

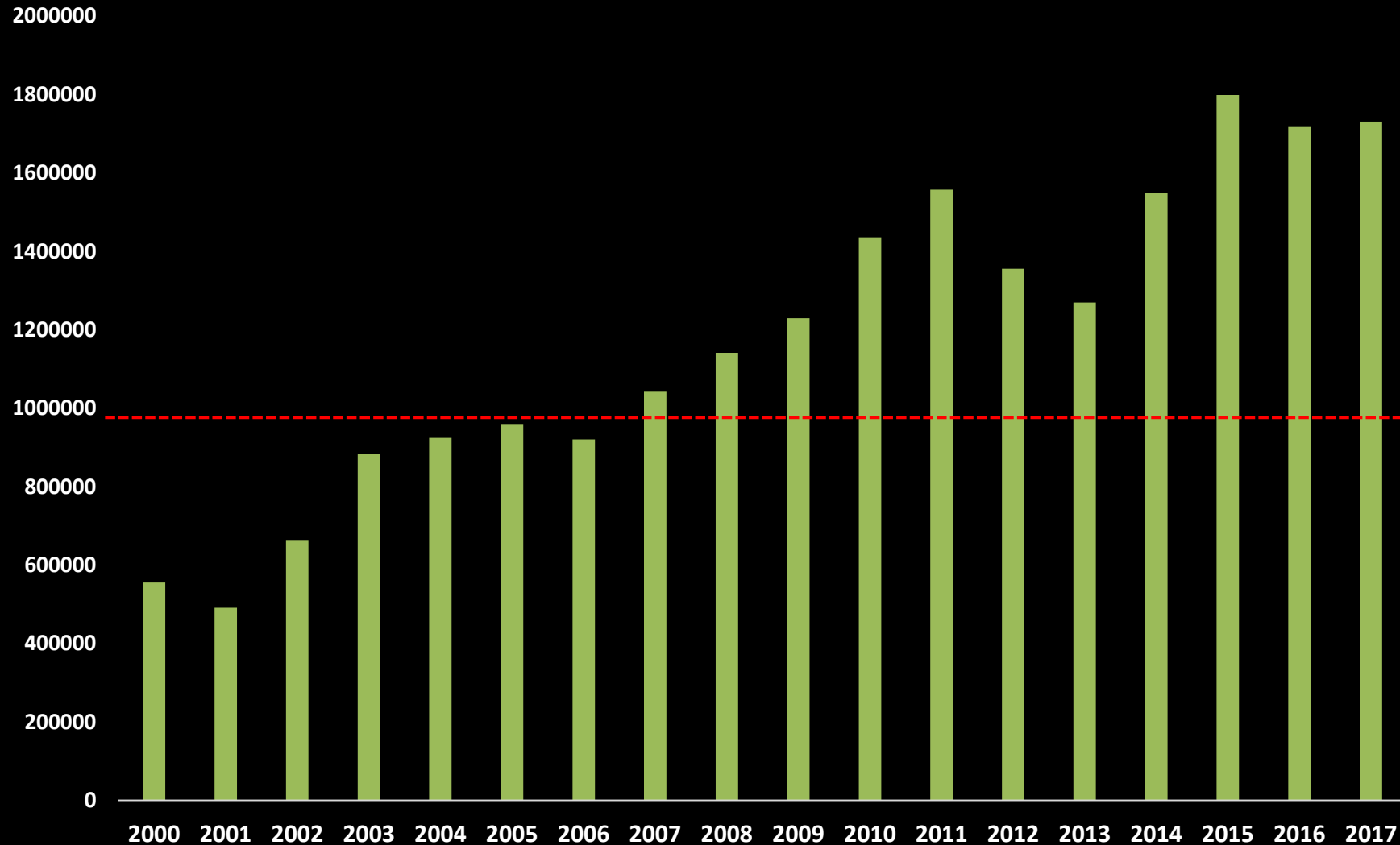
A scenic landscape photograph. In the foreground, a rocky outcrop on the left is covered with sparse vegetation, including several tall, thin stems with clusters of small, bright pink flowers. The rocks are grey and weathered. The middle ground is a dense, lush green forest covering a hillside. In the background, a wide, green valley stretches out, with a winding road or path visible in the distance. The overall scene is vibrant and natural.

