

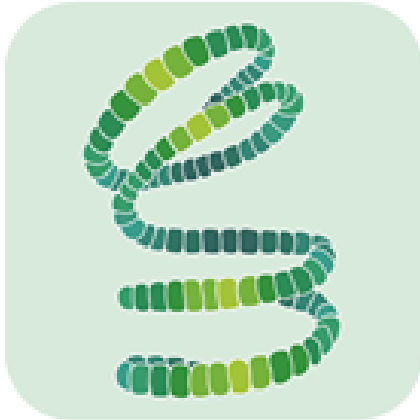
# Collecting & Consuming Freshwater Data

Phil Taylor

 [@ScienceAndMaps](https://twitter.com/ScienceAndMaps)

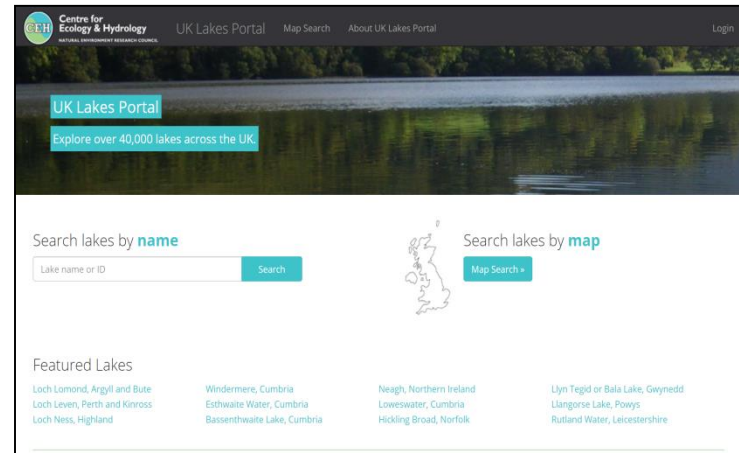


## Collecting data



Bloomin' Algae App

## Connecting data



UK Lakes Portal



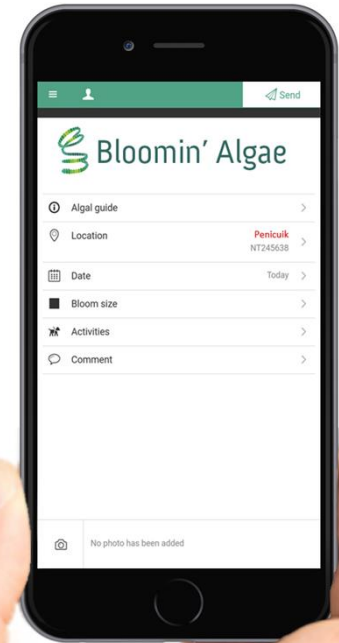
**Hydroscape**  
CONNECTIVITY x STRESSOR INTERACTIONS

Combining data

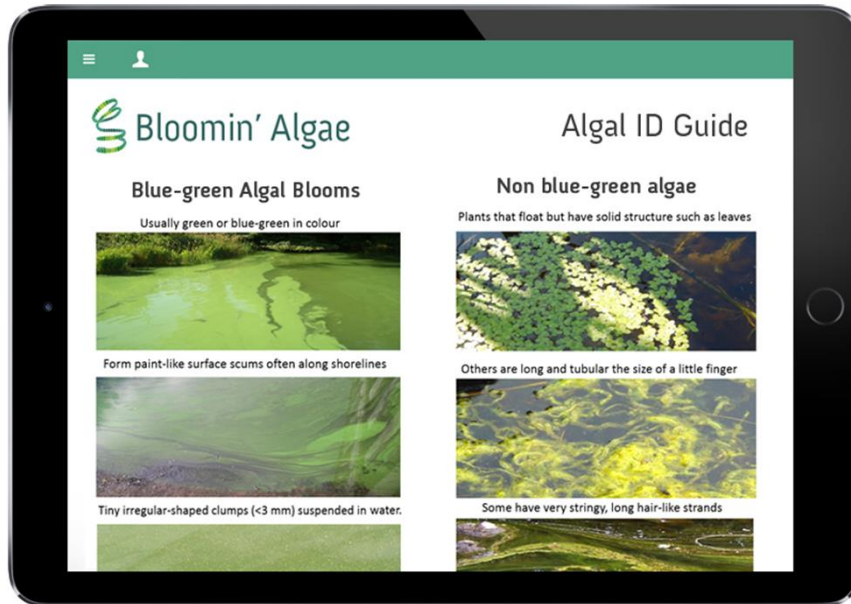


Blue-green algal blooms can be **toxic** and damaging to the environment, yet we know little about **when** and **where** they occur.

