Scotland’s Environment Web

An innovative partnership between Scotland’s leading organisations working to protect and improve the environment

www.environment.scotland.gov.uk

Layman report: August 2015
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An introduction

Scotland’s Environment Web is the product of an innovative partnership between some of Scotland’s leading organisations that work to protect and improve the environment.

Formed in 2010, this unique partnership was further strengthened when it attracted funding from the European Union LIFE+ programme in 2011.

The website is much more than a rich source of information. Through collective expertise and best practice, the partners have worked with the Scottish Environment Protection Agency (SEPA) to develop innovative tools that brings Scotland’s environment to life for visitors to the site.

The result is a valuable source of information and data that informs, educates and helps people to understand their environment – assisting them to get involved in protecting it.

Foreword

Scotland’s Environment Web is a powerful tool, full of information about Scotland’s environment.

Working towards becoming the one-stop gateway to everything that you need to understand and learn about Scotland’s environment, Scotland’s Environment Web also gives a valuable insight into those organisations that are at the forefront of protecting and improving our environment.

Here we share the objectives for Scotland’s Environment Web, give you an insight into what you’ll find on the site and look at what’s planned next for Scotland’s Environment Web.

The 2014 State of the Environment Report for Scotland affirms our belief that we must work to do what we can to protect and improve our environment, not just for this generation but for the generations who will follow us.

Why not take a few minutes to explore the website? You’ll be captivated by the variety of projects, knowledge and facts – all in the one place.

We thank our partners for their continued support because without it, Scotland’s Environment Web wouldn’t exist.

David Pirie
Executive Director
Scottish Environment Protection Agency
Our objectives

Scotland’s Environment Web has four main objectives.

- **Work in partnership with others, to create a data sharing website that is recognised as a credible source of information about Scotland’s environment.**

- **Adopt best practice to expand and share information about Scotland’s environment with the rest of Scotland, UK and Europe.**

- **To better understand the impact of changes to our environment so that we can influence policy, focus attention and resources on dealing with the most serious problems - and do what’s needed to protect our environment.**

- **To educate and inform people so that more take an interest and active role in discovering, protecting and understanding the environment around them.**
A single source of credible information

Understanding the forces facing Scotland’s environment isn’t easy. While there’s lots of information available, it can be confusing where to find it.

**Scotland’s Environment Web** makes it easy for everyone – people with personal and professional interest, teachers, young people and environmental specialists.

It brings together everything that you want to know about Scotland’s environment into one place.

With contributions from some of Scotland’s leading organisations that look to protect and improve the environment, the website presents information in a way that makes it easy for people to find what they’re looking for.

And those looking for more detail are taken to specialist sources of information on our partners websites or on daughter websites (Scotland’s Soils, Scotland’s Aquaculture and Atlas of Living Scotland), which form part of Scotland’s interconnected family of online information sources. With the help of some innovative and dynamic online tools and infographics, information is clearly set out, making the website easy and fun to explore too.

The website is split into five main sections:

- Get Informed
- Get Involved
- Get Interactive
- Get Learning
- Get Communicating

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**Get Informed...**

Here, you’ll find [Scotland’s state of the environment report](#) 2014.

Written by some of Scotland’s leading environment and health agencies, the report gives a comprehensive and impartial assessment of Scotland’s environment and how it is changing. Infographics, and links to supporting data, help readers to analyse and quickly grasp the report’s findings.

And with it published online, it’s easy for readers leave comments and to ask questions.
One of the easiest ways to understand and interpret lots of complex scientific information is to see it depicted visually and be able to interact with it.

The Discover data pages offer a variety of interactive applications and maps to present a wide range of published complex scientific data in interactive graphs and charts.

You can export the results of your search in a number of formats – as an image, csv file or PDF – which is ideal for reports and presentations.
With **Map view** you can look at summary maps for anywhere in Scotland showing data about air, water, land and features that influence our health and well-being, such as areas of greenspace and protected areas.

For the more advanced map view, you can search and view any combination of more than 200 spatial data sets. These are viewable on four different types of base map, including aerial photography. You can also use the Geolocator to view maps of the area you are in when out and about.

If you manage land, apply for grants or permits, or you simply want to find out more about a particular area, then **Land information search** tools are for you. Each tool allows you to mark out the area you are interested in and provides search results highlighting the presence of a range of environmental features that fall directly within your area of interest and within a buffer zone. The tools run a search of all the different published data sets from the **Scotland’s Environment Web** partners, ensuring the use of the most up-to-date published information.