**Atlas 2020 – almost there!**

**Pete Stroh, BSBI**



## Number of records (GB & Ireland) per year (2000-2017)



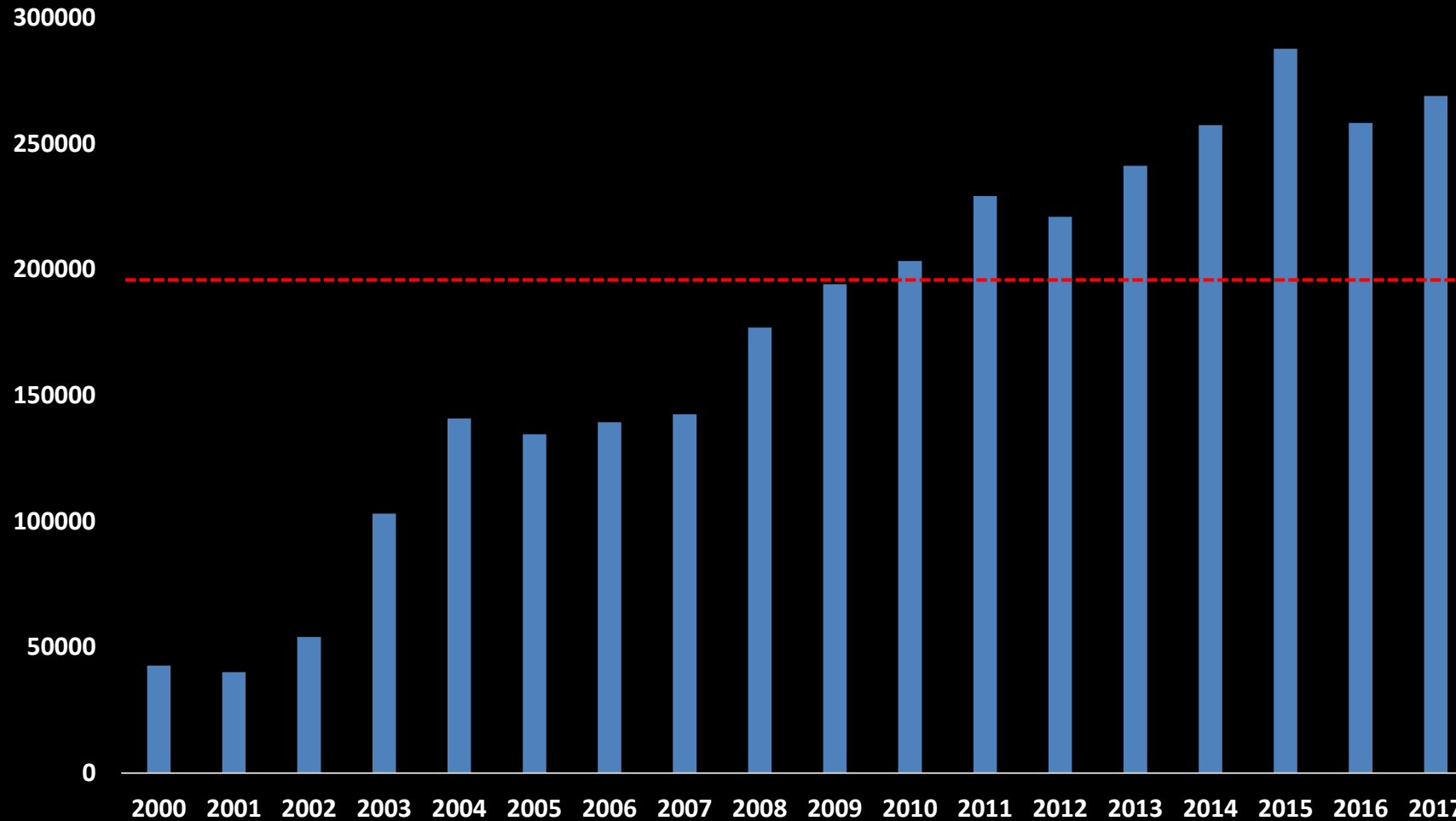
Total number of  
records 2000-2017

**21,226,523**

Total number of  
records 1987-1999

**8,010,417**

## Number of records (Scotland) per year (2000 – 2017)



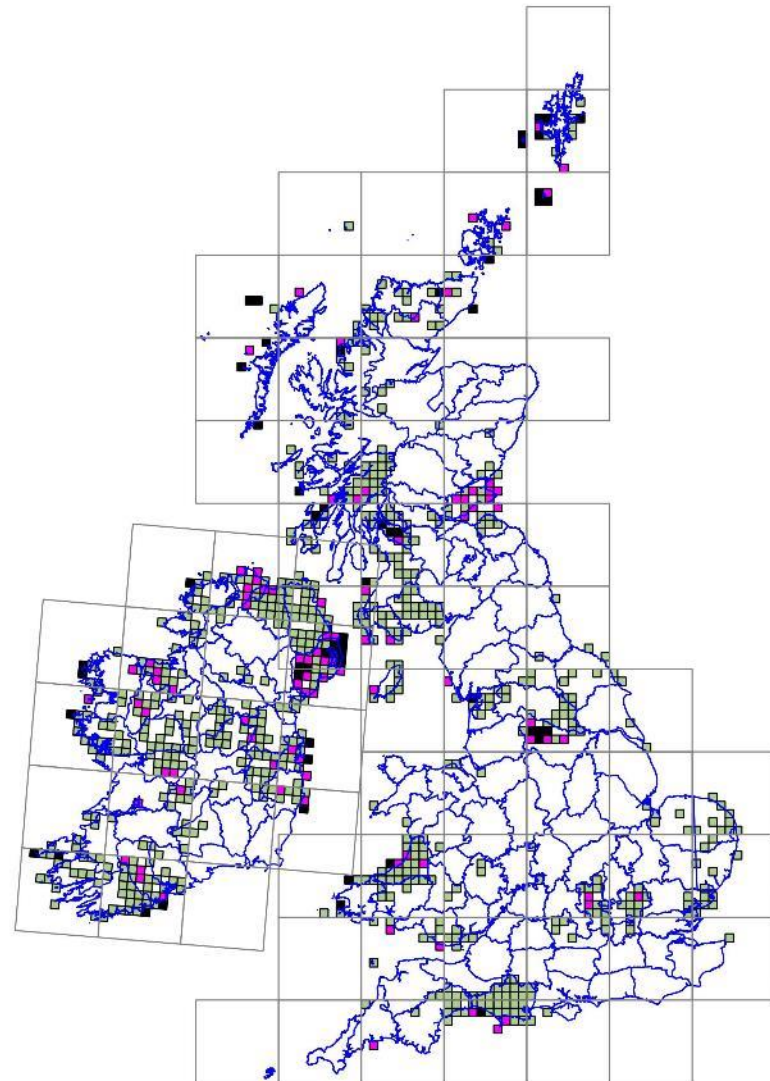
Total number of records  
(Scotland) 2000-2017

**3,134,569**

Total number of records  
(Scotland) 1987-1999

**1,374,725**

# Geographic coverage (raw)



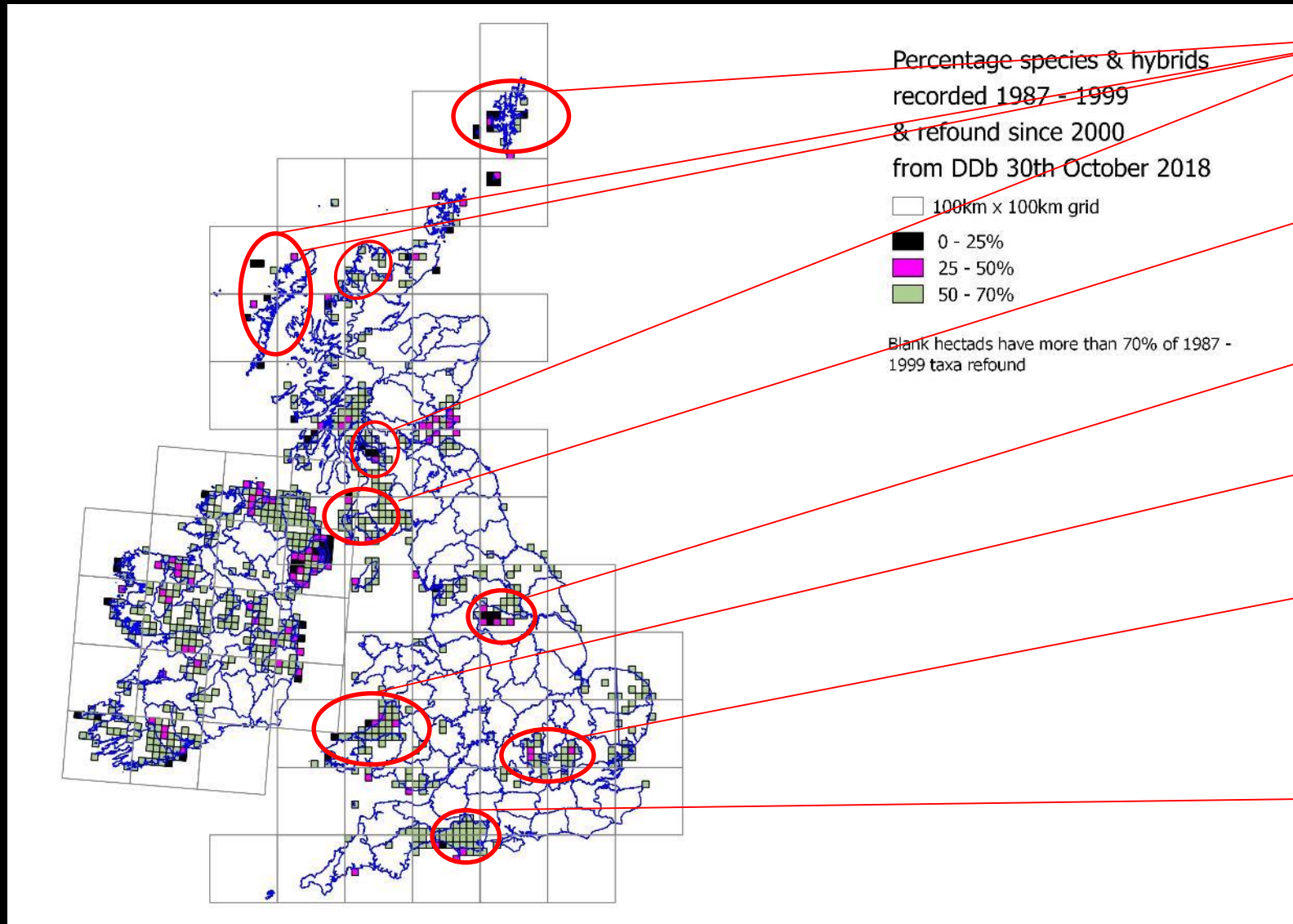
Percentage species & hybrids  
recorded 1987 - 1999  
& refound since 2000  
from DDb 30th October 2018

100km x 100km grid

0 - 25%  
25 - 50%  
50 - 70%

Blank hectads have more than 70% of 1987 -  
1999 taxa refound

# Geographic coverage (caveats)



Records to be transferred

Recent week-long field meeting (vol/s required to digitise data!)