The new **Bloomin' Algae** app lets people report a potential bloom by sending a location, bloom details, activity data and photos.



The app features a **photo guide** to help make a correct identification.



Data is stored and verified using the Biological Records Centre's **iRecord** system.





GPS location, date, size, picture, information of recreational activities.

Further information can be left as comments (e.g. warning signs)

Cyanobacteria



Cyanobacteria



Filamentous algae



Duckweed

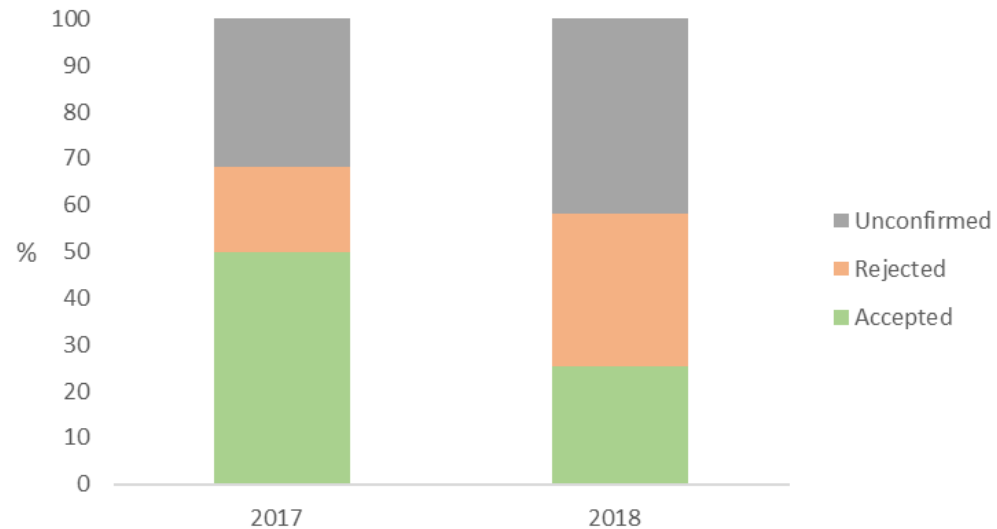


Unconfirmed records:

