

# Atlas 2020 – Project update and progress report

BSBI Scottish Spring Conference 2019

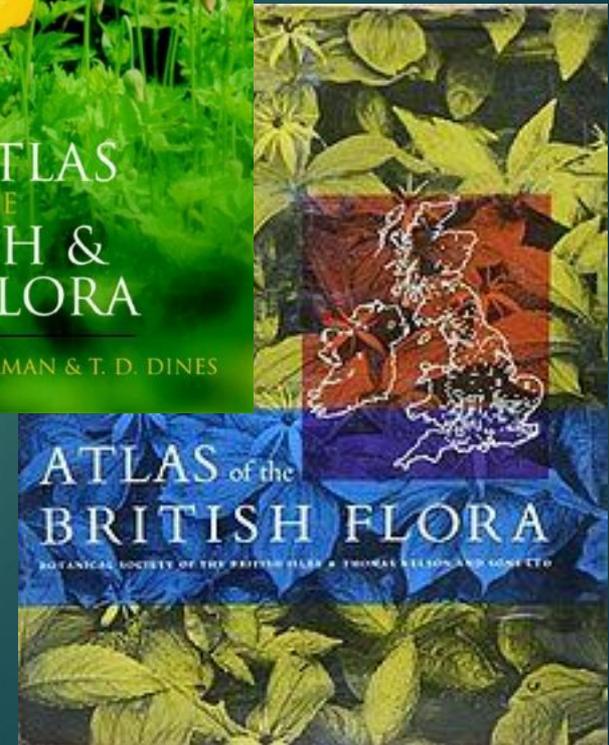
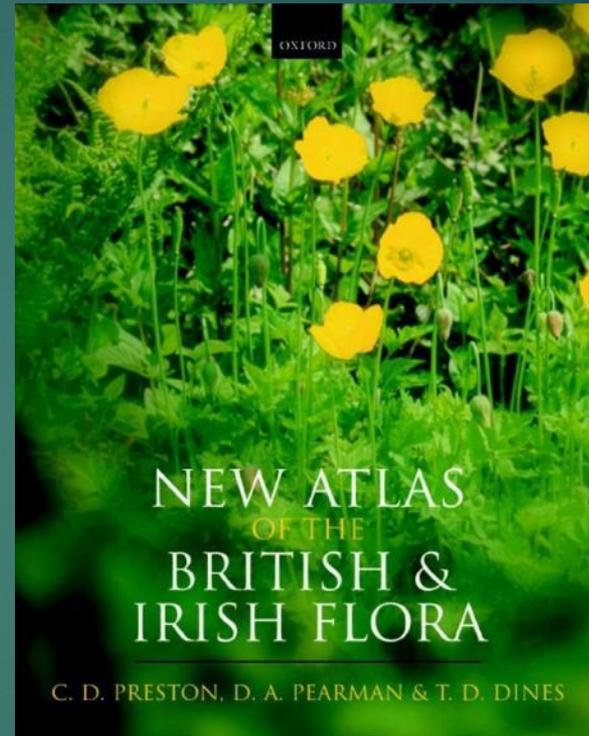
JIM MCINTOSH  
BSBI SCOTTISH OFFICER



# Atlas 2020: Overall Aim

Like previous atlases it aims to:

- Produce comprehensive maps for all native and introduced vascular plant & charophyte taxa occurring in the wild Britain and Ireland, and
- Analyse and report on the many changes that have occurred since the last Atlas 20 years ago...



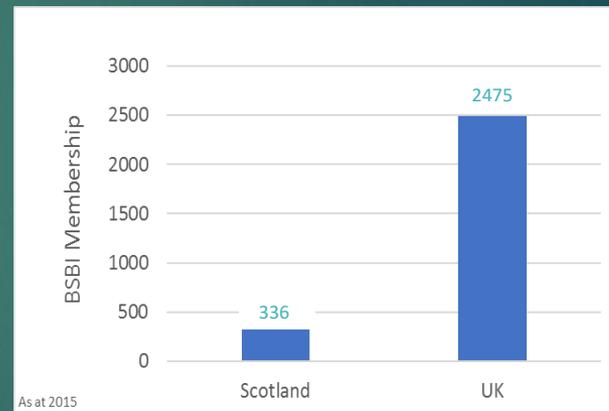
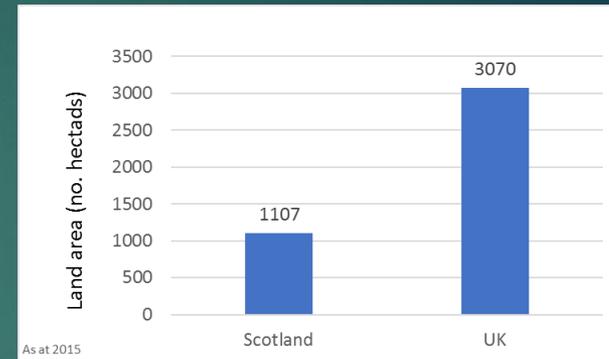
# Atlas 2020: Recording Aim

Unlike previous atlases we are recording a sample of tetrads 2x2km squares (or better) in every hectad throughout the BI

- We suggest a minimum of 5 tetrads per hectad (10x10)!
- Surveying each twice

A BIG challenge in Scotland

- where we have one third of the total land area of the UK
- half of which is very remote and / or mountainous
- But just 12% of the BSBI membership!

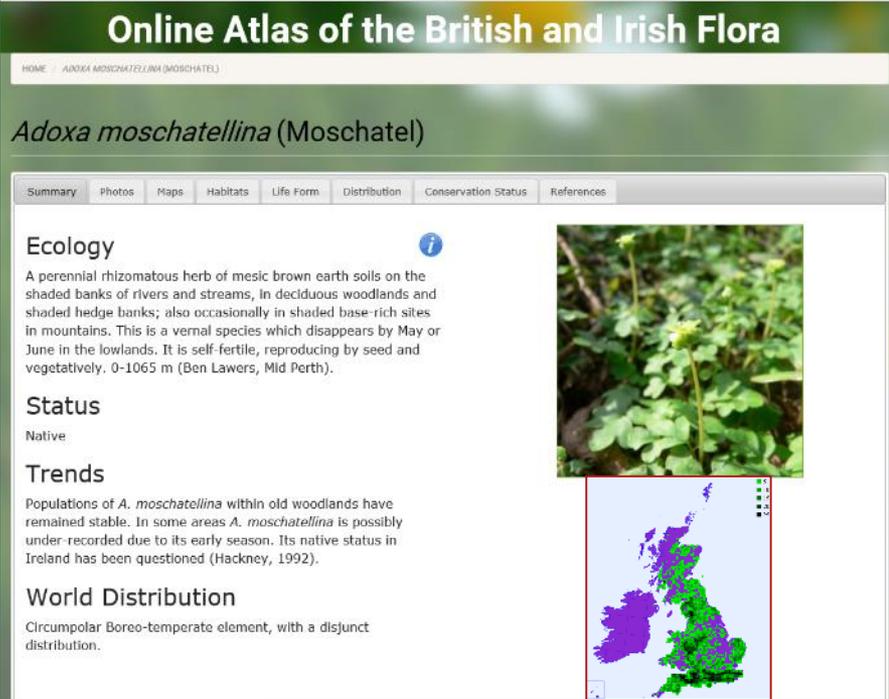


Given the size of the challenge, we need to support and encourage all BSBI Recorders & members and non-members to participate fully!

# Atlas 2020: Outputs

## 1. An eAtlas

- Maps of all species covered by Atlas 2020
- Interactive maps
- Edited captions similar to those in the New Atlas
- Hosted by CEH and would replace the Online Atlas



The screenshot shows the 'Online Atlas of the British and Irish Flora' website. The page title is 'Adoxa moschatellina (Moschatel)'. Below the title is a navigation menu with tabs for Summary, Photos, Maps, Habitats, Life Form, Distribution, Conservation Status, and References. The 'Ecology' section describes the plant as a perennial rhizomatous herb of mesic brown earth soils, found in shaded banks of rivers and streams, deciduous woodlands, and shaded hedge banks. The 'Status' section indicates it is a native species. The 'Trends' section notes that populations in old woodlands have remained stable, but it is possibly under-recorded in some areas. The 'World Distribution' section describes it as a circumpolar boreo-temperate element with a disjunct distribution. A photograph of the plant is shown on the right, and a distribution map of the British Isles is visible in the bottom right corner.