Huge dataset to be transferred

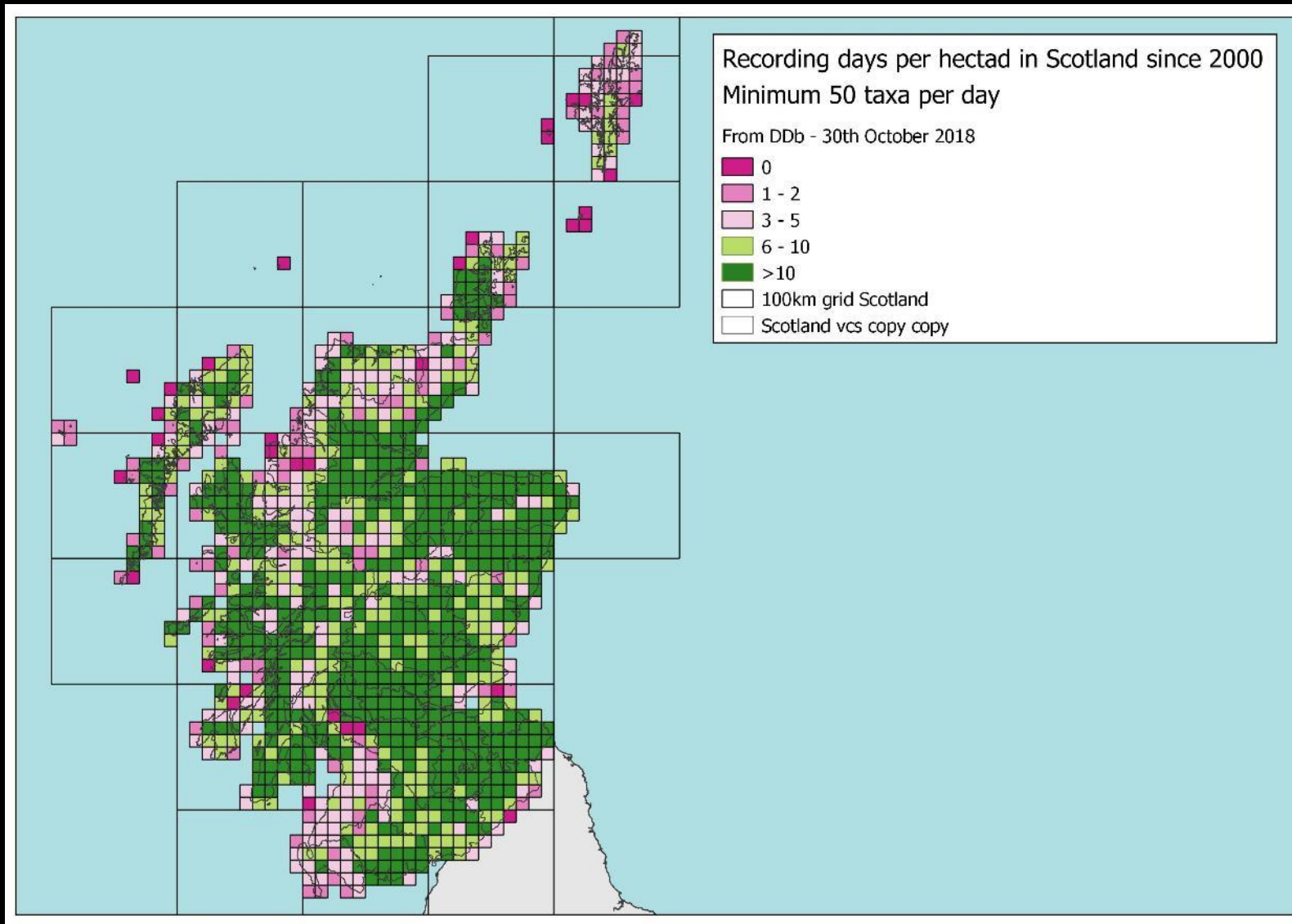
Difficult to replicate coverage

Many thousands of records being digitised

Large dataset just about to be transferred

**No correction for effort, or new taxa found post-1999**

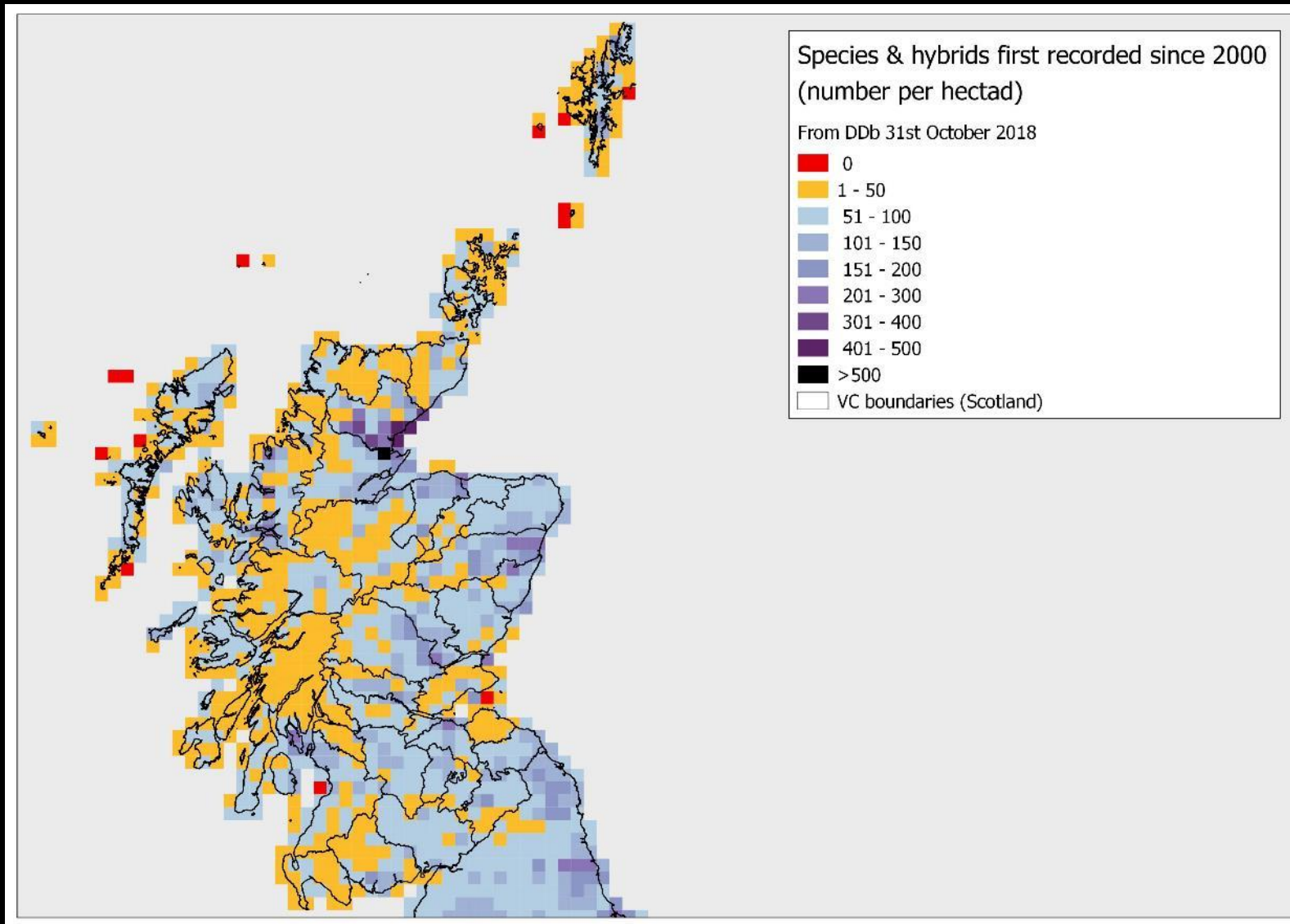
# Geographic coverage (effort)



- Many '0' hectads are coastal/mostly in the sea, or are small, relatively inaccessible islands
- Light magenta squares (3-5) often reflect terrain/number of botanists available, etc.
- Based on DDb – records still to come in
- Shows enormous effort!

