





# What is the Somerset State of Nature?

(SSoN)







David Attenborough(BBC/Sam Barker)





- Targeted, data driven approach to monitoring species, habitat and the wider Somerset environment.
- A way to relay complex information in a digestible way.
- A tool for engagement with the Somerset community.
- An adaptive method for evaluating what should be monitored, when, where and why – including both successes and failures.





# Why the need for the Somerset State of Nature?





## Following on from the UK State of Nature Report 2019 which found;

- Since the 1970s 13% decline in average abundance of species studied.
- 41% species studied have declined, 26% increased and 33% stable.
- Since 1500, 133 species have been lost.





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It is vital to find out what is happening to wildlife on a county and local scale so that actions - informed by species and habitat abundance and distribution data, and environmental data - can be put into place to target biodiversity loss and gain throughout Somerset.





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# ...it's also going to be a key component in helping to inform and tie together...







- Biodiversity Net Gain initiatives.
- The Local Nature Partnership and the Somerset Climate Change Strategy & Natural Environment workstreams.





## Additionally;

- Environmental Land Management Scheme tests and implementation.
- Somerset Pollinator Action Plan projects and initiatives.
- Health and wellbeing initiatives across the county.





# Climate and Ecosystems are intrinsically linked





"climate change that is being experienced in the early twentyfirst century is intimately entwined with the health and functioning of the biosphere"

"At the same time, ecosystems can also assist in the mitigation of, and adaptation to, climate change."

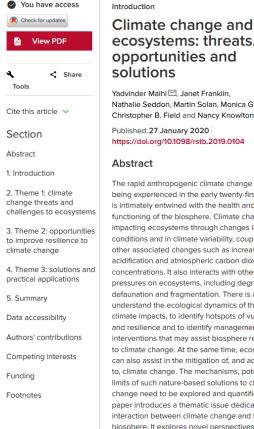
THE ROYAL SOCIETY



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#### PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B

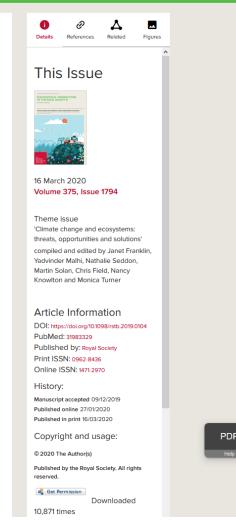
**BIOLOGICAL SCIENCES** 



#### Climate change and ecosystems: threats, opportunities and

Yadvinder Malhi ☑ Janet Franklin Nathalie Seddon, Martin Solan, Monica G. Turner,

The rapid anthropogenic climate change that is being experienced in the early twenty-first century is intimately entwined with the health and functioning of the biosphere. Climate change is impacting ecosystems through changes in mean conditions and in climate variability, coupled with other associated changes such as increased ocean acidification and atmospheric carbon dioxide concentrations. It also interacts with other pressures on ecosystems, including degradation, defaunation and fragmentation. There is a need to understand the ecological dynamics of these climate impacts, to identify hotspots of vulnerability and resilience and to identify management interventions that may assist biosphere resilience to climate change. At the same time, ecosystems can also assist in the mitigation of, and adaptation to, climate change. The mechanisms, potential and limits of such nature-based solutions to climate change need to be explored and quantified. This paper introduces a thematic issue dedicated to the interaction between climate change and the biosphere. It explores novel perspectives on how ecosystems respond to climate change, how ecosystem resilience can be enhanced and how ecosystems can assist in addressing the challenge of a changing climate. It draws on a Royal Society-National Academy of Sciences Forum held in Washington DC in November 2018, where these