The new **What’s in my area** feature allows users to view a dashboard of local scale information and data. For example, this might include information about outdoor spaces or historical buildings to visit; the state of their local environment showing information about features such as river quality; information on local path networks and clean beaches; and details of activities to get involved in, such as citizen science or voluntary projects.
The thinking behind the **Get Involved** set of pages is to motivate more people to get outdoors, record what they see and gather information that will tell us more about Scotland’s environment.

Highlighted here, are some of the website’s features that make it easy for people to get involved and interested in Scotland’s environment.

One popular section is the [mobile app](#) catalogue.

People find apps easy to use and they are proving to be a popular way for people to keep in tune with their environment. At [Scotland’s Environment Web](#), visitors can view and download any of the recommended free apps and work continues to develop and add more. Let the team know via [Contact us](#) if you’ve come across a great app about the environment so we can share it with others.

Launched in July 2014, [Project finder](#) can help people find out what’s happening locally that may interest them. It matches volunteers with environmental projects and topics that interest them in their area and further afield across Scotland.

The number of organisations and projects registered continues to grow, with volunteering opportunities ranging from taking part in surveys of birds, bats, hedgehogs, glow-worms, butterflies and Scottish dragons – to cleaning up local beaches, walkways and parks.

It’s easy to use; voluntary groups simply register their project. Their online profile explains who they are, where they are, what they do and how people can get involved. And it’s all free.

There’s also lots of guidance and support for anyone wanting to set up their own science project.

And, if you’re of school age (or a teacher) and interested in sharing your ideas on how you would improve your environment, you can find out how to get involved in the [Our Environment competition](#). The competition, which has successfully run for the past two years, challenges young people to investigate an environmental problem in their area and come up with a solution that reduces the problem and benefits the local community. This year’s competition (2015-2016) was launched in August.
Get communicating...

Scotland’s environment news pages are regularly updated and carry news from partners and local and national media. You can also find information on the latest updates to the website.

Social circles provides an update on the latest twitter posts from our partners and you can see your own Instagram photos of Scotland’s Environment if you tag them with #ScotEnvironment. This means you’ll always be up to speed on the latest updates from Scotland’s Environment Web and its partners. You can also follow Scotland’s Environment Web directly on twitter (@ScotEnvironment) and facebook (Scotland’s Environment Web), and subscribe to the newsletter and RSS news feed to ensure you never miss out.

Scotland’s environment news
We’ve gathered a selection of environmental news stories from trusted sources so you can keep up to date with the stories that matter on Scotland’s environment. If you find any news stories that you think we should be publishing - Content Life. Our environment will let you weigh up on any news you’re interested in.

- Further cases of bee disease confirmed - Scottish Government - 26 Aug 2015
- Nature site set up to action to improve Scots pine woodland - Scottish Natural Heritage - 24 Aug 2015
- Youngsters discover Scotland’s wild forests through Scottish Natural Heritage and The Outward Bound Trust partnership - Scottish Natural Heritage - 21 Aug 2015
- Free access to the UK’s national CO2 storage database “CO2 Store” - British Geological Survey - 20 Aug 2015
- Highland Council to recycle more plastic waste - BBC News - 11 Aug 2015
- Global warming threatens extinction for UK butterflies - BBC News - 16 Aug 2015
- GIS wins innovation funding for vehicle renewable energy test - British Geological Survey - 18 Aug 2015
- Tracking the ocean - Scottish Government - 09 Aug 2015
- Cooperation helping mussel harvesters in Scotland - Scottish Natural Heritage - 07 Aug 2015
- Glosom over marine protected areas - BBC News - 06 Aug 2015
- Freshwater fish stocks overexploited - FNIC News - 05 Aug 2015

Website updates
- Visit Scotland’s Environment regularly to find out what’s new on our website - we want to tell you about new applications, events, projects, campaigns and more news.
- Visualise the latest Marine Fish Farm figures in our latestEcoFish data application. 26 Aug 2015
- A £1m package of funding available, the SECURE Launch Event on 11th September at University of Glasgow is an excellent opportunity to plan for the next project in February 2016 – Registration now open - 13 Aug 2015
- Eurobacterium - Comparison of 2014 and 2015 Surveys. The report presents a summary of comparisons between the 2014 and 2015 Special Eurobacterium surveys on public vehicles towards the environment. The report has been published under our Public engagement reports section within our LEPF Publications page. 03 Jul 2015
- Interests in climate change information? Please take a few minutes to take in this survey and help provide climate change information for Scotland in a more cost effective and audience friendly way. 05 Jul 2015

Social circles
Scotland’s Environment Web has gone social.
You can now search us on Facebook, twitter and Instagram. You can also watch environmental related videos on our YouTube channel from our partners. Start following us today!

