

## LUCI



### Quick Facts

#### Inputs

Maps / GIS data available at a national scale

#### Outputs

Maps indicating value and opportunity for change, data tables on ecosystem service changes

#### Scale

Site-based, local, regional, national and multi-scale

#### Context

A range of land uses

#### Cost

The aim is to make it free for non-profit organisations. It is currently unavailable and requests are considered on a case-by-case basis

#### Software required

ArcGIS 10.1 or above

#### Skills Required

Intermediate GIS skills

#### Developer

Unspecified. Bangor University developed earlier version of the tool, Polyscape

### Description

LUCI (Land Utilisation and Capability Indicator) explores the capability of a landscape to provide ecosystem services. It uses map data to look at how the landscape is being used and the services that are currently being provided, and compares these to an estimate of the landscapes potential to provide services. This is used to identify areas where change may be beneficial, or where existing landscape features should be preserved.

### Ecosystem services included

Six regulating ecosystem services.

### Habitats

Semi-natural grasslands, woodland, enclosed farmland, freshwater, wetlands and floodplains, mountains, moors and heaths and urban.

### How does it work?

LUCI is a process-based tool that maps individual ecosystem services and their interdependence and connectivity within the landscape. It uses a range of algorithms that maintain biophysical principles and spatial connections. It also identifies where trade-offs or co-benefits exist. Changes in land management can be input into the tool and deficiencies in data can be reduced by incorporating local stakeholder knowledge. Colour coded maps are produced to identify the impact of different decisions. It is particularly useful if a user is interested in the cumulative impact of many small features on a variety of services. LUCI is a negotiation tool to help inform stakeholders where changes in a landscape may be beneficial.

### Case studies in the UK

It has been used in the Glastir Monitoring and Evaluating Programme in Wales, to map and quantify effects from 6 intervention scenarios. It identified trade-offs and co-benefits, provided data to Welsh Government and helped identify spatial targeting of farmer payments.

### Where can I get it?

<http://www.lucitools.org/>

Development of the Tool Assessor database and information sheets was funded by JNCC.