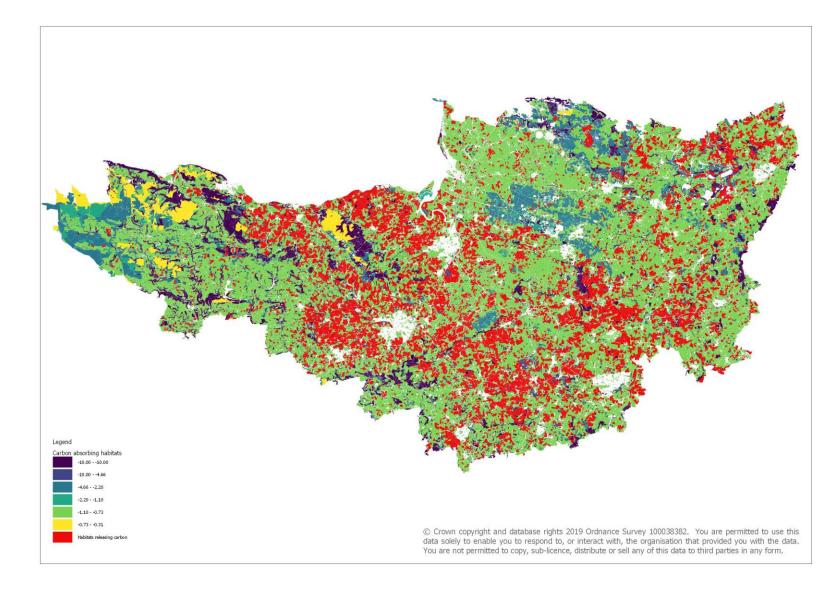




We base our carbon calculations on habitat types, soil quality and above and below ground biomass.

Healthy ecosystems generally equal higher sequestration, storage and stock.

Nature is a master at organic chemistry. Nature based solutions make economic sense.

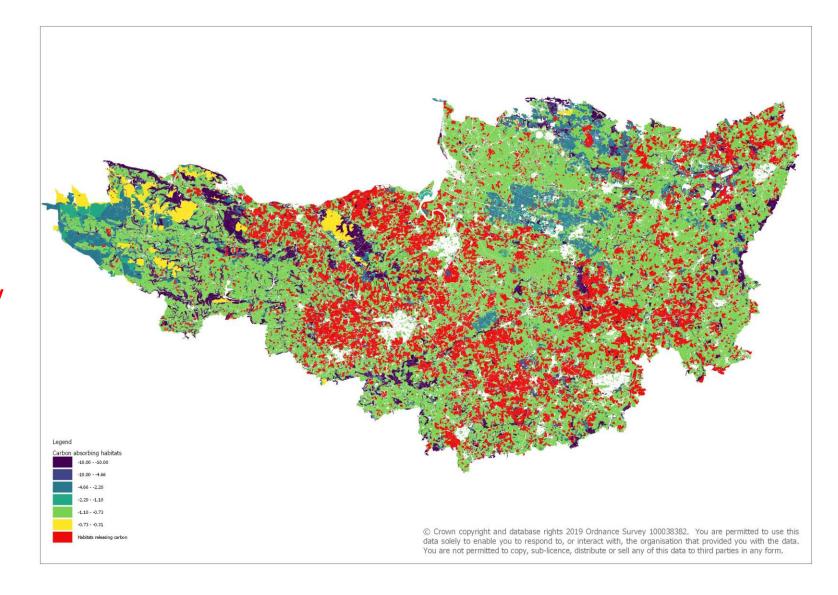






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"abundance and biodiversity are a measure of ecosystem health and quality"







## Our science tells us;

There is an ecological crisis, and it goes hand in hand with the climate crisis. They are not separate entities.

Ecological rehabilitation will need to play a key role in fighting the climate crisis.