The list of taxa to map has been finalised – available on the DDb. Currently we are coordinating the authorship, writing and editing of species captions. The DDb is being used to edit the captions.

# Atlas 2020: Outputs

## 2. Analysis

- Of how the flora has change over the short and long term, broken down into upland and lowland.
- Carried out in collaboration with CEH using advanced statistical modelling techniques that account for variations in recording intensity and detectability of species.
- Results will be included in an overall report by CEH & BSBI and also in Country Reports.
- They will also be used in the captions in the eAtlas and in a more general account of change in the *British and Irish flora...*

# Atlas 2020: Outputs

3. A book - the original plan was for a staff-led publication...

- A general and readable account of the British & Irish flora using the results of Atlas 2020
- Colour photographs and figures throughout
- Maps of selected species will be included
- Topics -:

Why study our wild flora?

Who studies our wild flora?

What shapes our wild flora?

How many species do we have?

Where do they occur?

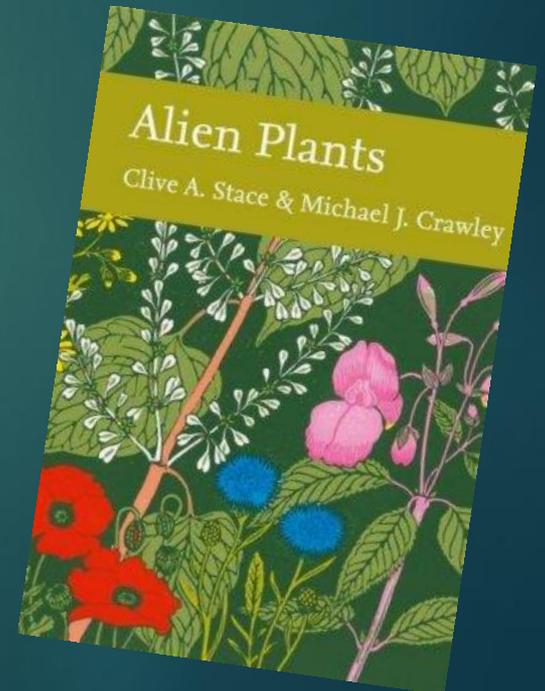
How and why has our flora changed?



# Atlas 2020: Outputs

## 3. The book

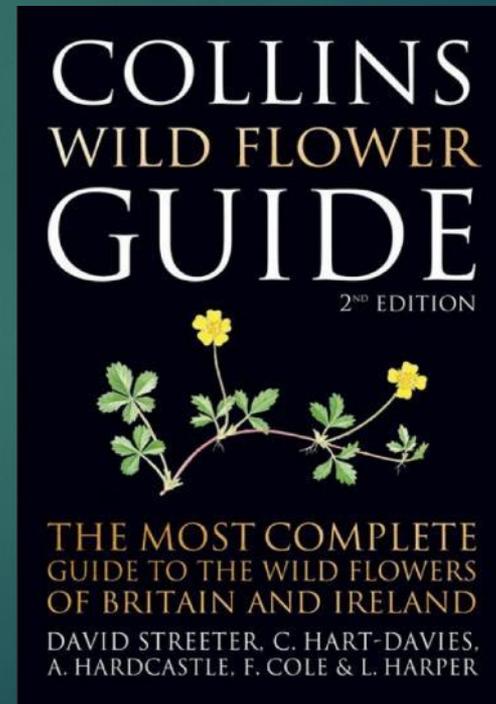
- In November the BoT decided that it should be volunteer-led
- Which would leave staff more time to concentrate on the Online Atlas, validation and species captions.



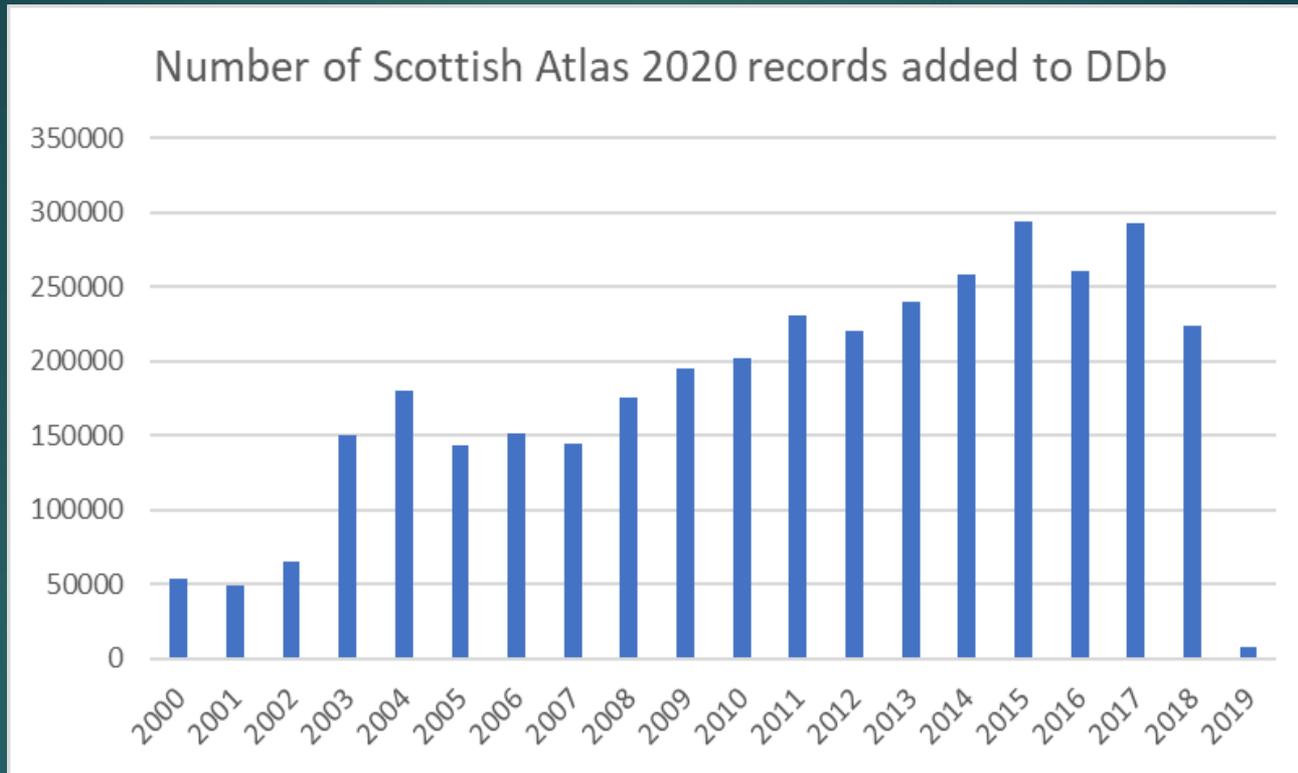
# Atlas 2020: Outputs

## Smartphone app

We have been approached by Harper Collins who are keen to produce a smartphone app of the *Collins Wildflower Guide* (Streeter *et al*) which would incorporate the maps from Atlas 2020.