- unclear / no photo
- record uploaded elsewhere
- location error

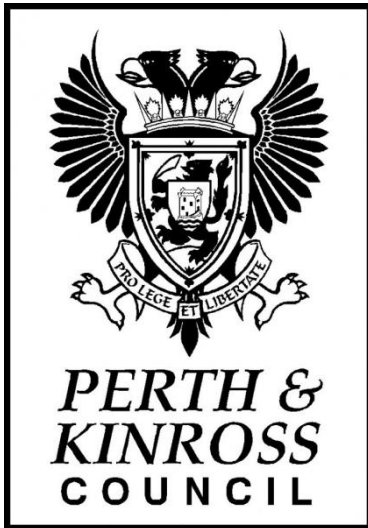


Summer records





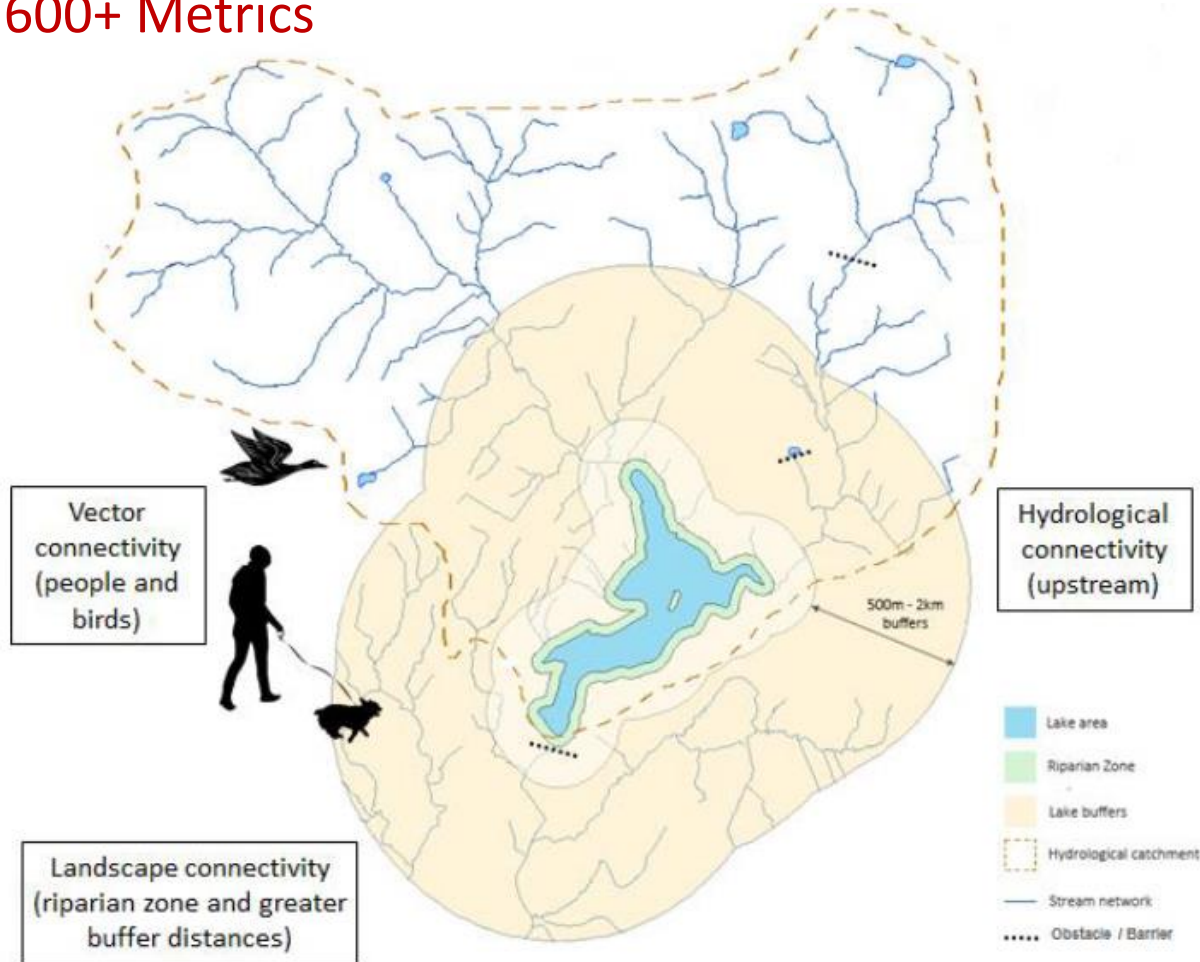
“Win Win”