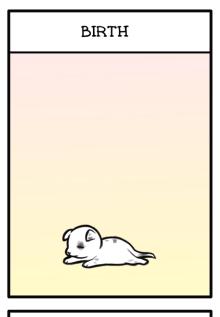
# The Data Strategy

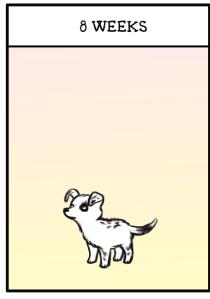


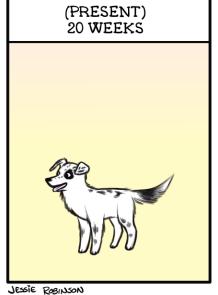


We need a data strategy to avoid errors in our decision making















# The Data Strategy

Gain a better understanding of:

- Biodiversity
- Distribution
- Abundance





A new traffic light based system.

Hyperlinks to help guide folk through the process.

Third party resources along with our own custom-made solutions.

https://www.somerc.com/submit-data/

#### Submit Data

Looking at, and taking an interest in the nature that surrounds us can be a fun and healthy experience. However, knowing what you're observing isn't always easy. It can take years of practice and effort to start to understand even a small subset of what we see. Traditionally, we've relied very heavily on brilliant individuals and groups such as those found on our specialist recording groups page, or members of the public that go to places like Somerset Wildlife Trust reserves and say what they see around them. Luckily, we now have the technology to help better facilitate recording at a wide range of skill levels. Also, helping our community enjoy taking a closer look at our wildlife.

Our county can also benefit from these new tools. By using them, you can help to fill in some of the gaps in our knowledge and data. We now live in a world of modelling. Data can help predict where we should not only find interesting things but what we should care for. Unfortunately, if people only say what is found at a few places the models are less convincing. This is where we can all help, this is citizen science! The Somerset Wildlife Trust has launched a new initiative called Team Wilder. Over the coming months and years, SERC will be working closely with SWT on Team. Wilder. Projects that will help facilitate the recording and citizen science that will be a big part of this initiative.

#### How You Can Help

Across the world, people are using a website/application called iNaturalist. It's not corporate or government lead. This is a joint initiative of the California Academy of Sciences and the National Geographic Society. There is now a dedicated UK team. Consisting of representatives from the National Biodiversity Network (NBN), The Biological Records Centre (BRC), and the Marine Biological Association (MBA). They collaborate with iNaturalist for the iNaturalistUK network.

With the climate and ecological emergencies that have been announced across the county, there is renewed interest in finding out and recording the species we have. The team at SERC are now going to be promoting a traffic light system for recording species across Somerset. To ensure that no matter what level of recording skill you have, you'll be able to take part in contributing.

Don't know anything about wildlife? Then use an app like Seek. First, set up an account with iNaturalistUK. You can then connect your iNaturalistUK account to the Seek app on your phone. Seek uses your camera to try to help identify the species observed using artificial intelligence (AI) and based on where you are, Using Seek, you can easily record what you spot whilst out on a walk, or as part of a dedicated recording effort and choose to share these observations with iNaturalist. If not already, once you're mobile device is connected to the internet, it will upload your observations to your iNaturalist account. Then others can begin to confirm and validate what you

Note: Be aware though, like most technologies, Seek is not 100% accurate, it's just a helpful tool and it's best to check your records once back at home! Naturalist has an app for those with more confidence or who are ready for the next level. It should also be noted that recording sightings with iNaturalist also means that these observations can't be used to inform planning applications,

Onto the next level. You've already started honing your skills, relying on learnt species and field guides to help identify your observations. However, it would still be nice to have mobile options for recording your sightings. Using apps provided by iNaturalist and Lutra Consulting (the latter being combined with the soon to be released and dedicated SERC recording form) could both be useful resources and your choice can be one of preference!

Note: Unlike iNaturalist, submitting sightings using the combination of Input and the SERC recording form will allow SERC to use records within planning applications.

You probably don't need any help! By now you're a pro, likely a member of one of Somerset's specialist recording groups or possibly working as an ecological consultant. We can help facilitate specialised recording forms using the Input app.

Ready to start recording look here for the links to apps or here for our online recording form.

#### Latest News

Community Wildlife Mapping

Launch Eventl Come join us on Zoom. Monday 4th October at 7pm for the official launch event of the community mapping



Search ...