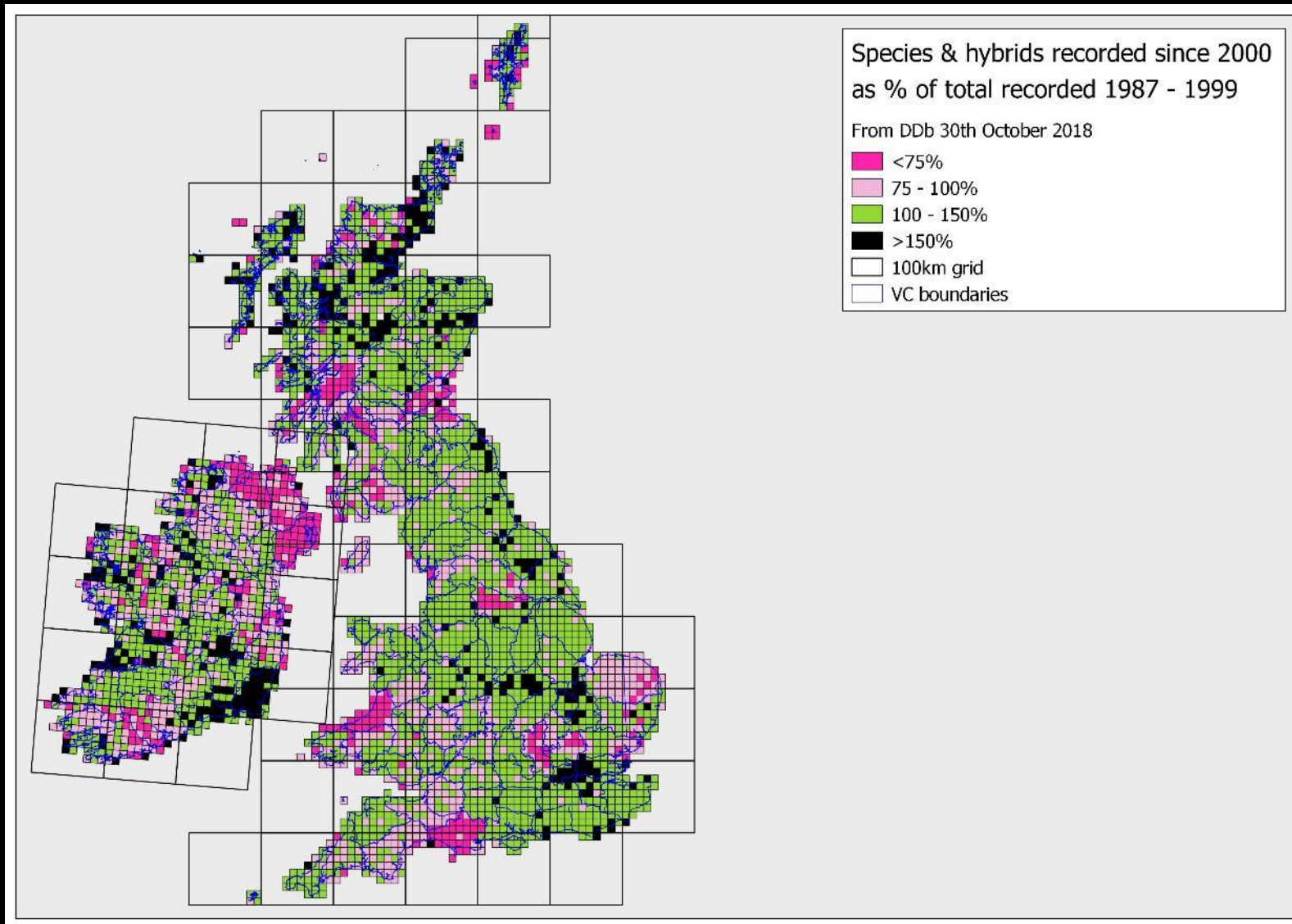


# Geographic coverage (new taxa)



- All hectads, apart from a few with very little land, have new taxa recorded post 1999
- Many yellow hectads comprise almost exclusively upland/semi-natural habitats
- Shows change/dynamism, and better recording of aliens
- Again, shows enormous effort made by volunteers

# Geographic coverage (% of total)



**Huge tracts** of GB, and to a lesser extent Ireland, **have more taxa recorded post-1999 than in the date class 1987 - 1999**, and there are quite a few hectads with >150% of that total recorded post-1999

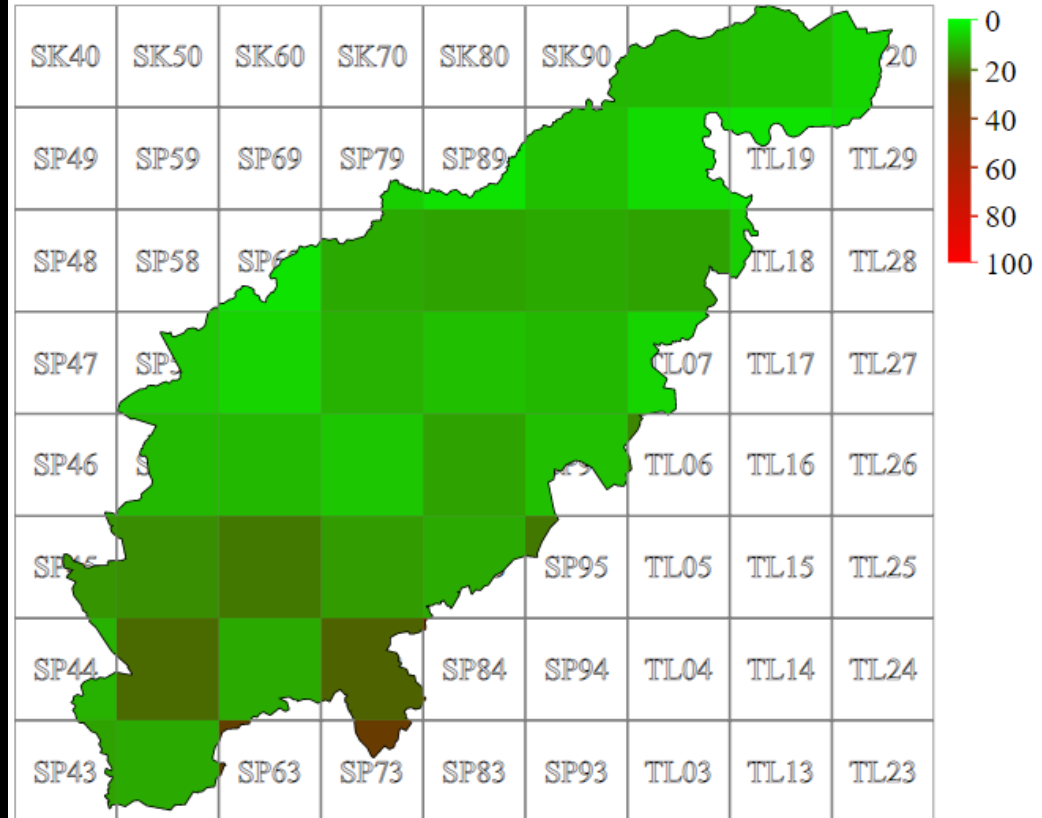


# The final year: surveying

- Planning your final year of surveying will be VC-specific
- The **'my county'** page (VCRs) is very useful for helping to spot gaps in coverage

## Taxa not refund since 2000 (at hectad scale)

Comparing taxa found between 1987 and 2000, with the period since 2000. Map shows the % of taxa not refund in the recent period - which may indicate loss of diversity; recent surveying deficits or earlier misrecording.