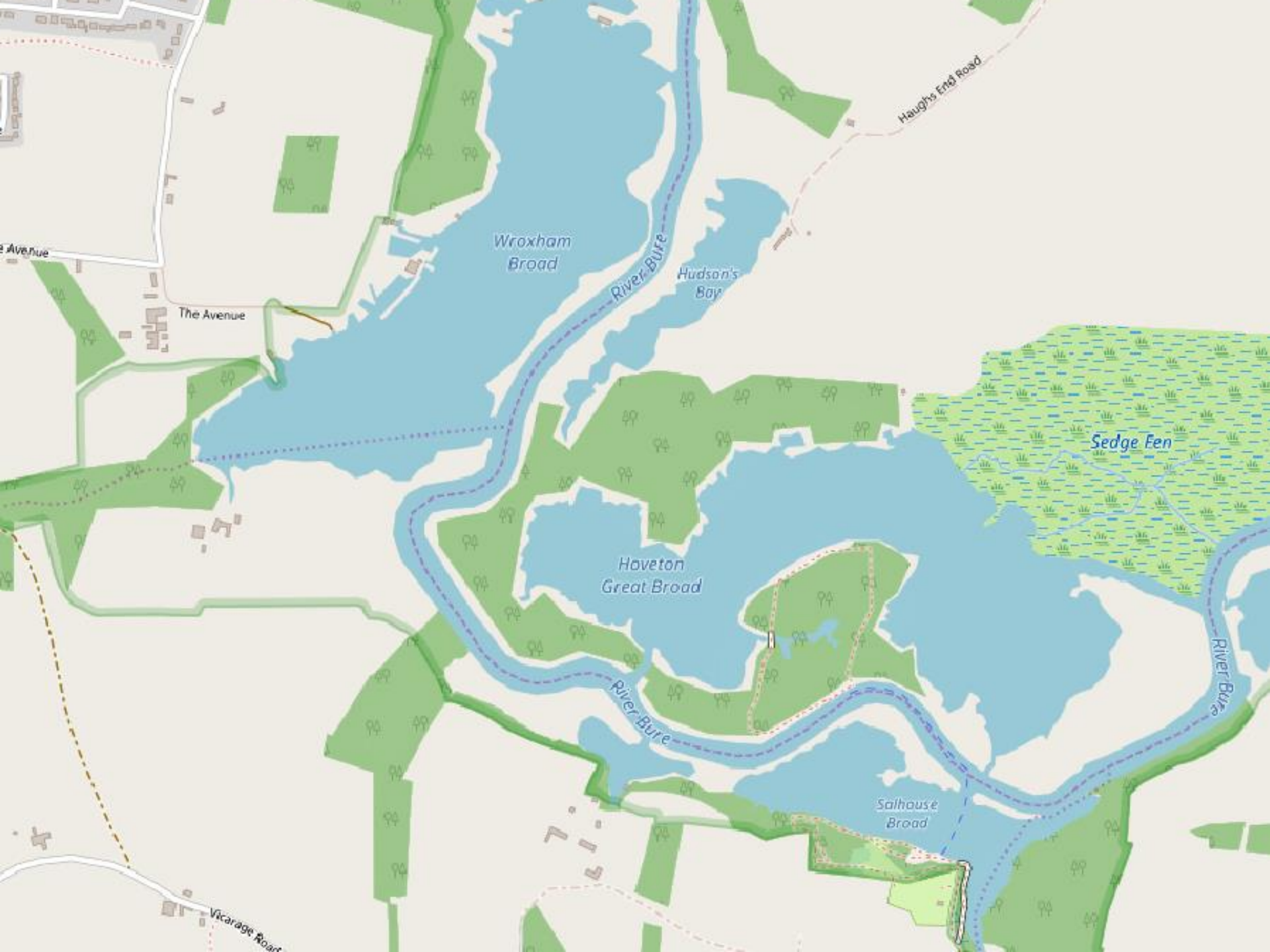
# How does hydro / landscape connectivity affect species abundance?