# Goals for the Somerset State of Nature

- A Somerset State of Nature Website.
- Expansion of citizen science projects.
- (Hopefully) a yearly event bringing together stakeholders and the conservation community to discuss successes and failures and ideas of what to focus on.
- Become the visible face of the NRN so that everybody can see the progress.





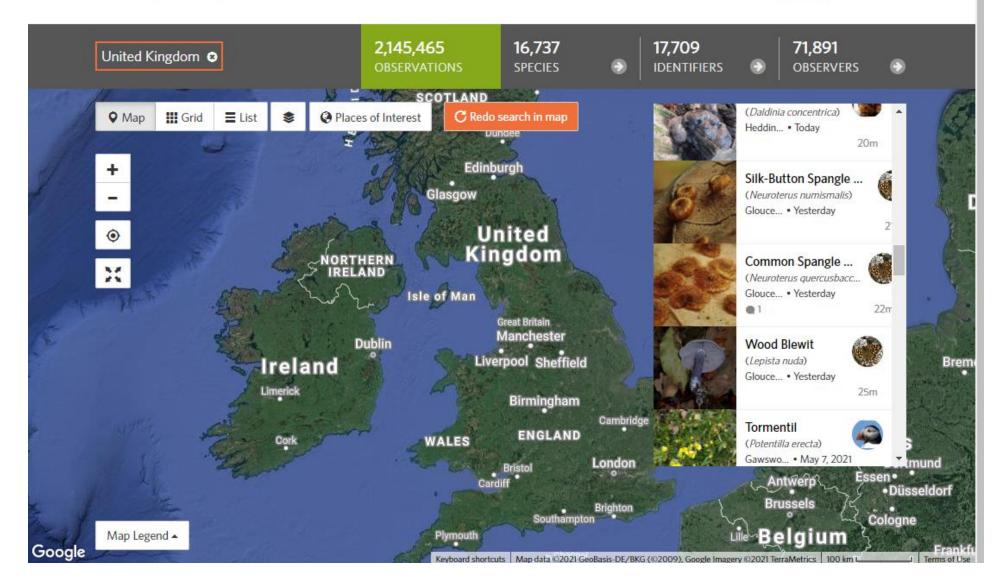


Your Observations Community > More >

**∓** Filters



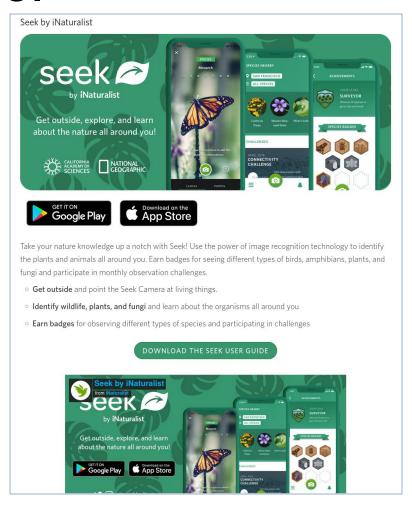








# The Green option – ideal for citizen science.



...a beginner's guide to recording



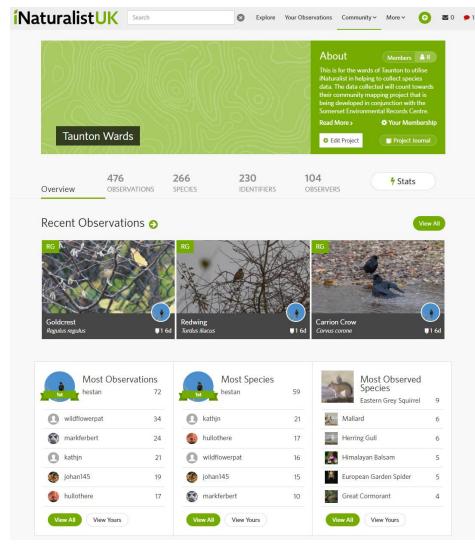


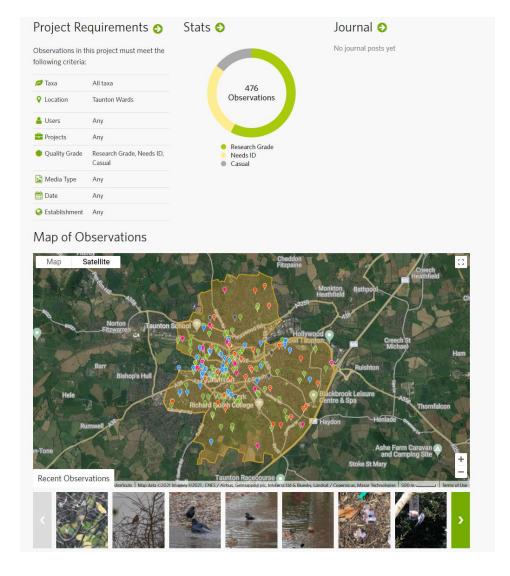
- Now a dedicated iNaturalistUK.
- Collaboration with the NBN, BRC, and MBA.
- The most popular system for the general public.
- Flexible with useful features built in (no need to re-invent the wheel).