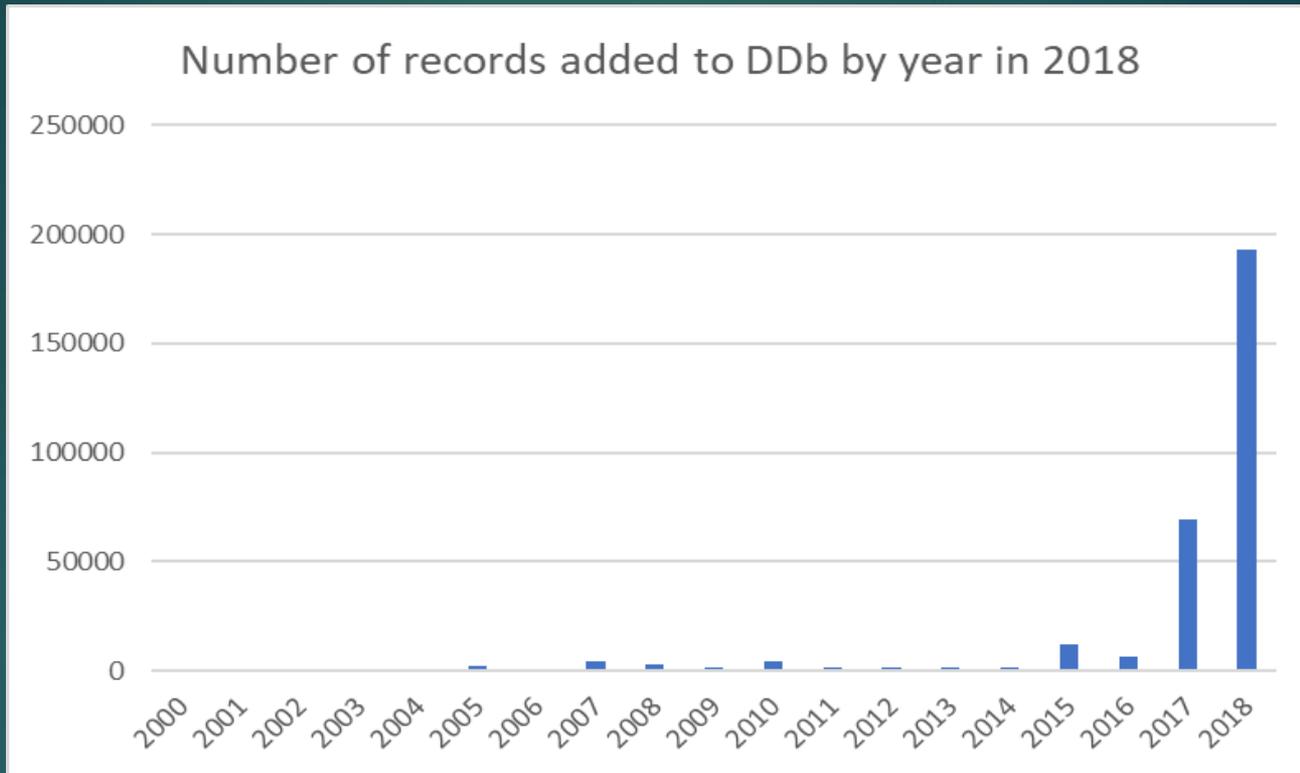


# 1.



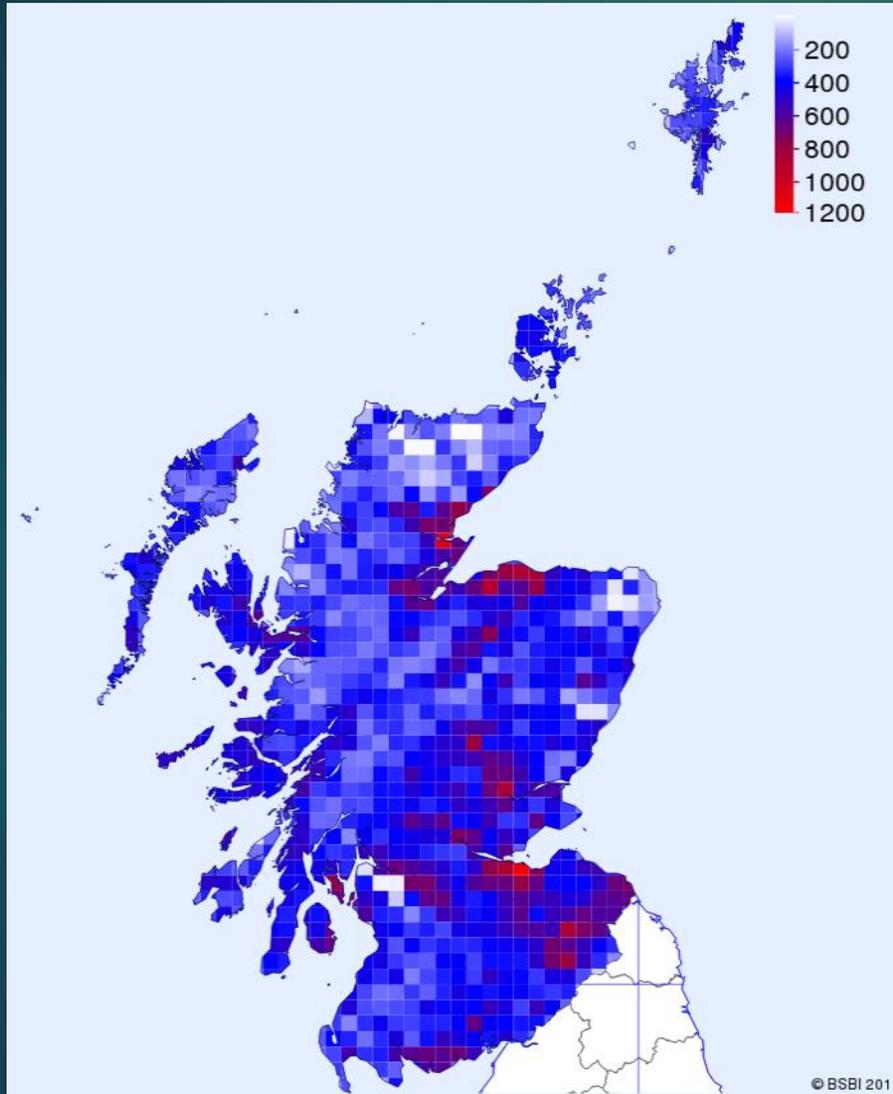
- Amazing amount of recording & digitising going on in Scotland
- Digitisation and uploading to the Database (DDb) is quicker
- Total number of records increasing year by year

# 2.



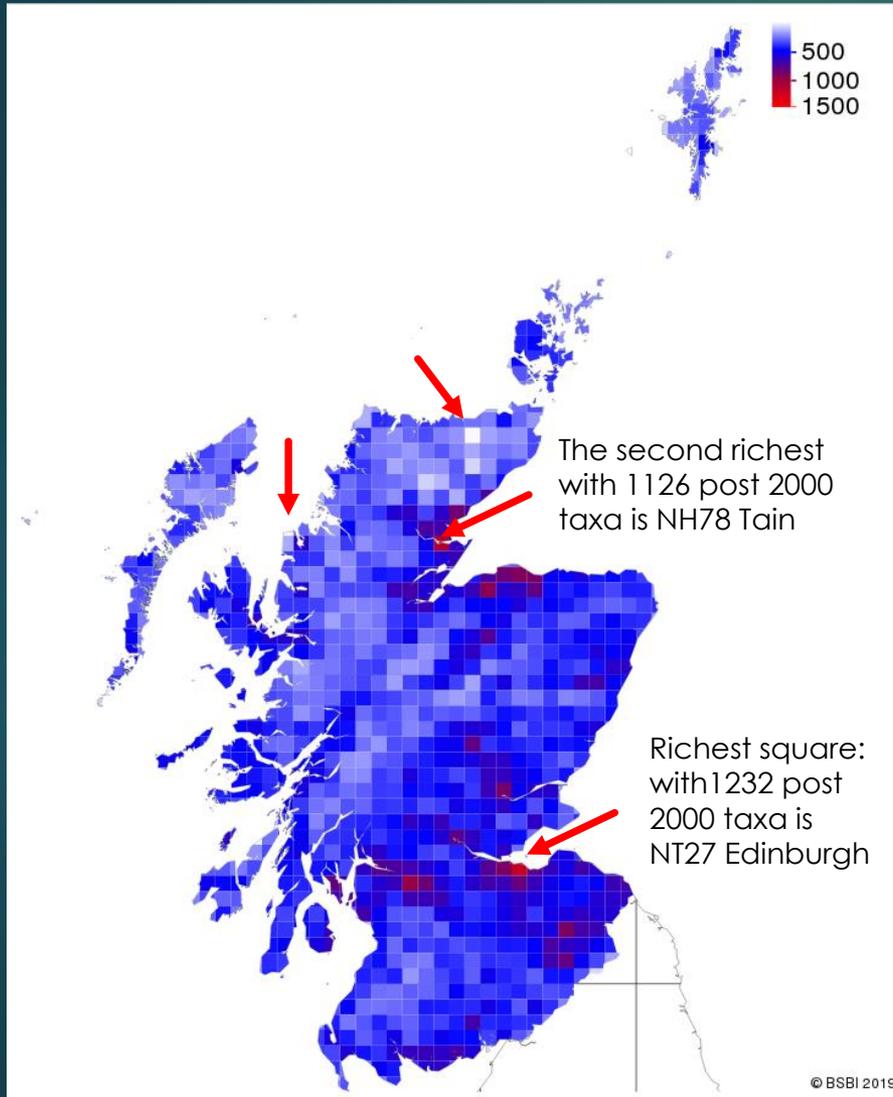
- Not so many old records being digitising
- And folk are digitising records more quickly
- But 70,000 2017 records were digitised & added to Ddb in 2018

### 3. Number of taxa recorded in each 10x10km square in 2017



- Map shows more taxa per hectad in central Scotland, the borders, around Inverness, in Speyside and fewer in the north & west highlands
- Some of the islands are very well recorded.
- Less well recorded areas in the far north, north east and south west.

