project was the creation and maintenance of an inventory of accessible woodland in the UK for which we have been responsible since 2003. Data on the early and subsequent versions of the database have been analysed to produce targets for increasing woodland access, which have been set out in the publication 'Space for People'. These targets are used to lobby the government and others to increase both access and the amount of woodland to ensure everyone has a basic level of access. Accurate and comprehensive 'Woods For People' data is vital to producing these targets and now also forms the basis for a new initiative launched early in 2011, 'VisitWoods' (<http://visitwoods.org.uk>), a web-based information portal that aims to get more people out into the woods.



WELCOME

It has been a busy summer. More people have joined, our Project URSULA team (www.projectursula.com) has completed its first flying season with a number of very successful sorties whilst others have been roaming the steppe in Georgia. As winter approaches we are also heads down into our next big agri-environment project in Scotland. editor@envsys.co.uk



National Map of accessible woodland

In each year our work on this project includes the maintenance of a contacts database with one-to-one phone contact of landowners, local authorities and other organisations that deal with woodland access followed by detailed information

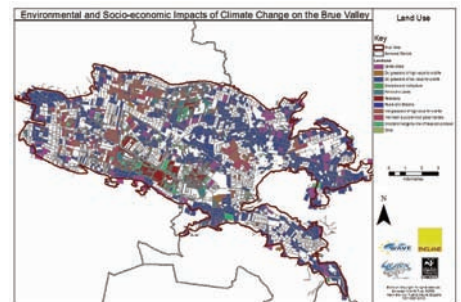
gathering to update existing maps. In the latest stage of the project which runs from 2011-2013 the map updating is once again carried out in a GIS using Ordnance Survey and existing woodland datasets e.g. the 'National Inventory of Woodland and Trees' (NIWT) with all woodland extents saved as 'polygons' each with an individual ID so that they can be used for the VisitWoods public access website. Road network analysis is also carried out to create nearest town and distance for each and every woodland polygon.

The impact of Climate Change in the Brue Valley

Climate change will affect all of us in the years to come but how this will affect habitats and biodiversity is uncertain. We have recently been involved with a pioneering study which focuses on how climate change and socio-economic factors interact to impact habitats and biodiversity in the Brue Valley in Somerset. The results, available in a published report, will feed into the Wildlife Trusts 'Living Landscape' initiative, the European Interreg IVB NWE WAVE (Water Adaptation is Valuable for Everybody) project and Natural England's Wetland Vision project.

As well as producing much of the baseline mapping, such as agricultural productivity,

flood plains, till boundaries etc. we were also responsible for dealing with the raw UKCPO9 climate change data, which is based on models produced by the Met Office. The modelled data are based on a latitude and longitude grid, with a rotated pole, returning differing values depending on the climate change scenario used and the likelihood of occurrence. The data was then used to produce a series of maps to indicate how the area would change under the different scenarios, principally focused on changes in rainfall and temperature. Taking projected rainfall as an example probabilities were investigated for both drier and wetter scenarios to indicate the impact of drought or flood on the features in the valley.



Land use map of the Brue Valley

Ultimately, both the socio-economic and climate change data was used to produce 'storylines' and maps for each feature, cereal crops, dry grassland (for high value wildlife), lakes and ponds, swamp and fen etc. Each storyline is designed as a standalone description of current use (baseline) and the impacts that could occur as a result of climate change. The storylines then show how those impacts could be reduced through the use of different adaptation measures. The report concludes by summarising the key findings of the study, drawing together the projected changes in areas of each feature as a result of climate change and the impacts that this could have on the socio-economic situation in the Brue Valley.

The final report is available as a downloadable PDF: <http://bit.ly/pDUDL>

Staff News

We have had a few new arrivals over the summer months adding to our skills base.

Emma Whittick



Emma who joined the company in June 2011 has recently completed a PhD with the University of Wales, Aberystwyth in Ionospheric Modelling, though her background involves a great deal of mathematics as well as physics. Her role with Environment Systems is as a Statistics and GIS consultant. She is currently involved with both the Welsh and Scottish agri-environment projects, providing specialist statistics support for the collection and analysis of the data.

Stephanie Ties



Stephanie joined us in August as a Remote Sensing Analyst and is currently working on a project investigating the suitability of satellite data to assess the condition of the Georgia Rangelands (see news piece). Stephanie has a BSc in Geography and recently completed her MSc in Remote Sensing and GIS at Aberystwyth University.

Mark Jarman

Mark, who heads up the Project URSULA team, was recently voted on to the Council of RSPSoc (Remote Sensing and Photogrammetry Society) at the Society's Annual Conference held in Bournemouth in September.

Team Building Day



The whole company recently spent a 'team building' day in some remote FC woodland near Aberystwyth. Splitting into three teams gave the day a competitive edge. The teams were thrown into tent erection, shelter building, fire starting and cooking. Having cooked lunch on their own, very smoky, fires the teams ventured deeper into the woods for more activities before finishing the day off with an individual rifle shooting competition. A great day was had by all.

New Projects

Scottish BIODIVERSITY Project

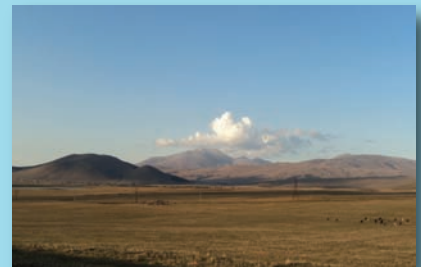
Following on from our success with the Tir Gofal and Tir Cynnal agri-environment schemes in Wales we recently won a new 3 year contract with the Scottish Government to develop and deliver their agri-environment scheme and biodiversity monitoring programme. The announcement coincided with the publication of the first national High Nature Value Farming and Forestry report, which shows that at least 40 per cent of both farmland and forestry areas in Scotland are managed in ways that provide high biodiversity value. Since 2008 the Scottish Government has awarded over £174 million of agri-environment funding under the Scotland Rural Development Programme (SRDP) to help land managers protect and enhance nature on their land. This project will use remote sensing and field surveys to monitor changes to biodiversity, and help to assess how effectively the SDRP protects and enhances Scotland's natural heritage. Environment Systems will lead the project, working closely with Thomson Ecology and Team Projects.

The SRDP aims to help land managers protect and enhance nature on their land



Georgia Rangelands

Georgia Rangelands leading up to Mt Didi Abuli (3300m), north of Ninotsminda, Samtskhe Javakheti region.



We recently won a contract to carry out a study of the condition of the Georgia Rangelands, vast steppe grasslands in the Southern Caucasus, using satellite imagery. The study is being undertaken under the Alliances Programme run by Mercy Corps and funded by the the Swiss Agency for Development and Cooperation. The programme is focused on improving the beef, sheep and dairy sectors in the Kvemo Kartli region of Georgia. This project will investigate existing rangeland ecology, meteorological patterns and local topography. There will also be a field based 'ground-truthing' element including field surveys and local intelligence gathering to garner opinion, ascertain local perceptions of the effects of climate change and to improve project understanding of the livestock and farming system.

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