# **Community Mapping**

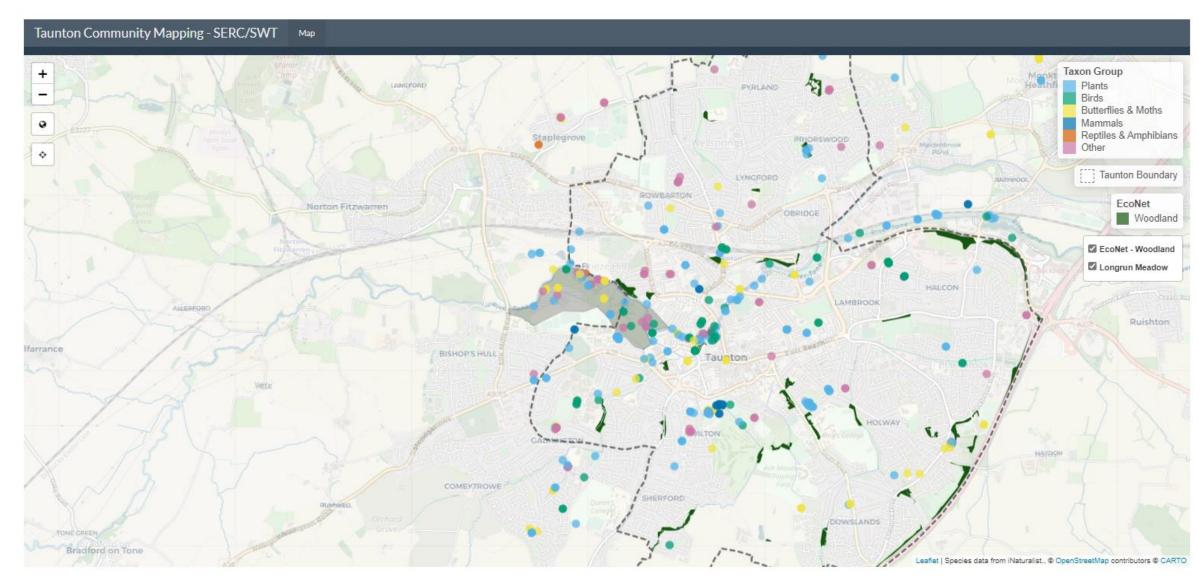








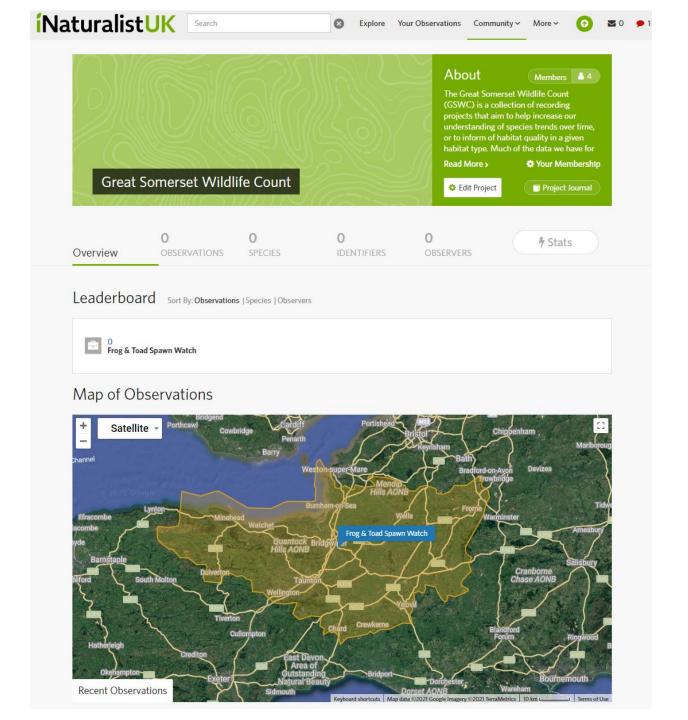
# **Community Mapping**







# Introducing the Great Somerset Wildlife Count

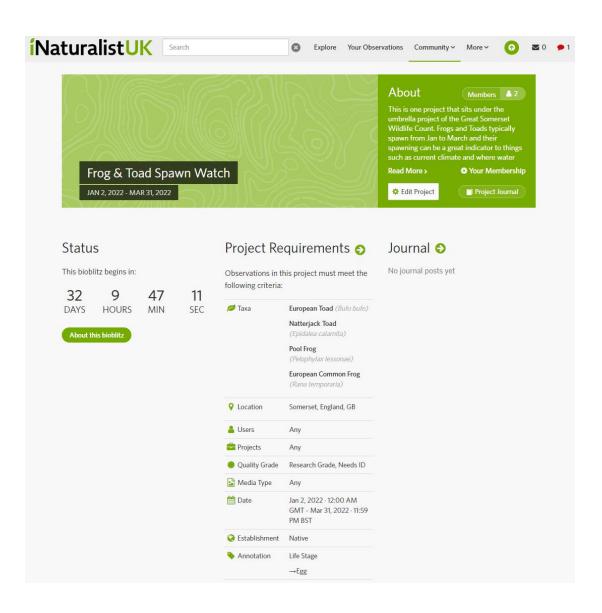






### The Great Somerset Wildlife Count

This is one project that sits under the umbrella project of the Great Somerset Wildlife Count. Frogs and Toads typically spawn from Jan to March and their spawning can be a great indicator to things such as current climate and where water bodies such as ponds are harbouring native wildlife. Like many species, amphibians are susceptible to climate change for a multitude of reasons. Froglife have collated a good synopsis on the science and research related to this https://www.froglife.org/2018/02/22/croakingscience-amphibians-climate-change/Amphibians are an under-recorded group within Somerset, and it is hoped that this project, amongst others, will help to bring their focus to the forefront.







## The Great Somerset Wildlife Count

The Wildlife Trusts

About us

What we do

Get involved

Wildlife

JO

DONATE



#### The UK's biggest nature challenge!

30 Days Wild 2021 has now ended (bool), but if you took part - a huge congratulations! Make sure to download your certificate <u>here</u>.

For those that are new to 30 Days Wild, it is The Wildlife Trusts' annual challenge where we ask everyone to do one wild thing a day throughout the month of June. 2021 saw over 760,000 people going WILD!









#### Help, Tell Us What You See

If you need more information look here.

To read how this helps and our traffic light system look here.

