

## Connecting children with nature in Scottish schools

# NatureScot

### The Challenge

- Create a digital toolkit to support the 'Learning for Sustainability' curriculum in Scotland

### The Benefits

- Effective delivery of sustainability curriculum
- Improved biodiversity on school grounds
- Thriving nature networks across Scotland
- Improve digital literacy in young people

Working on behalf of the Scottish Government, NatureScot has delivered a toolkit of digital solutions that will support teachers to deliver the national 'Learning for Sustainability' curriculum in Scotland. Built by Esri UK's Professional Services team, the six apps in the toolkit will help connect children with nature, improve the biodiversity of school grounds and equip young people with new digital skills for life.

### The Challenge

Sustainability lies at the very centre of the Scottish education system. Ever since 2012, the Scottish Government has had an innovative 'Learning for Sustainability' curriculum, but it wanted to provide teachers with new digital tools that they could use to help them embed sustainability into their lessons. It approached Scotland's nature agency, NatureScot, and asked it to provide a toolkit of apps and other digital solutions that could be used at around 2,500 primary, secondary and special schools in Scotland.

The project aimed to build on the concept of the National Education Nature Park initiative in England and help schools record and improve biodiversity in their school grounds. Yet it also aimed to promote sustainability, encourage learning outdoors in local greenspaces and help young people develop the digital skills that they will need in their future careers.

### The Solution

NatureScot co-designed the toolkit in tandem with teachers across Scotland during a pilot and identified features that teachers specifically wanted, such as the ability to print maps. Esri UK's Professional Services team then built the toolkit, working closely with NatureScot and harnessing the capabilities of Esri's ArcGIS system to deliver precisely the capabilities needed, in easy-to-use, intuitive tools.

Named Nature Discovery Map Scotland, the toolkit includes a Nature Mapper web app, built with ArcGIS Experience Builder, that allows teachers to zoom into their school, explore data on landcover and habitat type and annotate and print the map if required.

There are two mobile apps for pupils to use, the Discoverer App for early stage users, created with ArcGIS QuickCapture, and the Explorer App for older stage users, created with ArcGIS Survey123. These mobile solutions enable pupils with different ability levels to capture data outside on all kinds of biodiversity and sustainability features including hedgerows, trees, long grass, solar panels, compost bins and 'wee habitats' like bird boxes and bug hotels.

Another web app for teachers, called Mark It, allows teachers to verify the data collected by pupils before it is published to the maps. There are then two dashboards, built with ArcGIS Dashboards, that allow classes to view changes in the biodiversity of their schools over time, as well as compare their school to other schools in different locations nationwide.

Teachers can access some elements of the toolkit without registering. To upload data, teachers log into a secure area of the website or 'hub', built with ArcGIS Hub Premium. The hub also contains a collection of resources, created with the ArcGIS StoryMaps app builder, that clearly explain the tools available and show how schools can use them as part of a circular approach of looking, discovering, planning and acting.

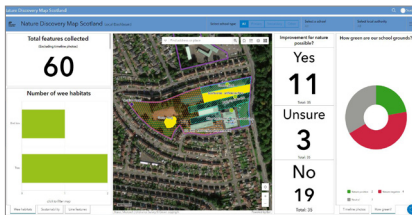
Esri UK | Millennium House  
65 Walton Street | Aylesbury  
Buckinghamshire HP21 7QG  
T 01296 745500 | F 01296 745544  
E [info@esriuk.com](mailto:info@esriuk.com) | [www.esriuk.com](http://www.esriuk.com)

© ESRI (UK) Limited 2021. Registered in England and Wales No.1288342. VAT No.787 4307 91. Registered Address: Millennium House, 65 Walton Street, Aylesbury, Bucks HP21 7QG. All rights reserved.

The Esri globe and Esri products, services and trademarks mentioned are trademarks of Environmental Systems Research Institute, Inc. Other companies and products mentioned herein are the property of their respective trademark owners.

“The ArcGIS Nature Discovery Map Scotland toolkit will help us to engage and empower school children to make a difference.”

Sue Munro, Greenspaces Officer, NatureScot



Nature Discovery Map Scotland Local Dashboard, showing habitats within a school's grounds

### The Benefits

#### Effective delivery of sustainability curriculum

The ArcGIS-based toolkit gets children learning outside, a key element of the ‘Learning for Sustainability’ curriculum in Scotland. As it focuses pupils’ attention on everything from insect habitats to bicycle racks, it effectively combines education on biodiversity and climate change action in one toolkit. “The Nature Discovery Map Scotland toolkit contextualises learning,” explains Sue Munro, Greenspaces Officer at NatureScot. “There is no more powerful way to get pupils to understand a concept like biodiversity loss than to get them to actually step outside and look at it.”

#### Improved biodiversity on school grounds

The availability of the new toolkit empowers primary and secondary schools, as well as special schools, to look at their school estates, really understand what biodiversity exists and how to take steps to improve it. In particular, the toolkit encourages teachers and pupils to consider ‘Could we improve this for nature?’ and focuses attention on where there is opportunity to make positive change. “The ArcGIS Nature Discovery Map Scotland toolkit will help us to engage and empower school children to make a difference,” Munro ascerts. “They can capture photographs to monitor change over time and see the impact that they are having on the quality of their natural habitats.”

#### Thriving nature networks across Scotland

The Nature Discovery Map Scotland toolkit helps pupils to understand the vital role that school grounds can play as stepping stones for nature. By exploring the web apps and dashboards, they can see the habitats that surround their schools. They can then understand how their schools form part of wildlife corridors and use the toolkit beyond their school grounds to map, for example, local tree planting projects. “Schools can play a part in helping to build thriving nature networks across Scotland and take pride in the positive impact they are having within their wider community,” comments Munro.

#### Improve digital literacy in young people

Pupils will gain experience of using industry-standard digital data capture tools, interactive web maps and dashboards. They will, therefore, become familiar with geographic information system (GIS) technologies at an early age and gain the confidence and skills to use GIS in their future careers. “With our ArcGIS-based toolkit, we are upskilling the next generation and giving them the digital skills to help address the biodiversity and climate challenges that they have inherited,” Munro says. “The Nature Discovery Map Scotland toolkit will help to connect young people to nature, encourage them to value nature and give them the skills to look after nature.”

Esri UK | Millennium House  
65 Walton Street | Aylesbury  
Buckinghamshire HP21 7QG  
T 01296 745500 | F 01296 745544  
E info@esriuk.com | www.esriuk.com

© ESRI (UK) Limited 2021. Registered in England and Wales  
No.1288342. VAT No.787 4307 91. Registered Address:  
Millennium House, 65 Walton Street, Aylesbury, Bucks HP21 7QG.  
All rights reserved.

The Esri globe and Esri products, services and trademarks mentioned are trademarks of Environmental Systems Research Institute, Inc. Other companies and products mentioned herein are the property of their respective trademark owners.

Learn more at: [esriuk.com](http://esriuk.com)