[\(view data\)](#)

# The final year: surveying

- For some, searching for **taxa not found in a hectad since 1999** will be the priority and best way to go
- The DDb's '**grid ref lookup**' tool provides you with a list of taxa not recorded in a hectad (or tetrad) since 1999

[Distribution Database](#) > Map of TL08

Botanical Society of Britain & Ireland  
Grid-square map, vice-county and summary taxon list tool

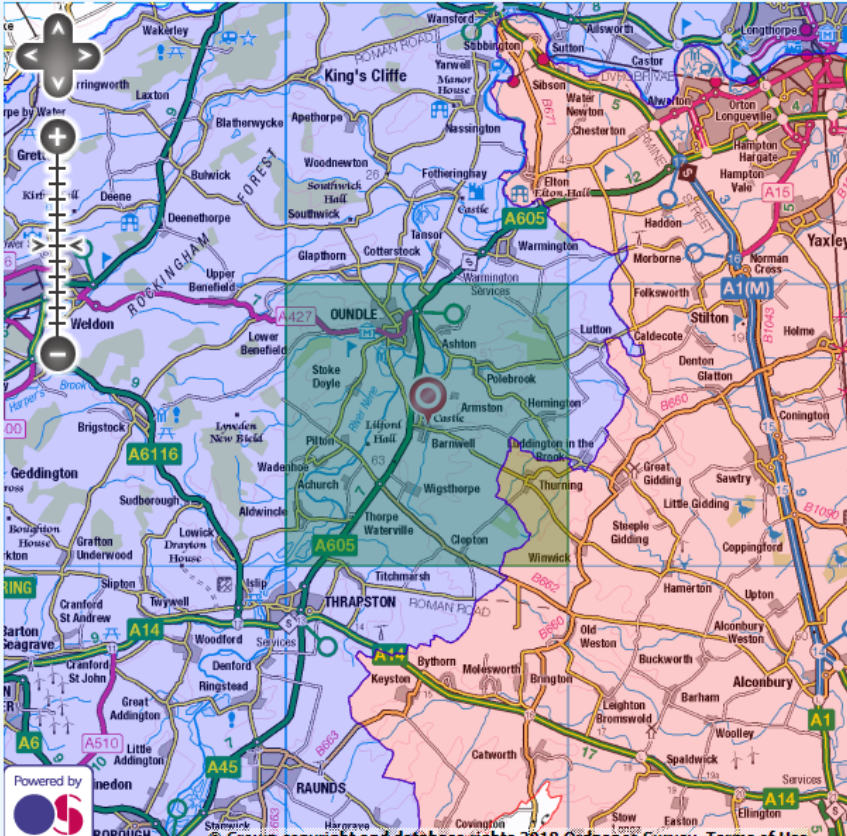
Tools New maps search search history


grid reference  [look-up grid reference](#)

TL08  
Northamptonshire (VC32)  
Huntingdonshire (VC31)  
Grid square elevation estimates (m): mean height 52, min: 18, max: 90  
[View detailed taxon list for TL08](#)

map (Google) map (OS) taxon list

Map of TL08



Powered by  Ordnance Survey

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grid reference	<u>TL08</u>	records.
exclude taxa with fewer than	0	
earliest year	1987	
recent record boundary year	2000	
county	<div>▼</div>	

☐ include taxon list from the whole county  
☒ sort recent records separately  
☐ include infra-specific taxa

show taxon list

Taxon list for TL08.

*Agrostemma githago* (1999) 2 0  
*Alchemilla mollis* (1998) 1 0  
*Allium paradoxum* (1997) 3 0  
*Alnus incana* (1997) 3 0  
*Ambrosia artemisiifolia* (1998) 3 0  
*Anthyllus vulneraria* (1998) 2 0  
*Aphanes arvensis* agg. (1997) 2 0  
*Asplenium adnigrum-nigrum* s.s. (1997) 2 0  
*Athyrium filix-femina* (1998) 1 0  
*Atriplex prostrata* agg. (1997) 2 0  
*Avena pratensis* (1998) 1 0  
*Barbarea intermedia* (1999) 5 0  
*Berbers vulgaris* (1999) 1 0  
*Betonica officinalis* (1997) 2 0  
*Bidens cernua* (1999) 2 0  
*Bromus x pseudothominei* (1999) 5 0  
*Callitriche obtusangula* (1997) 2 0  
*Callitriche platycarpa* (1997) 2 0  
*Carex distans* (1996) 1 0  
*Carex elata* (1998) 2 0  
*Carex rostrata* (1998) 1 0  
*Carex vesicaria* (1997) 2 0  
*Catabrosa aquatica* (1999) 1 0  
*Cerastium arvense* (1994) 1 0  
*Cerastium tomentosum* (1997) 3 0  
*Chenopodium album* agg. (1997) 2 0  
*Cicerbita macrophylla* (1999) 1 0  
*Cynodon acinos* (1998) 1 0  
*Claydonia cheilanthesifolia* (1997) 2 0  
*Cruciata laevipes* (1992) 1 0  
*Cryptomeria japonica* (1999) 1 0  
*Cytomium falcatum* (1997) 1 0  
*Cytisus scoparius* (1997) 3 0  
*Dryopteris filix-mas* agg. (1990) 2 0  
*Echinops spheeroccephalus* (1997) 2 0  
*Euphrasia officinalis* agg. (1999) 1 0  
*Fallopia japonica* (1997) 2 0  
*Asparagus officinalis* s.s. (2009) 1 3  
*Asparagus officinalis* s.l. (2009) 0 1  
*Asplenium ceterach* (2011) 2 5  
*Asplenium ruta-muraria* (2014) 4 10  
*Asplenium scolopendrium* (2011) 2 7  
*Asplenium trichomanes* (2011) 3 5  
*Atriplex littoralis* (2001) 0 3  
*Atriplex patula* (2011) 3 19  
*Atriplex prostrata* s.s. (2011) 1 8  
*Atropa belladonna* (2010) 3 1  
*Aubrieta deltoidea* (2015) 3 8  
*Aucuba japonica* (2014) 0 1  
*Avena fatua* (2014) 2 2  
*Avena sativa* (2008) 0 2  
*Avenula pubescens* (2011) 4 2  
*Azolla filiculoides* (2011) 11 2  
*Ballota nigra* (2015) 3 24  
*Barbarea vulgaris* (2015) 7 18  
*Bellis perennis* (2015) 16 73  
*Berula erecta* (2011) 4 6  
*Betula pendula* (2015) 5 33  
*Betula pubescens* (2015) 1 1  
*Bidens tripartita* (2011) 3 11  
*Brachypodium pinnatum* s.s. (2008) 5 4  
*Brachypodium pinnatum* s.l. (2011) 1 2  
*Brachypodium sylvaticum* (2015) 13 42  
*Cicerbita napus* (2015) 4 8  
*Brassica nigra* (2009) 0 1  
*Briza maxima* (2014) 0 1  
*Briza media* (2011) 6 9  
*Bromopsis erecta* (2008) 3 2  
*Bromopsis ramosa* (2011) 4 14  
*Bromus commutatus* (2008) 3 2  
*Bromus hordeaceus* (2011) 6 27  
*Bromus racemosus* (2015) 3 1  
*Bromus secalinus* (2016) 0 1  
*Bryonia dioica* (2015) 10 40  
*Epilobium palustre* (2014) 1 3  
*Epilobium parviflorum* (2011) 2 34  
*Epilobium tetragonum* (2010) 3 9  
*Equisetum arvense* (2015) 4 40  
*Equisetum fluviatile* (2011) 1 6  
*Equisetum palustre* (2011) 4 11  
*Equisetum telmateia* (2010) 2 4  
*Eranthis hyemalis* (2014) 0 8  
*Erigeron acris* (2011) 3 5  
*Erophila verna* s.s. (2012) 1 4  
*Erophila verna* s.l. (2015) 2 14  
*Erysimum cheiri* (2015) 3 6  
*Eunymus europaeus* (2013) 3 17  
*Eupatorium cannabinum* (2011) 3 4  
*Euphorbia exigua* (2011) 1 1  
*Euphorbia helioscopia* (2015) 3 19  
*Euphorbia lathyris* (2014) 0 3  
*Euphorbia nemorosus* (2015) 4 23  
*Euphrasia peltata* (2007) 2 1  
*Fagus sylvatica* (2014) 7 27  
*Fallopia baldschuanica* (2010) 0 1  
*Fallopia convolvulus* (2011) 5 4  
*Festuca ovina* (2008) 0 1  
*Festuca ovina* agg. (2008) 0 2  
*Festuca rubra* (2015) 7 24  
*Festuca rubra* agg. (2011) 5 23  
*Ficaria verna* (2015) 16 48  
*Filipendula ulmaria* (2011) 15 81  
*Filipendula vulgaris* (2008) 4 2  
*Foeniculum vulgare* (2014) 0 2  
*Fragaria ananassa* (2010) 2 1  
*Fragaria vesca* (2009) 2 3  
*Fraxinus alnus* (2014) 0 1  
*Fraxinus excelsior* (2015) 22 99  
*Galanthus nivalis* (2015) 2 14  
*Galeopsis tetrahit* s.s. (2009) 0 1  
*Galium album* (2015) 5 23  
*Meilottus albus* (2010) 0 2  
*Meilottus altissimus* (2010) 0 1  
*Meilottus officinalis* (2009) 1 2  
*Mentha aquatica* (2011) 12 71  
*Mentha arvensis* (2011) 3 13  
*Menyanthes trifoliata* (2011) 3 4  
*Mercurialis perennis* (2015) 11 40  
*Moehringia trinervia* (2011) 5 10  
*Muscari armeniacum* (2015) 0 3  
*Mycelis muralis* (2014) 0 1  
*Myosotis arvensis* (2015) 13 36  
*Myosotis discolor* (2015) 0 6  
*Myosotis laxa* (2014) 6 14  
*Myosotis ramosissima* (2010) 0 1  
*Myosotis scorpioides* (2011) 21 48  
*Myosotis sylvatica* (2015) 0 10  
*Myosoton aquaticum* (2011) 4 28  
*Myriophyllum spicatum* (2008) 2 8  
*Narcissus x bouthangeriae* (2015) 0 1  
*Nasturtium officinale* agg. (2010) 13 7  
*Nasturtium officinale* s.s. (2015) 3 21  
*Neottia ovata* (2008) 4 4  
*Nepeta catarsia* (2010) 0 1  
*Nigella damascena* (2011) 0 1  
*Nuphar lutea* (2010) 13 36  
*Nymphaea alba* (2011) 3 10  
*Nymphoides peltata* (2008) 5 2  
*Onodites verus* (2014) 5 30  
*Oenanthe fistulosa* (2017) 7 11  
*Oenothera biennis* (2013) 0 1  
*Ononis repens* (2011) 5 10  
*Ononis spinosa* (2011) 3 2  
*Onopordium acanthium* (2011) 3 7  
*Opioglossum vulgatum* (2008) 4 2  
*Ophrys apifera* (2008) 7 3  
*Orchis mascula* (2013) 1 4  
*Oriqunum vulgare* (2010) 3 1  
*Rumex palustris* (2016) 4 14  
*Rumex pulcher* (2011) 4 9  
*Rumex sanguineus* (2015) 5 51  
*Ruscus aculeatus* (2017) 1 2  
*Sagina apetala* s.l. (2010) 0 1  
*Sagina procumbens* (2011) 6 11  
*Sagittaria sagittifolia* (2011) 4 23  
*Salix alba* (2011) 18 39  
*Salix x sepulcralis* (2015) 0 5  
*Salix x fragilis* (2007) 10 1  
*Salix babylonica* (2011) 1 1  
*Salix caprea* (2015) 11 35  
*Salix x calodendron* (2003) 0 1  
*Salix cinerea* (2011) 12 32  
*Salix fragilis* s.l. (2011) 9 30  
*Salix purpurea* (2008) 4 3  
*Salix triandra* (2008) 4 10  
*Salix viminalis* (2011) 13 26  
*Salix x holosericea* (2008) 0 1  
*Salvia verbenaca* (2010) 3 1  
*Sambucus nigra* (2015) 20 93  
*Sanguisorba officinalis* (2011) 4 14  
*Saponaria europaea* (2011) 1 3  
*Saponaria officinalis* (2011) 2 2  
*Saxifraga granulata* (2017) 3 1  
*Saxifraga tridactylites* (2014) 3 7  
*Schedonorus arundinaceus* (2015) 4 6  
*Schedonorus giganteus* (2015) 3 20  
*Schedonorus pratensis* (2011) 2 21  
*Schoenoplectus lacustris*