### 3. Number of taxa recorded in each 10x10km square in 2019



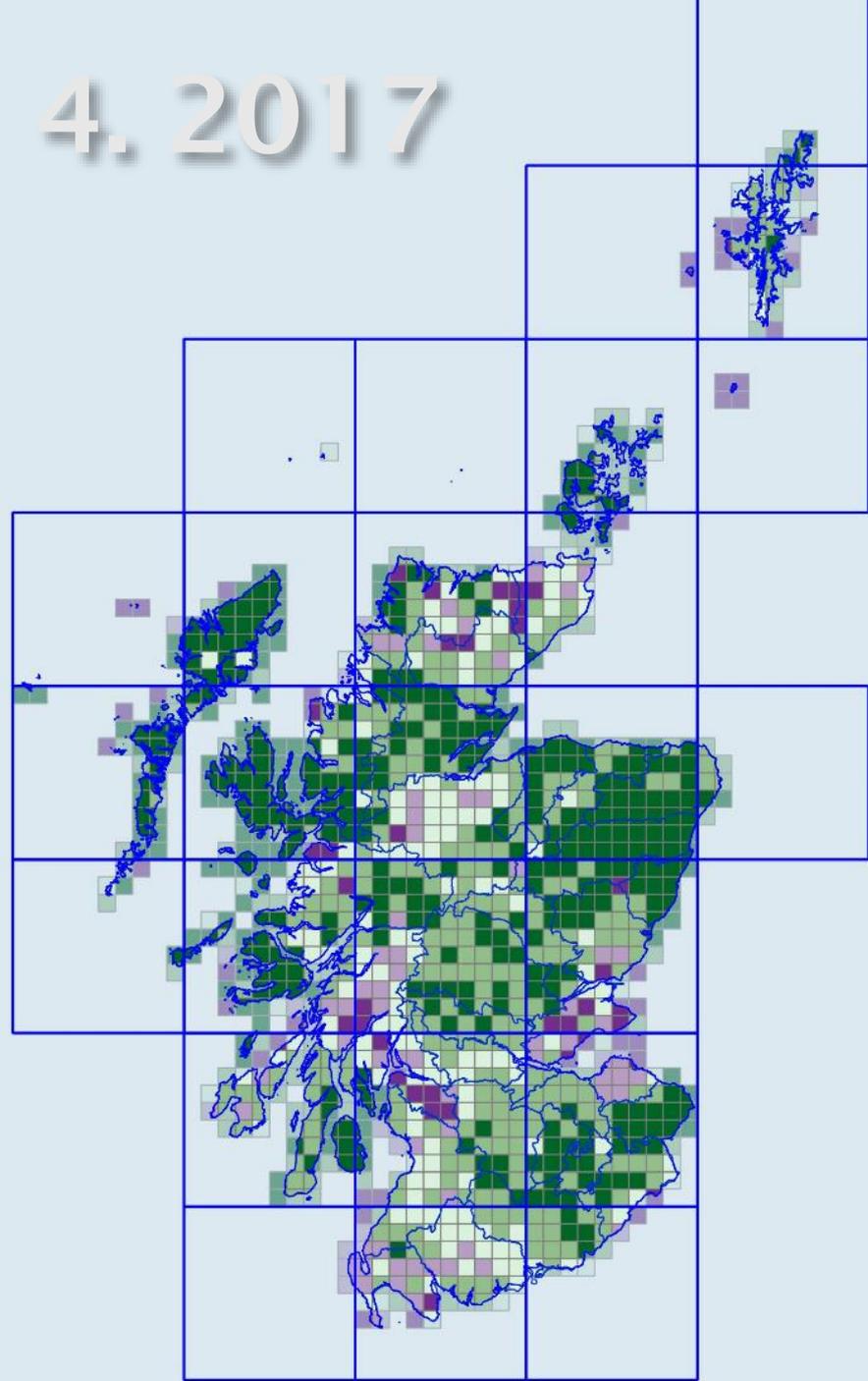
- Recording much improved in the far north – and in the north-east
- The Renfrew Gap is filled

# 4. 2017

Percentage species & hybrids recorded 1970 - 1999  
per hectad in Scotland (excl. Hieracium, Rubus & Taraxacum)  
refound 2000 - 2017

Total hectads [1109]

- < 50 [72]
- 50 - 60 [79]
- 60 - 70 [178]
- 70 - 80 [366]
- >80 [403]
- 100km grid
- Vice-counties



# 4. 2019

Percentage species & hybrids recorded 1970 - 1999  
per hectad in Scotland (excl. Hieracium, Rubus & Taraxacum)  
refound 2000 - 04/04/2019

[Hectads] [1117]

 < 50 [51]

 50 - 60 [42]

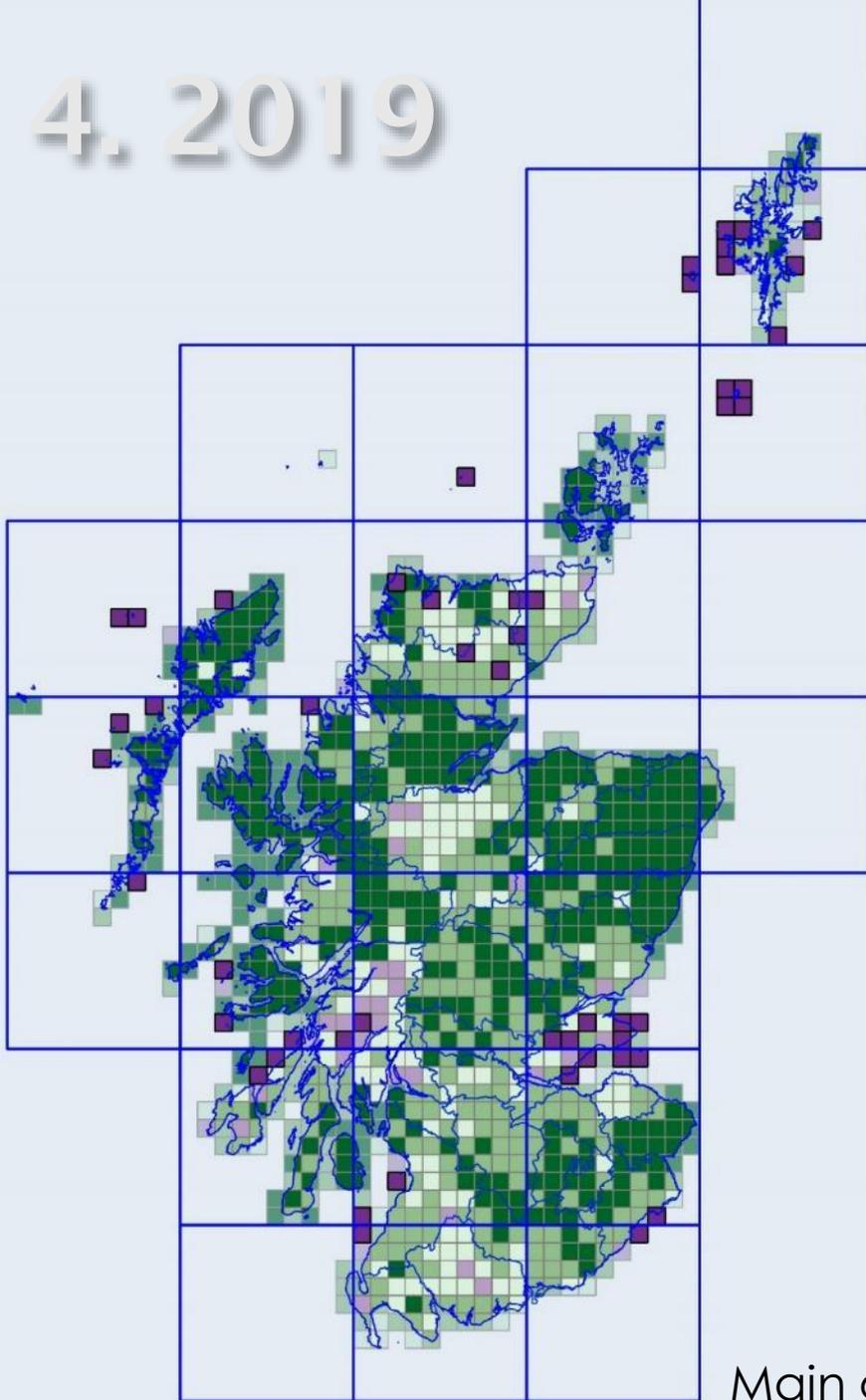
 60 - 70 [167]