A little about our audience
Scotland’s Environment Web attracts visitors with a mix of interests and backgrounds. Broadly speaking, visitors fall into three groups:

- people who collect and transform data for analysis, research and publishing;
- people who want to find out about the condition of their local environment to inform decision making;
- people who champion the website. This group share their expertise to bring new features to the site and help users to make the most of what the site offers.

This can include visitors to the site who are:

- members of the public interested in finding out about, and getting more involved in, Scotland’s environment and how to protect it;
- community and third sector groups;
- students and teachers;
- those with a range of professional interests in the environment (e.g. industry, policy makers) looking for a broad overview of the multiple aspects of Scotland’s environment.

For those looking for a more focussed view of specific environmental topics, three daughter websites – Scotland’s Soils, Scotland’s Aquaculture and Atlas of Living Scotland biodiversity portal – have joined the Scotland’s Environment Web family.
Launched at the start of the new school session in 2015, the Get Learning pages help teachers and learners to find information, data and resources related to the environment in Scotland.

Maps, data, resources and useful links have been carefully matched with Curriculum for Excellence and the new National Qualifications. These have been sorted under headings that are linked to the Keep Scotland Beautiful Eco-Schools programme, which most schools in Scotland participate in.

The Get Learning pages also give young people the opportunity to share their own images and thoughts about the environment. Instagram posts using #GetLearningScot feed through to the site and scroll across the bottom of each page allowing young people to engage with their local environment, share ideas and ask questions.

Learners can also find links to citizen science projects and surveys on these pages, giving them the chance to get involved in collecting data about their own environment and taking steps to conserving and improving it.
Taking a measured approach to Scotland’s environmental problems

Part of the Scotland’s Environment Web project was to identify the key issues facing Scotland’s environment and to provide a clear summary of the state of the environment that could inform and educate the public.

The assessments of ‘State’ for the different environmental topics are designed to be the starting point for the public to explore Scotland’s state of the environment report 2014 and give users (often with little knowledge of the environment), a quick summary of each aspect of the environment.

Assessments were carried out for the majority of the topics in the report. A small number of topics were excluded – either because it was inappropriate to assess them as there was no shared opinion of what a ‘good state’ would be, or because there were already trusted sources of information available to the public relating to that topic (for example, the Marine Atlas was felt to be a good source for marine waters).

An average of six specialists per topic were identified by the topic authors and the editorial group, drawn from across non-governmental organisations, Scotland’s Environment Web partners, academics and main research providers.

This was the first time in Scotland that a multi-agency, collaborative approach has been taken to define environmental problems.

There were five components to the work on each topic:

- an expert judgment of the current state of the environment;
- an expert judgment of the trend in state;
- a brief narrative, expanding on the conclusions;
- the list of primary and secondary pressure(s) that resulted in the current state;
- a list of the datasets that contributed to the conclusions.

The state and trend assessments are embedded in the Scotland’s state of the environment report, which was published in June 2014, and the Indicators and data pages have started to publish the datasets used to make these assessments.

You can find out more about how the key environmental issues facing Scotland were identified and how state and trend assessments were made in the Key environmental issues facing Scotland: final report.
Measuring results makes a difference

Part of the LIFE bid was to assess the effectiveness of measures; the management group thought it was important to leave a legacy from the project, so the brief was widened to include developing a toolkit to help policy makers in selecting appropriate interventions.

The work had two main elements: assessing the economic effectiveness of measures to tackle waste crime in Scotland, and developing a tool to assess both effectiveness of measures (EoM) and help policy-makers in deciding on effective policy interventions.


To assess EoM and decide on new policy interventions, a tool (multi-criteria decision making) was selected, following a rigorous literature review carried out by CREW link. This was trialled on the issue of waste crime. This was mostly carried out in SEPA but also reached out to academia, local government and professional representatives.