This list is useful in a number of ways. For example, a scan of the species on a list might show an obvious gap in re-finds for **aquatics**, **arable** or **montane** species



# The final year: surveying

- For others, one might conduct a county-wide **search for specific taxa** e.g. **nationally threatened** (or use Plant traits as a search e.g. Ellenberg 12, aquatics, etc etc)

Search form Search templates

search for ☐ Records (specimens or observations) ☐

taxon

grid reference

county/region

date recorded  to  for vague record date ranges use end date

checklist/linked attribute  value

validation state

group by  include

subdivide by

grid-ref and vc validation

more options

join with ☐ Records (specimens or observations) ☐

join using  ☐ exclude

taxon

grid reference

county/region

date recorded  from  for vague record date ranges use start date

checklist/linked attribute  value

validation state

grid-ref and vc validation

more options



results table	download	help		
45 groups matched your query.				
species (exclusive)	qualifier	earliest date	latest date ▾	total freq
<a href="#">Parnassia palustris</a>		1882	1999	29
<a href="#">Lithospermum arvense</a>		1884	1999	63
<a href="#">Apium inundatum</a>		1930	1999	29
<a href="#">Minuartia hybrida</a>		1914	1997	15
<a href="#">Lolium temulentum</a>		1997	1997	4
<a href="#">Hypopitys monotropa</a>		1860	1997	18
<a href="#">Hypochaeris maculata</a>		1860	1997	47
<a href="#">Hordeum marinum</a>		1992	1997	4
<a href="#">Genista anglica</a>		1930	1997	9
<a href="#">Senecio paludosus</a>		1996	1996	1
<a href="#">Vicia parviflora</a>		1987	1992	5
<a href="#">Turritis glabra</a>		1960	1987	2
<a href="#">Vicia lutea</a>		1975	1986	5
<a href="#">Centunculus minimus</a>		1956	1981	3
<a href="#">Ajuga chamaepitys</a>		1712	1980	2
<a href="#">Chenopodium urbicum</a>		1978	1978	1
<a href="#">Polystichum lonchitis</a>		1972	1975	5
<a href="#">Euphrasia arctica</a>		1935	1974	2
<a href="#">Utricularia minor</a>		1930	1969	9
<a href="#">Platanthera bifolia</a>		1950	1969	5
<a href="#">Botrychium lunaria</a>		1950	1969	3
<a href="#">Jasione montana</a>		1955	1965	7
<a href="#">Bupleurum tenuissimum</a>		1965	1965	2
<a href="#">Neotinea ustulata</a>		1860	1956	10
<a href="#">Silene gallica</a>		1843	1955	3
<a href="#">Lathyrus aphaca</a>		1955	1955	2
<a href="#">Centaurea calcitrapa</a>		1882	1950	7
<a href="#">Dianthus armeria</a>		1862	1948	3
<a href="#">Chenopodium murale</a>		1946	1946	1
<a href="#">Valerianella ramosa</a>		1836	1930	3
<a href="#">Tephrosia integrifolia</a>		1888	1930	13
<a href="#">Lythrum hyssopifolia</a>		1716	1930	4
<a href="#">Iberis amara</a>		1876	1930	6
<a href="#">Gentianella campestris</a>		1882	1930	7

# The final year: validation

- Numerous emails/notes/guidance generated
- **Deadline for the submission & validation of county data by VCRs is December 31st 2019**
- The majority of 'priority records' to check are fine!
- Validation for the **fixed atlas dataset** will continue into 2020, aided greatly by the work already accomplished by volunteers
- **NR/NS taxa** have had a first 'clean'
- **GB Threatened** winter 2018/19
- We will be asking for help for certain taxa/groups post-2019, and will be also contacting VCRs with questions as they arise

# What will the atlas look like?

Three main strands:

- **Online atlas**
- **Summary Report**
- **Published book**





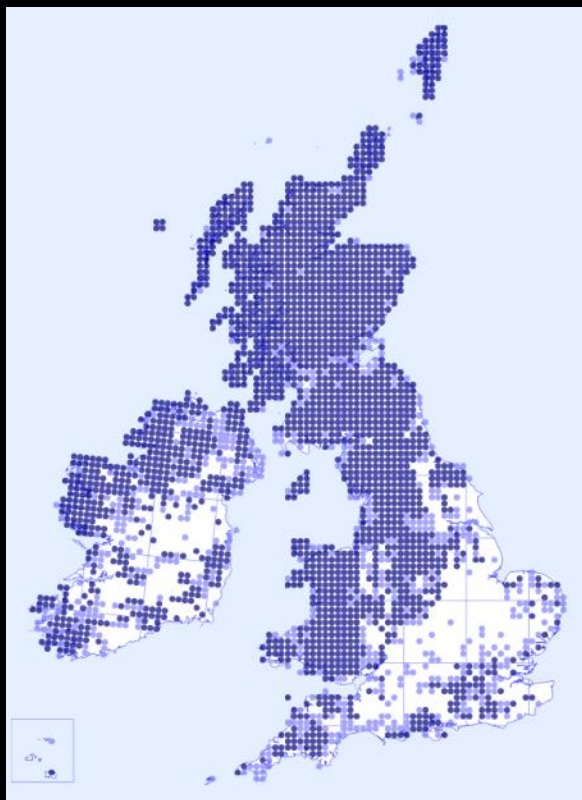
# What will the atlas look like?