 70 - 80 [381]

 >80 [459]

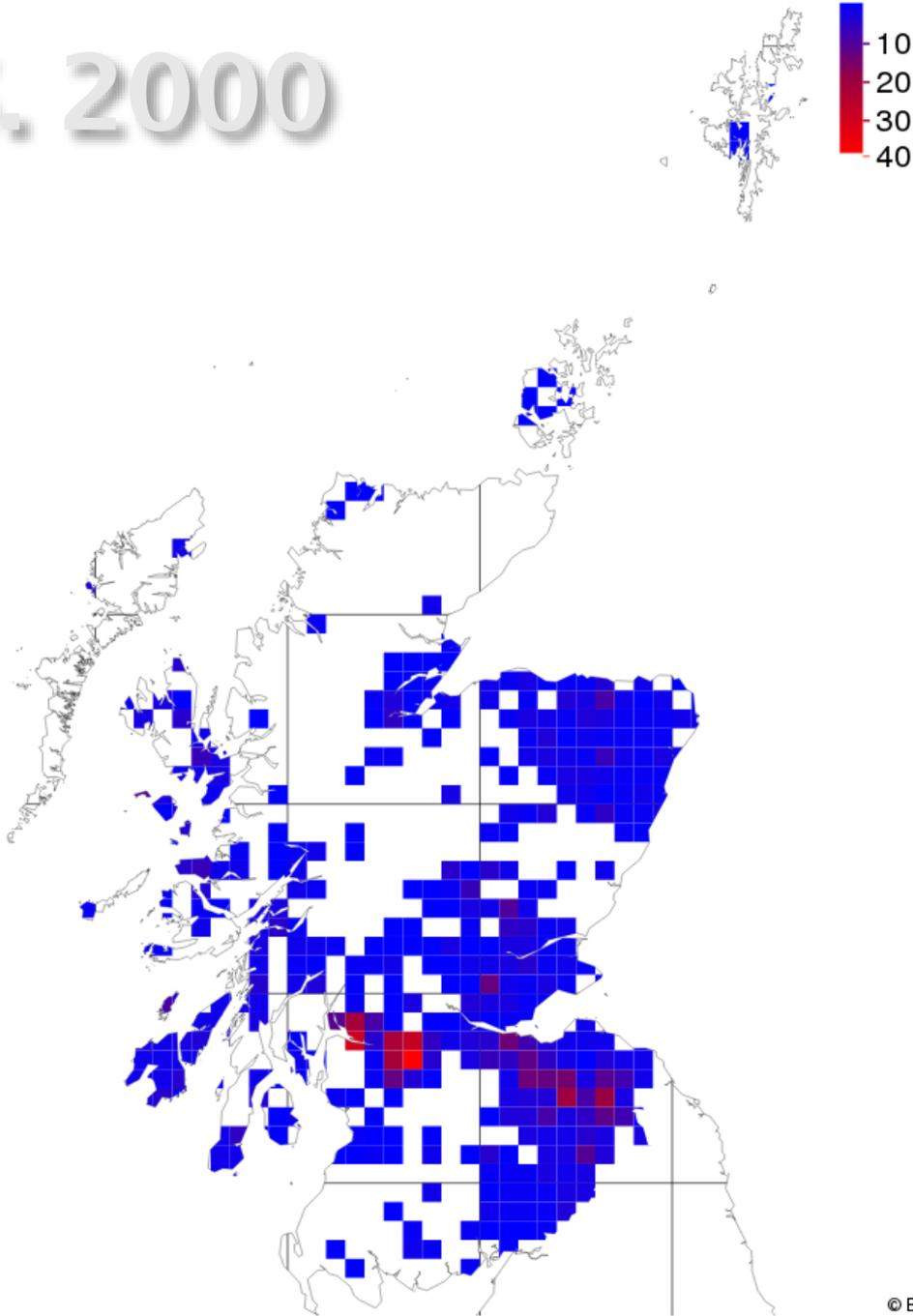
 100km grid Scotland

 Scotland vc polygons



Main gaps in the far north, Easterness, Argyll & Fife

# 5. 2000



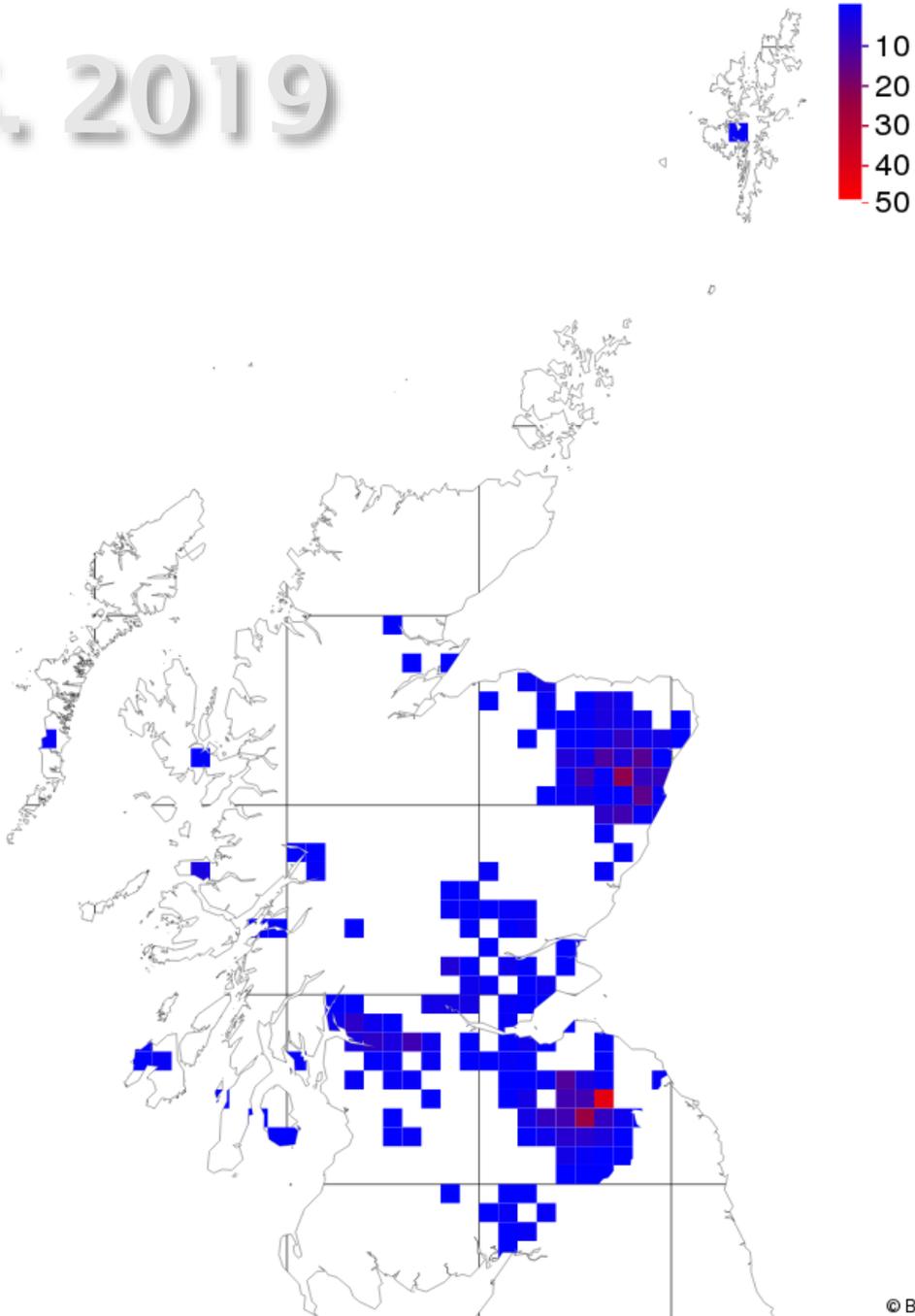
## Large-flowered hemp-nettle (*Galeopsis speciosa*)