The multi-criteria decision making process and results of the trial have been encouraging. CREW will follow up the trial with further consultation with participants on the data and results. Discussions regarding multi-criteria decision making with SEPA have been very positive. Initial indications are that it may be used in the:

- SEPA Corporate plan;
- an exercise by SEPA to rank environmental priorities across Scotland (may be an iterative process);
- LIFE SMART Waste Project.

It is recognised that the effectiveness of all environmental measures in Scotland have not been assessed as originally proposed in the Scotland’s Environment Web LIFE bid. This was in part due to the scale of the exercise and partly because of difficulties getting engagement with all parties needed to carry it out.

However, important progress has been made by carrying out a detailed evaluation of multi-criteria decision making, an innovative process that could be used widely to assess the effectiveness of environmental measures.

Multi-criteria decision making is novel in its approach to collecting and evaluating qualitative data and has the potential to be widely used by all partner organisations. Partner organisations have been encouraged to read the trial results and consider multi-criteria decision making where the gathering of qualitative information in a structured manner is important.
A leader in open source data

Scotland’s Environment Web does not publish any of its own data. Instead, it harvests data from a range of different sources and organisations. Much of it is open data, which is:

- non personal and non-commercially sensitive;
- easily discoverable, accessible to anyone and able to be freely used, reused and redistributed by anyone;
- data made available, via the internet, is an electronic format which supports its ready reuse, and with an open licensing that allows its reuse.

(Scottish Government Open Data Strategy, February 2015)

Scotland’s Environment Web has been cited in the Scottish Government Open Data Strategy as a best practice case example of providing access to open data.

Tools on Scotland’s Environment Web give people access to detailed analysis about Scotland’s environment in an interactive and easy to use format, making it easier to interpret and understand.

Some of the data you can find on Scotland’s Environment Web is linked, which makes reporting to the European Union much easier and quicker.

The work achieved through Scotland’s Environment Web supports the Scottish Government’s policy for public sector organisations to make data and information more open for reuse and sharing, and supports the European Commission’s ambitions for sharing public and spatial information (INSPIRE Directive).

Behind every great project is a great partnership

The achievements of Scotland’s Environment Web would not have been possible without strong collaboration between key agencies and their contributions to the project.

Working in partnership has been at the very heart of Scotland’s Environment Web since it started, drawing on expertise and shared resources to develop and grow Scotland’s Environment website into an invaluable resource - helping people discover and understand more about Scotland’s Environment.

SEPA manages Scotland’s Environment Web on behalf of the many organisations who are actively involved in making this project a success. This includes the Scottish Government, Forestry Commission Scotland (FCS), Scottish Natural Heritage (SNH), James Hutton Institute, Marine Scotland, National Health Service Scotland, Health Protection Scotland, Education Scotland, The Conservation Volunteers, British Geological Survey, Keep Scotland Beautiful, and Historic Scotland.

As a result of the partners involved in the project, users of the website can be confident that they are viewing trusted and authoritative information and data.

Best practice case studies have been published on the partnership approach to developing the Land information search mapping tool for the agri-environment and forestry sectors (involving SEPA, SNH and FCS). The approach taken by Scotland’s Environment Web is generally considered by much of the public sector as an exemplar in partnership working.
Our environment, in safe young hands

As the future custodians of the environment, young people are a primary audience for Scotland’s Environment Web. It was important for the project to actively engage with young people in how they thought Scotland’s Environment Web could support them and their peers to enjoy, understand, protect and improve Scotland’s environment.

Throughout the project, Scotland’s young people were engaged through workshops to redesign the website, and competitions to get them thinking about local environment issues.

This involvement has not only been a benefit to the project, but also to the young people themselves, giving them a sense of responsibility and commitment and helping to foster a long-term connection to the environment. In particular, the young people involved with the workshops gained confidence and developed new skills in self-management, communication, teamwork and leadership.

This bond between young people and the environment is being further strengthened. Working with Education Scotland, the project team is putting the environment firmly on Scotland’s schools’ curriculum.

The new Get Learning section, added in August 2015, provides a valuable resource. With links to maps, mobile apps and other data tools relating to the Scottish curriculum, students and teachers can enjoy exploring the pages and discovering new information and data.