## Online atlas (eAtlas)

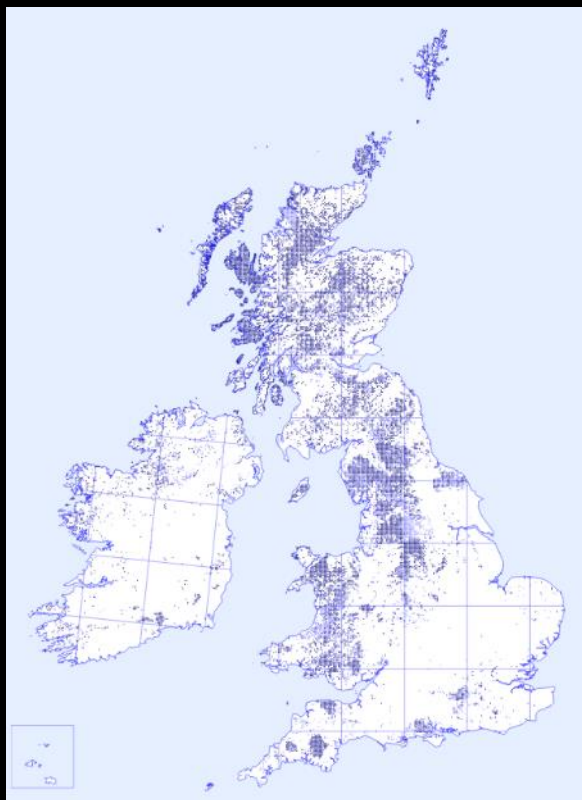
- **Online distribution maps** (fixed for the atlas period)
- **Multiple maps** for all species
- **Updated captions** and **new captions**
- **Metrics** e.g. change + lowland/upland split
- **Links** to online species accounts, ecological information, photographs, *Red Data Book* and *Scarce Plants* accounts, *Threatened Plants in GB and Ireland*, *Threatened Plants of British Grasslands*, etc.



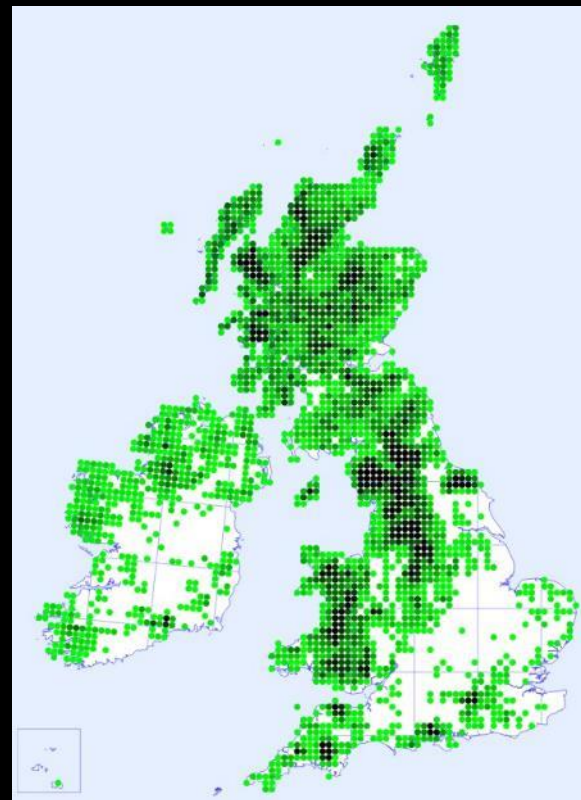
## *Nardus stricta* (Mat-grass)