Not all species are equal when it comes to how their records are used. Some have statuses and protections associated with them. All bats for example are protected by law from interference. If recorded using iNaturalist, these **important species** can not be used by us when responding to planning applications or when we provide them to organisations such as the Environment Agency. This would be determined to be commercial use. Here you can help again by telling us in a different way. You can use our online recording form, or by using the SERC recording form with the Input app.

Note: Because of the public release of records on iNaturalist, if you are concerned about a species sighting being publicly visible, please use the SERC online recording form or the SERC recording form within the Input app to record the sighting.

#### - Important Species

- ★ Avocet (Recurvirostra avosetta)
- ★ Eurasian Badger (Meles meles)
- ★ Barn Owl (Tyto alba)
- ★ Bats (Chiroptera)
- ★ Bearded Tit (Panurus biarmicus)
- ★ Black Grouse (Tetrao tetrix)
- ★ Black Redstart (Phoenicurus ochruros)
- ★ Black-necked Grebe (Podiceps nigricollis)
- ★ Cattle Egret (Bubulcus ibis)
- ★ Chough (Pyrrhocorax pyrrhocorax)
- ★ Cirl Bunting (Emberiza cirlus)
- ★ Common Tern (Sterna hirundo)
- ★ Corn Bunting (Emberiza calandra)
- ★ Corncrake (Crex crex)
- ★ Crane (Grus grus)
- ★ Dartford Warbler (Sylvia undata)
- ★ Dunlin (Calidris alpina)
- ★ Firecrest (Regulus ignicapilla)
- ★ Garganey (Anas querquedula)
- ★ Goosander (Mergus merganser)
- ★ Goshawk (Accipiter gentilis)
- ★ Great White Egret (Ardea alba)
- → Hawfinch (Coccothraustes coccothraustes)

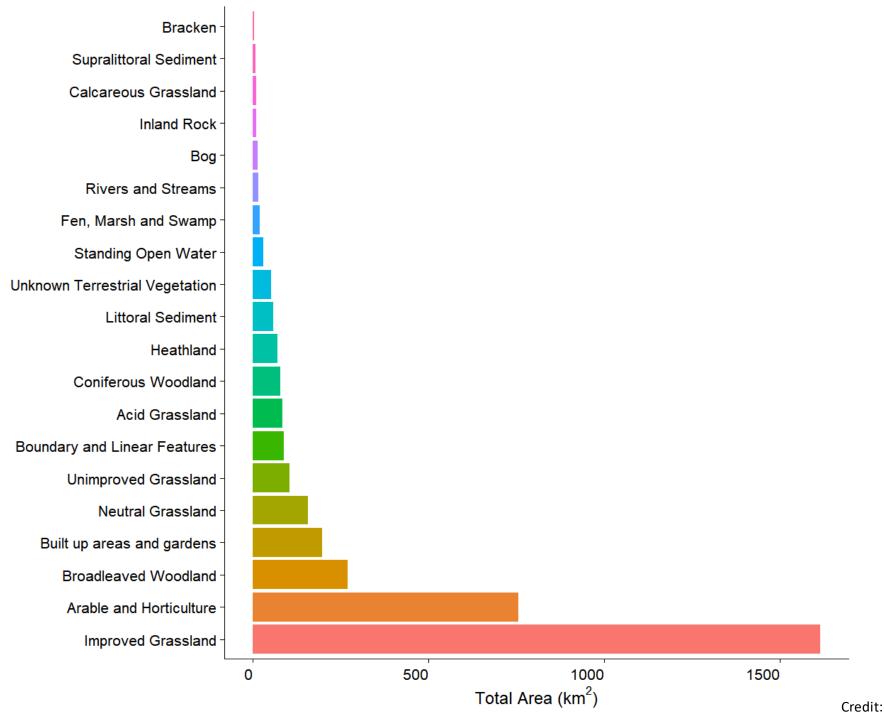








# A couple of slides to end with...



- Citizen scientist estimated
  hedgerow to be
  1000 years old.
- Recorded over 500 unique species.





Looking up track viewed from road





## With special thanks to Tony Price and James Duffy

# The End