All Scottish pre 2000 records  
In 407 hectads



© Jim McIntosh, 2017

# 5. 2019



© BSBI 2019

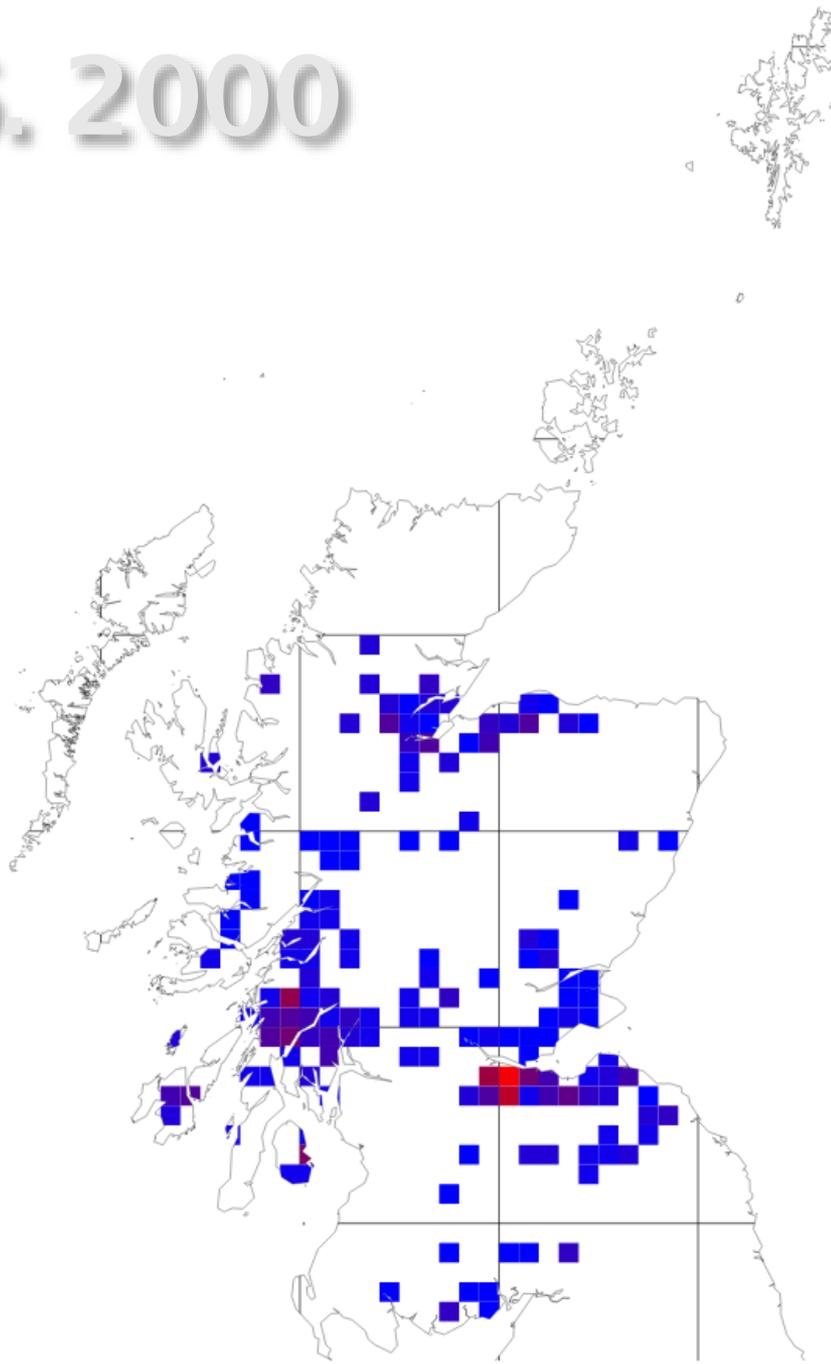
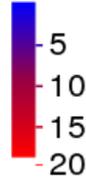
## Large-flowered hemp-nettle (*Galeopsis speciosa*)

All Scottish post 2000 records  
In 172 hectads



© Jim McIntosh, 2017

# 6. 2000



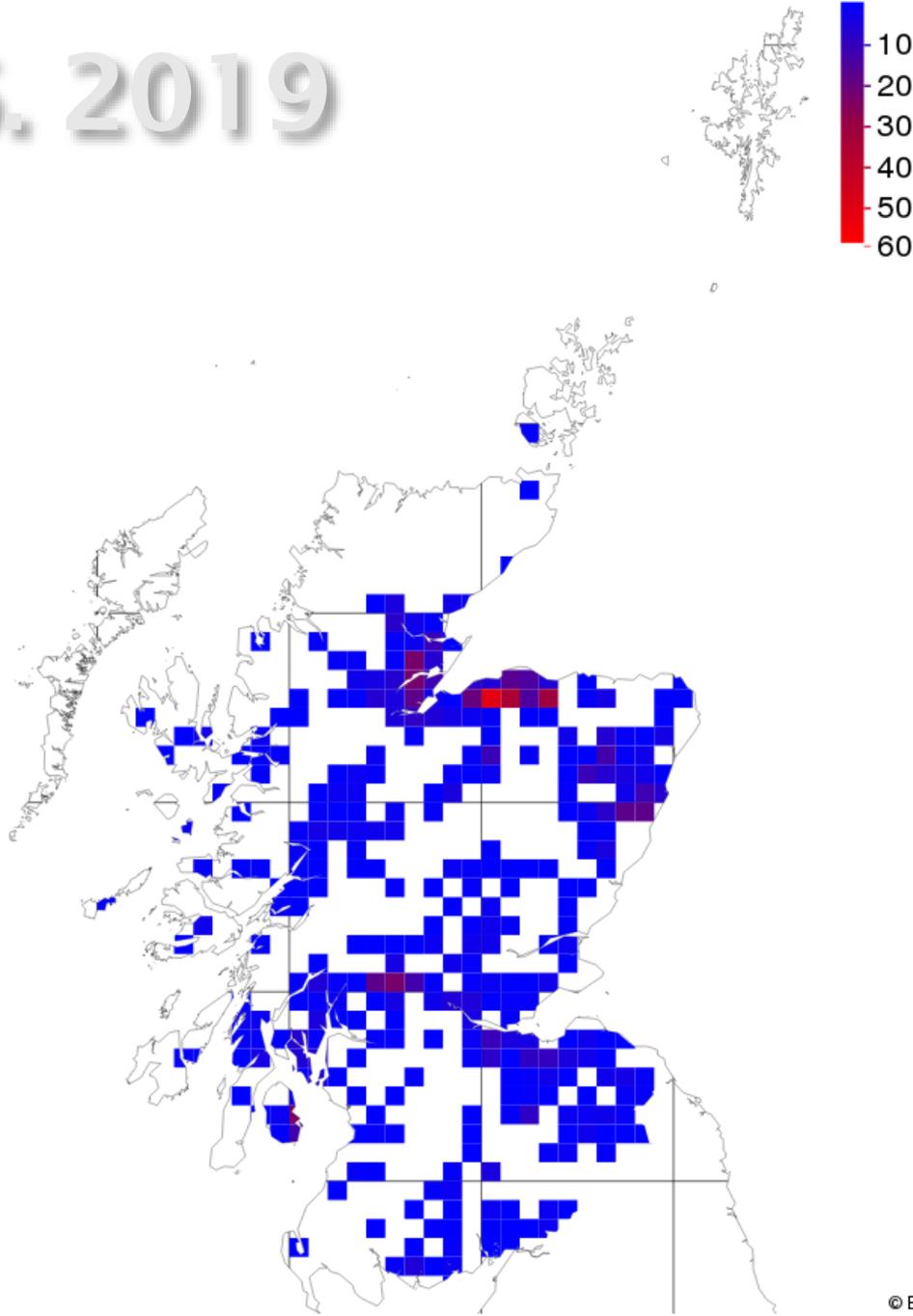
## Western Hemlock (*Tsuga heterophyllum*)