But it’s not just young people within the school environment that Scotland’s Environment Web wanted to involve in the project.

Taking one of the key project objectives of making data more available on a wider scale, students from universities across the country were challenged to develop fresh new innovative ideas to make better use of the available data. A two-day hackathon event – EcoHack 2015 – held in May, provided a platform for a diverse range of environmental and tech savvy experts and students to exchange ideas, build prototypes, and shape the next generation of environmental data applications. The event demonstrated the innovative potential of open data and benefits of working with students from a range of specialist areas – environment, computing, and data analysis.

Scotland’s environment competition award ceremony, 17 June 2014

EcoHack 2015
What has Scotland’s Environment Web changed?

The collaborative approach adopted by the Scotland’s Environment Web project, has strengthened partnerships across Scotland’s environmental sector. It has allowed the partners to learn from each other, and share knowledge, expertise and resources.

Put simply, it has revolutionised the way people access and work with environmental data. Scotland’s Environment Web has attracted a new audience who are hungry to learn about their environment and are eager to make a difference.

- By working with teachers and visiting schools, Scotland’s young people are more aware of their environment and are urged to think about how they can protect and improve it.
- People can now easily find out what’s going on in their local area and they’re supported to get involved.
- More people are recording and monitoring what’s happening in their local area and reporting their findings. This gives a better overall picture of trends and alerts us to new and increasing risks.

Scotland’s Environment Web project is a model for others to follow. It shows:

- how engaging with the public can change behaviour and practices;
- how online tools can make information and data more accessible and more widely used to inform decisions;
- the value of providing a centralised gateway to trusted sources of information in an increasingly cluttered landscape of web information;
- the benefits that come from agencies pooling resources and working together.

Scotland’s Environment Web partners are keen to share what has been learnt from the project with others. All reports, research and methodologies that have been developed are freely available on the website.

A look at what’s coming next...

Scotland’s Environment Web is still in its infancy, yet it’s clear that its possibilities are endless. As more features are added, and as the number of people visiting the site increases, it won’t be long before this rich source of information is the go-to place for everyone – scientists, academics, journalists and the general public.

With ongoing funding from SEPA, and support from partners, Scotland’s Environment Web will continue to improve and refine the website and content, so that people find what they’re looking for – and discover new information – quickly and easily.

Planned developments over the next six months include:

- continue to update Get Informed with new infographics and factsheets;
- work with partners to develop the Atlas of living Scotland, a new daughter website that will provide information and data on Scotland’s biodiversity;
- new features to be added to make it easier and quicker to extract and analyse data;
- improve the functionality of Map view to make it easier to search for data, and add new data sets to the Land information search as new open data becomes available;
- new data visualisation tools available through Discover data, including applications for nitrate vulnerable zones and greenspace mapping;
- extend citizen science, a campaign to urge more people to discover, understand and protect their local environment, into more schools with a particular focus on projects relating to soils;
- increase the resources available to learners and practitioners through Get Learning and launch a competition to encourage schools and centres of learning to engage with their local environment;
- ongoing work with partners to engage audiences and promote the tools available on Scotland’s Environment Web;
Longer-term developments include:

- extending the interconnected family of daughter websites;
- grow the number of data visualisation tools and explore new ways of helping people connect with their environment through the provision of high quality online data;
- grow the number of openly published data sets and resources that users can find, discover and access via Scotland’s environmental gateway;
- EcoHack#2 to encourage innovators and creative minds to explore new opportunities to make environmental data more available and accessible to a wider audience;
- carry out a full review of the State of Scotland’s Environment report;
- ongoing enhancements and redesign of the website to ensure its accessible to all, including for those using mobile devices;
- establish **Scotland’s Environment Web** as the shared digital data hub for the environment – helping partners meet their own open data and digital strategy objectives;
- enable schools to share best practice through **Get Learning**.

But this is just the beginning...

Through innovation, demonstration, shared learning and collaborative working, **Scotland’s Environment Web** will continue towards the goal of creating a web of data providers, data users, environmental scientists and observers, and environmental stewards, that share knowledge and data to benefit the environment, society and the economy.
Find out more about Scotland’s Environment Web at [www.environment.scotland.gov.uk](http://www.environment.scotland.gov.uk) or e-mail [seweb.administrator@sepa.org.uk](mailto:seweb.administrator@sepa.org.uk)

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