600+ Metrics



## Hydroscape

CONNECTIVITY x STRESSOR INTERACTIONS



Wroxham  
Broad

River Bure

Hudson's  
Bay

Haughy End Road

The Avenue

Sedge Fen

Hoveton  
Great Broad

River Bure

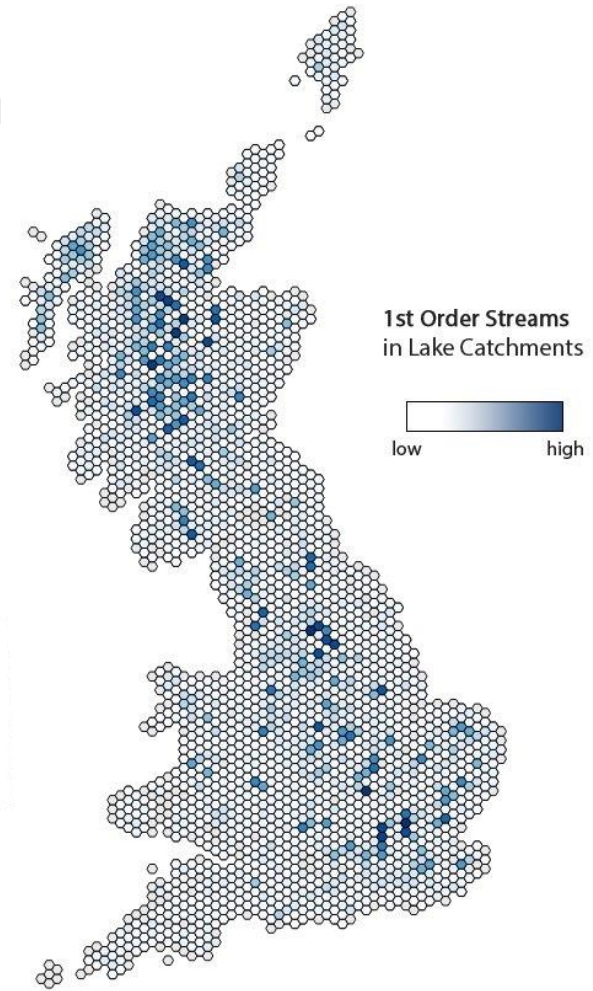
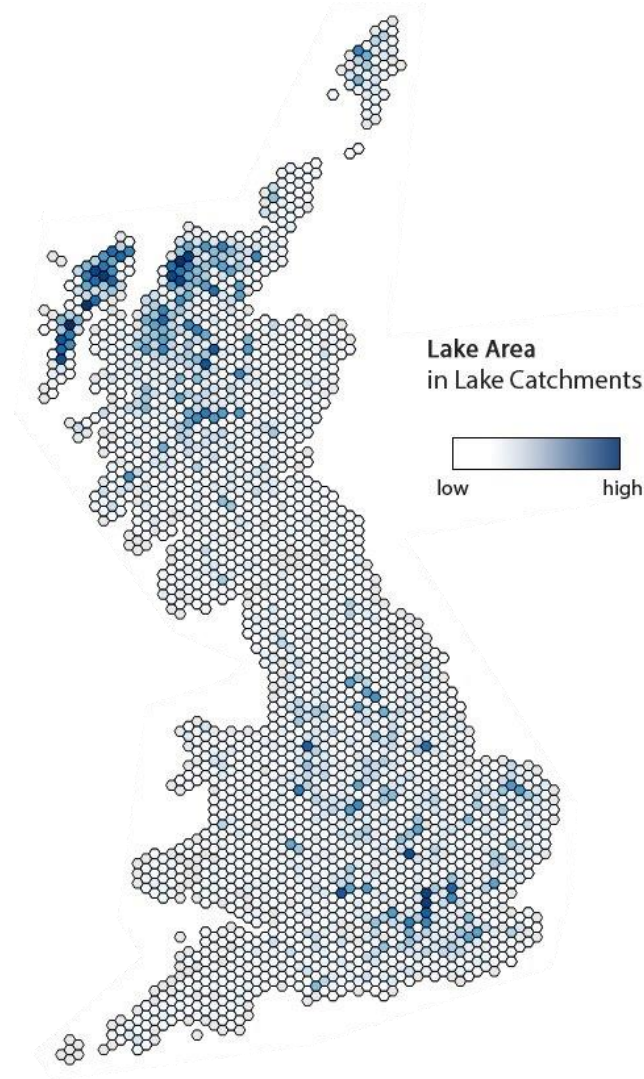
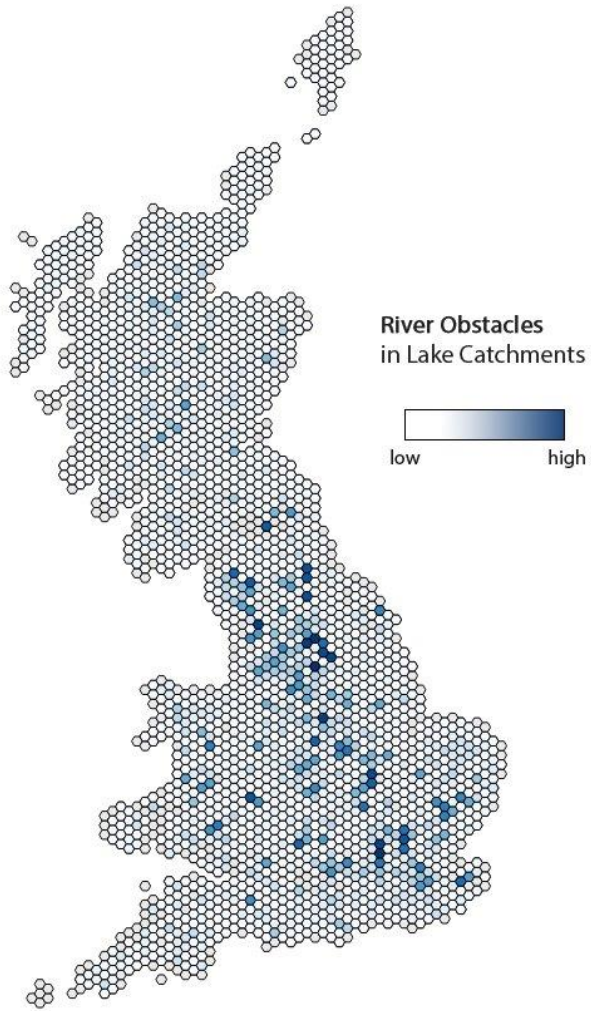
Salhouse  
Broad