All Scottish pre 2000 records  
In 154 hectads



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# 6. 2019



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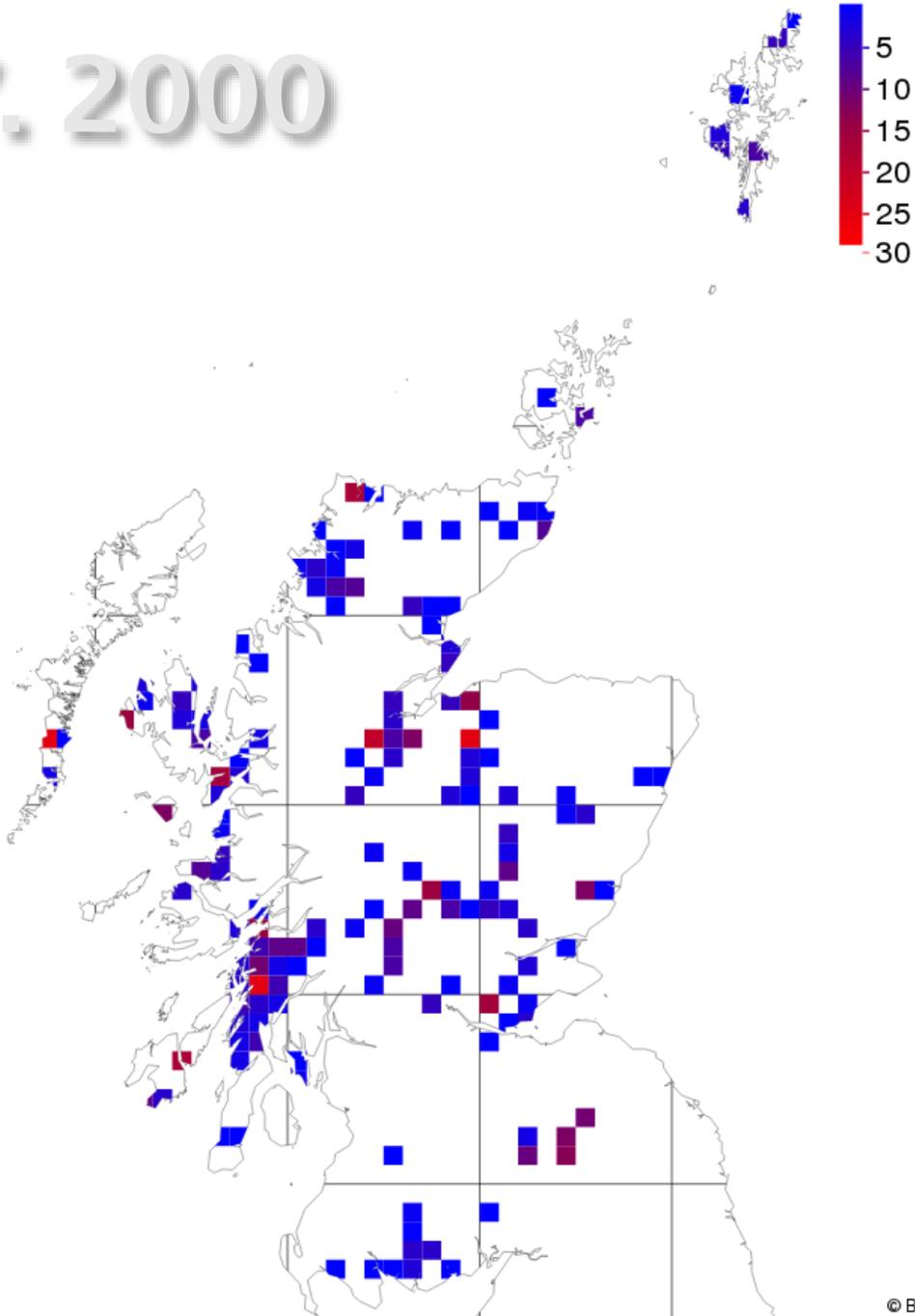
## Western Hemlock (*Tsuga heterophyllum*)

All Scottish post 2000 records  
In 326 hectads



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# 7. 2000



© BSBI 2018

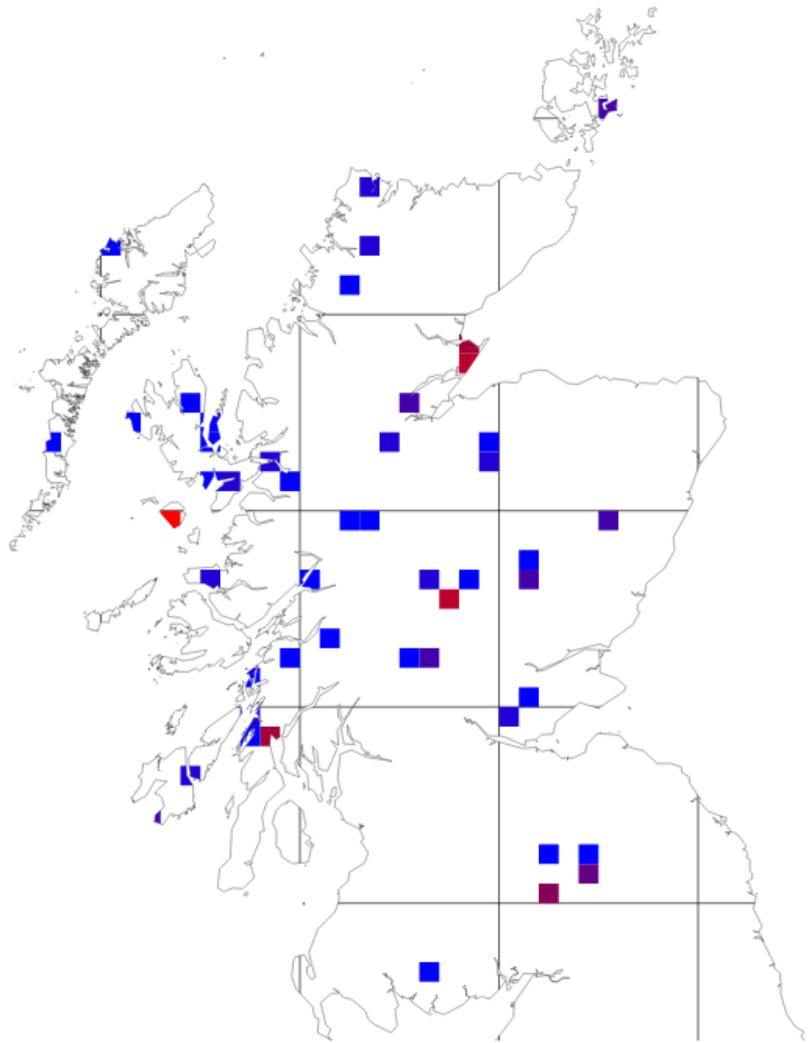
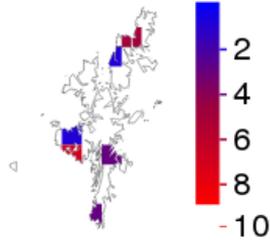
## Long-stalked Pondweed (*Potamogeton praelongus*)

All Scottish pre 2000 records  
In 162 hectads



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# 7. 2019



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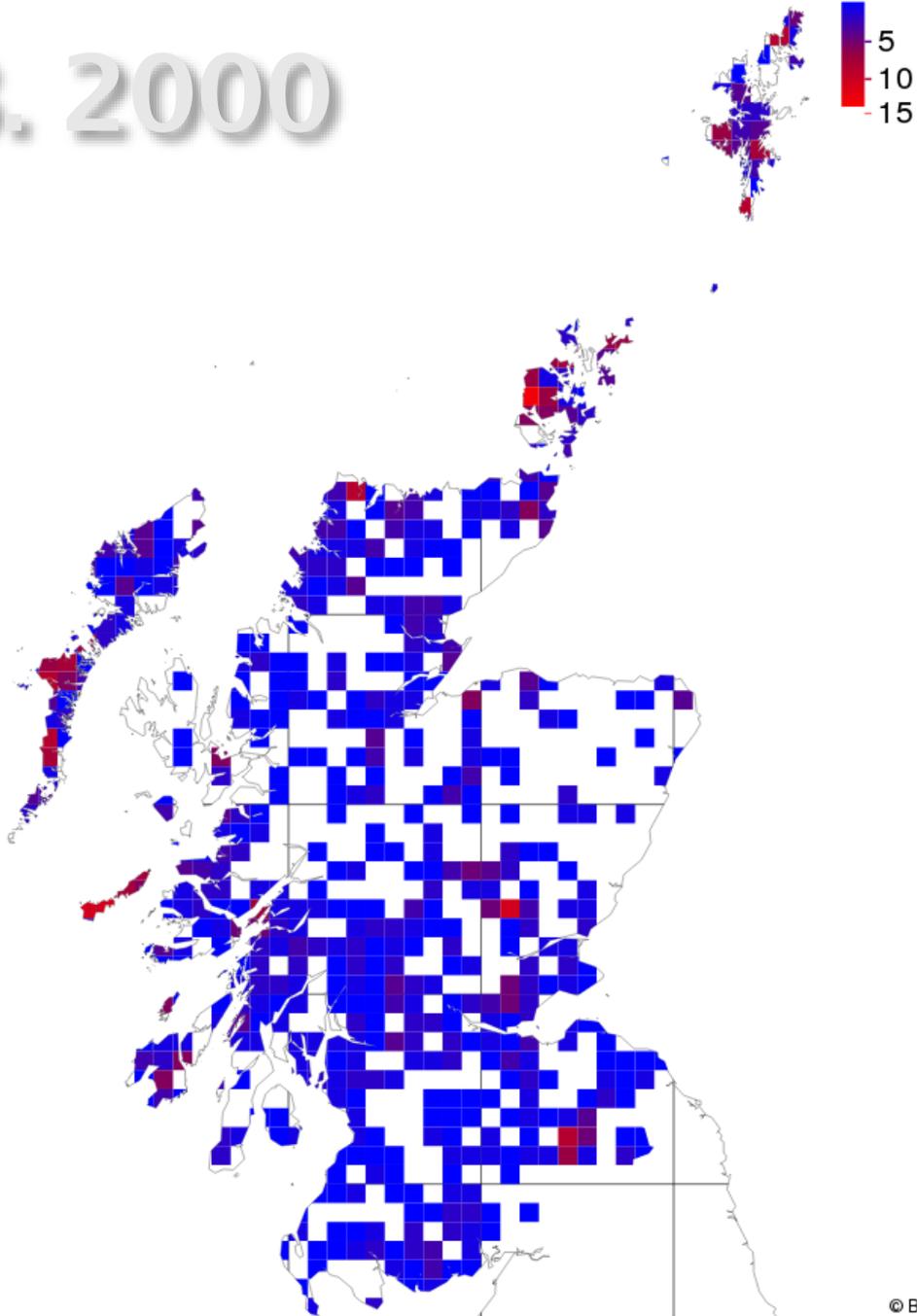
## Long-stalked Pondweed (*Potamogeton praelongus*)

All Scottish post 2000 records  
In 54 hectads



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# 8. 2000



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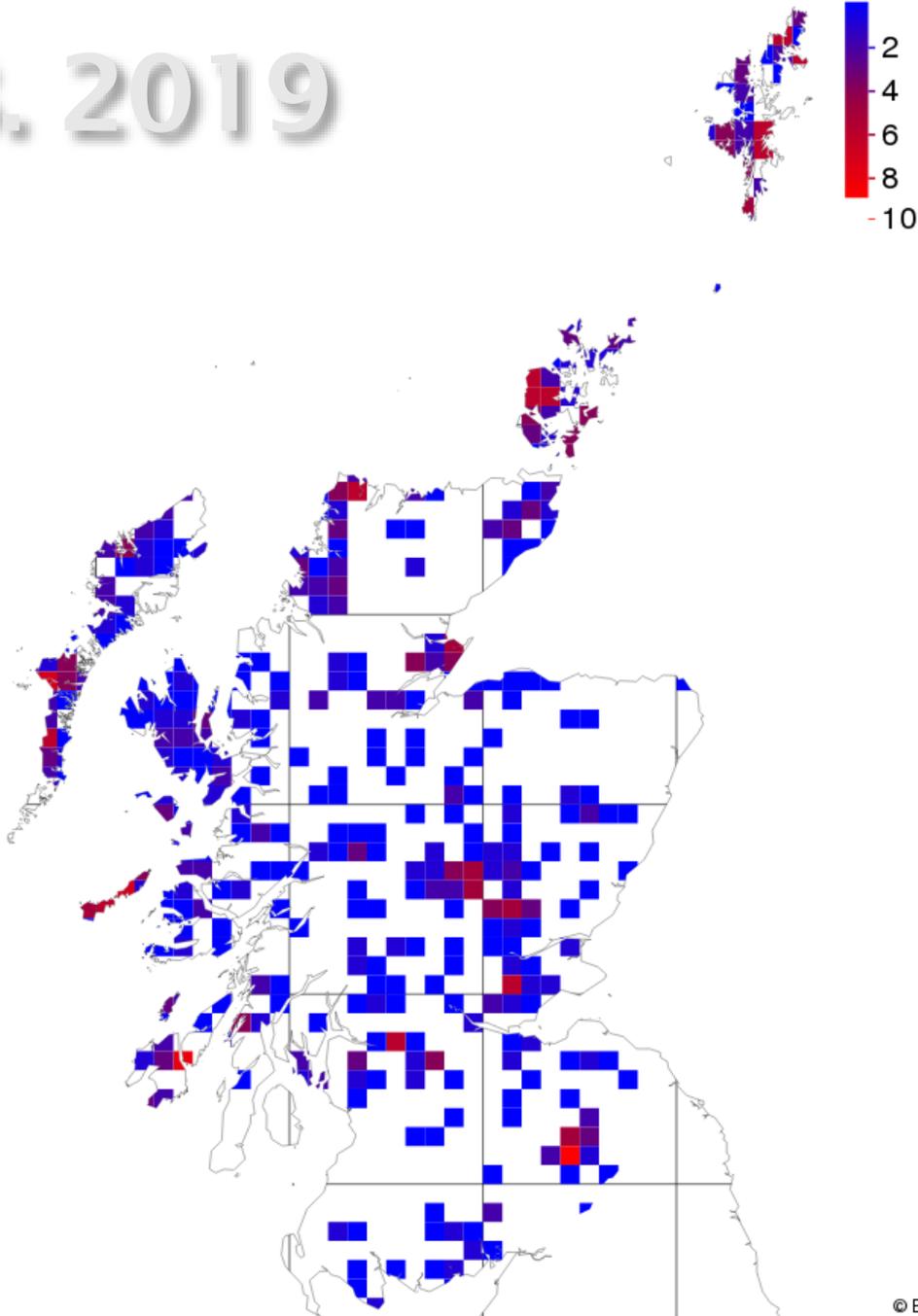
## Stoneworts (*Characeae*)

All Scottish records to 2000 grouped by taxon  
– recorded in 576 hectads



© Least Stonewort (*Nitella confervacea*) by Claudia Ferguson-Smyth

# 8. 2019



© BSBI 2019

## Stoneworts (*Characeae*)

All Scottish post 2000 records grouped by taxon – recorded in 383 hectads)



© Least Stonewort (*Nitella confervacea*) by Claudia Ferguson-Smyth

Thank you!



BSBI Atlas 2020