River Bure

Vicarage Road




# Digging into the data



# UK Lakes Portal

<https://eip.ceh.ac.uk/apps/lakes/>

- How can we integrate BRC data with the portal?
- How can we improve recording of freshwater species?
- How can we link up future research outputs?

 **Centre for Ecology & Hydrology**  
NATURAL ENVIRONMENT RESEARCH COUNCIL

UK Lakes Portal [Map Search](#) [About UK Lakes Portal](#)



Lake name or ID   [Login](#)

## Dam Loch

Water Body ID 110

Dam Loch is a very small freshwater lake located in the Shetland Islands, Scotland. It is generally shallow with medium alkalinity and is situated at low altitude.

Surface Area	2 ha
Mean Depth [i]	3.0 m
Maximum Depth [i]	
Catchment Area	598 ha
Grid Reference	HP59510193
Altitude	7 m A.O.D.



lat, lon: 60.6962,-0.9118

Show selected lake  Show all lakes  Show lake catchment

100m  
400ft

[Parameters](#) [Typology](#) [Chemistry](#) [Land cover \(2000\)](#) [Land cover \(2007\)](#) [Biology](#) [Connectivity](#)

The following connectivity metrics are preliminary results from the [Hydroscape project](#) and show a small sample of the data created for analysing the connectedness of lakes. As well as the hydrological catchment, various buffers were created outwards from the lake outline — the largest (2km) is shown below:

**NB The hydrological catchment for this lake has been marked as potentially erroneous — data should be treated with caution.**



Gunn, I.D.M. *et al*

## UK Checklist of freshwater species

<https://doi.org/10.5285/57653719-434b-4b11-9f0d-3bd76054d8bd>

[Cite this dataset](#)

---

The UK Checklist of Freshwater Species is a collation of all the species (apart from algae) known to be found in association with fresh waters in the United Kingdom. The checklist was compiled to allow querying of freshwater species data in the Biological Records Centre (BRC) but to also to query freshwater species data from the BRC via the UK Lakes Portal (<https://eip.ceh.ac.uk/apps/lakes/>), as well as to update the freshwater species list supplied to the UK Species Inventory (UKSI) partners, such as Recorder 6, National Biodiversity Network (NBN) Atlas and iRecord.

The following eight major groups were identified as being associated with fresh waters in the UK: algae, amphibians, birds, fish, invertebrates, macrophytes, mammals and reptiles. Algae (except stoneworts) were not included in the UK Checklist of Freshwater Species as they are currently undergoing a major revision. Other microorganisms (bacteria, fungi and viruses) are also not included in this species list.

Publication date: 2018-05-24

<https://doi.org/10.5285/57653719-434b-4b11-9f0d-3bd76054d8bd>