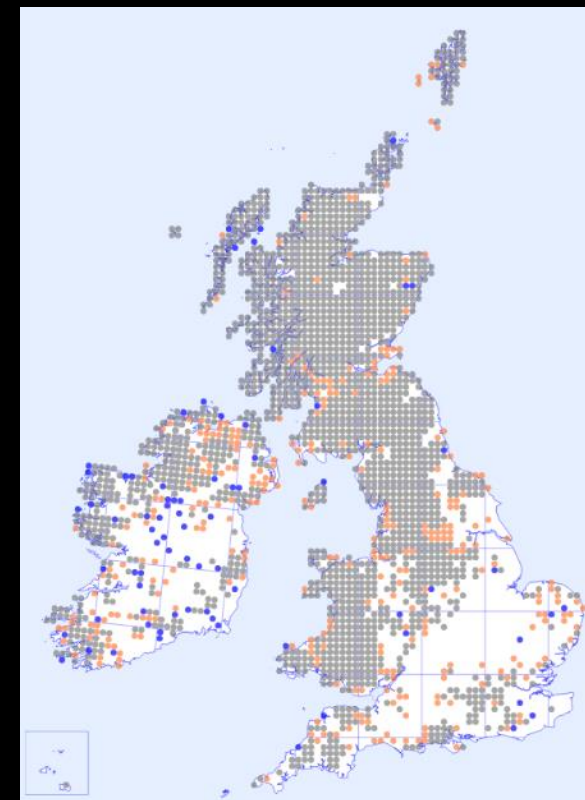
Hectad pre-post 2000



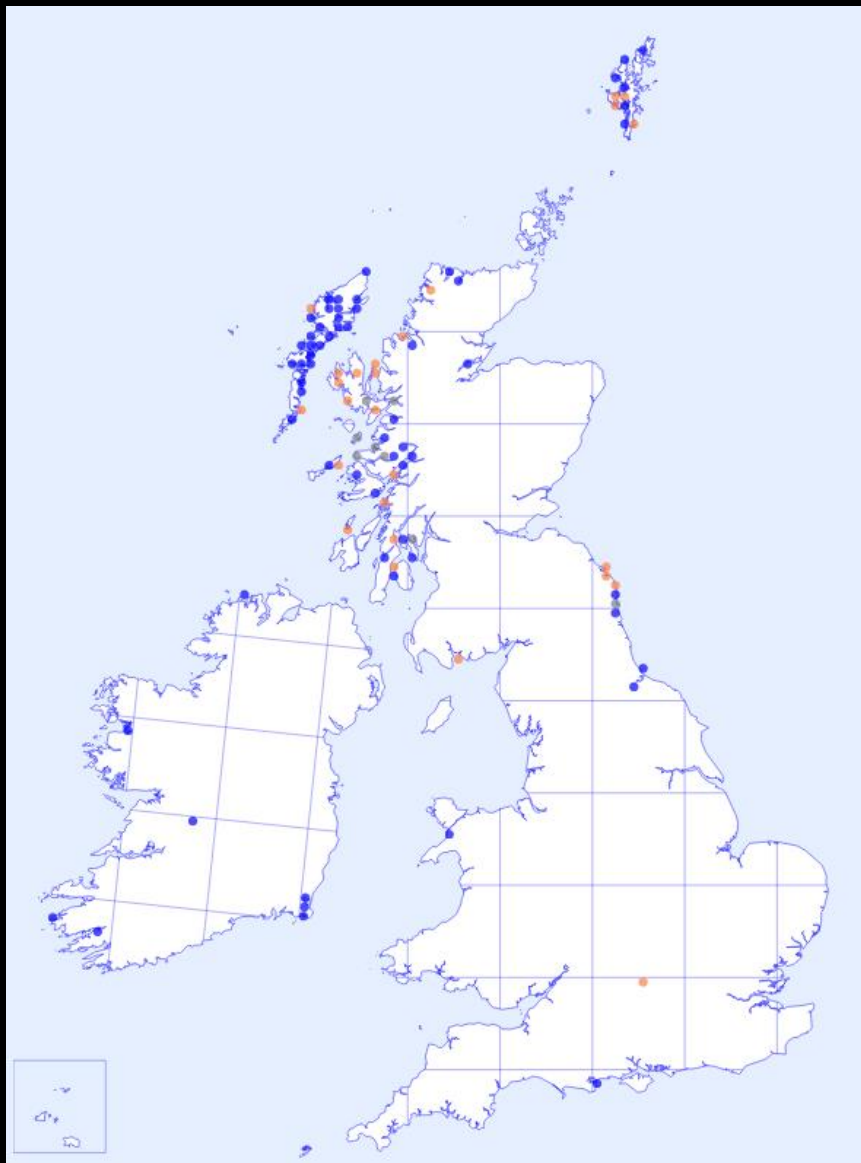
Tetrad pre-post 2000



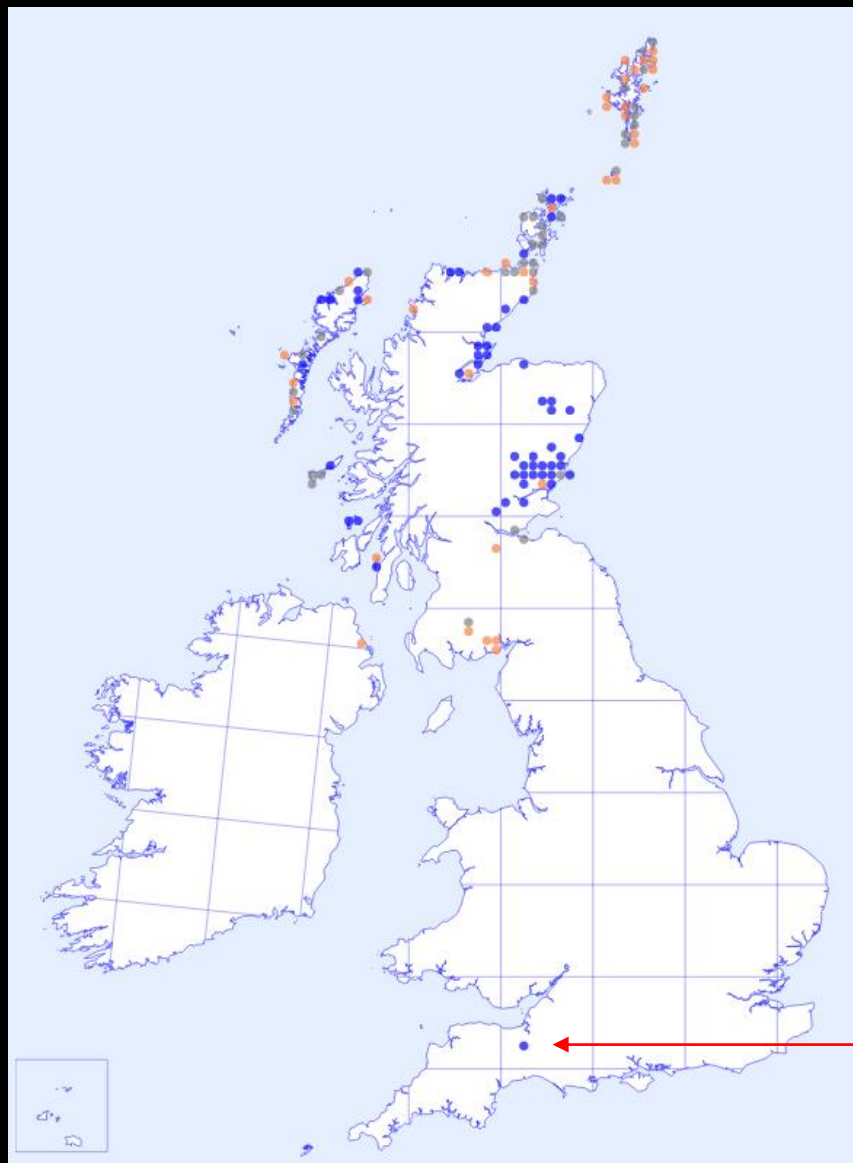
Tetrad frequency  
at hectad scale



Hectad change since 1987-99



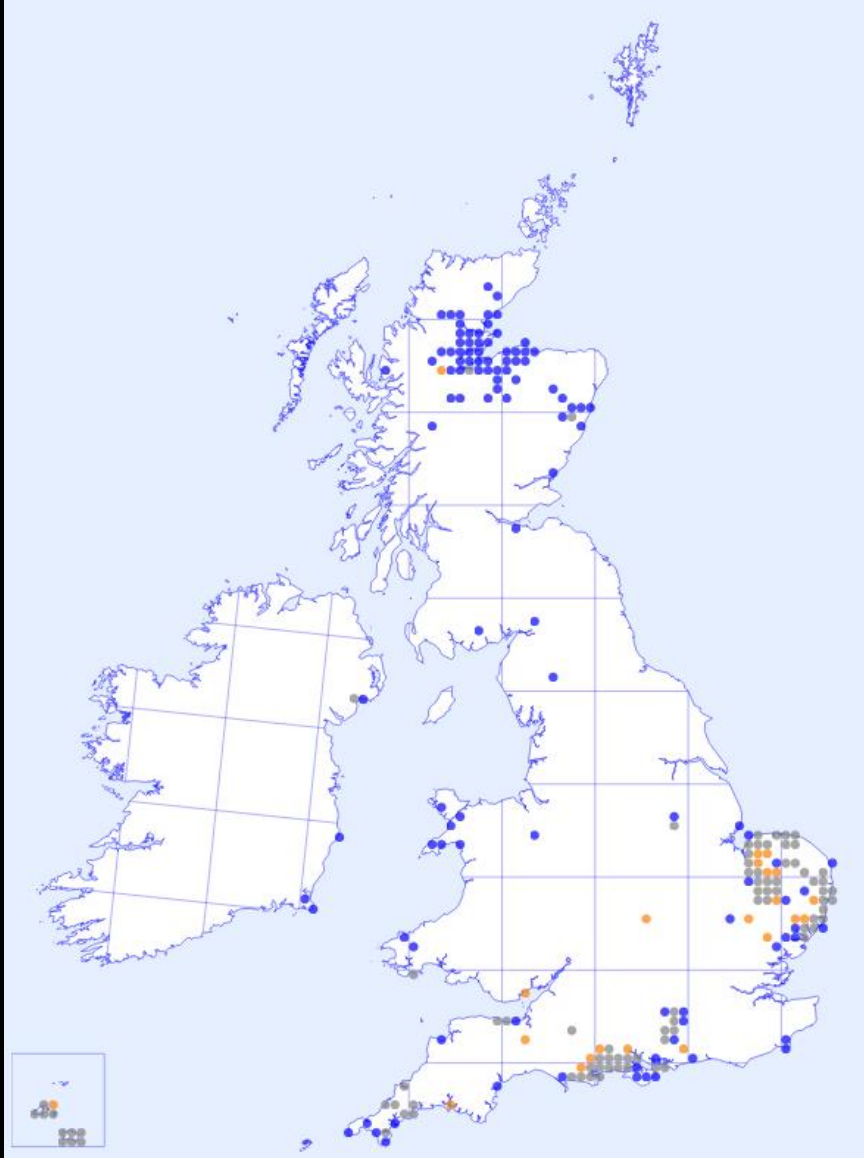
*Atriplex praecox* (Early Orache)



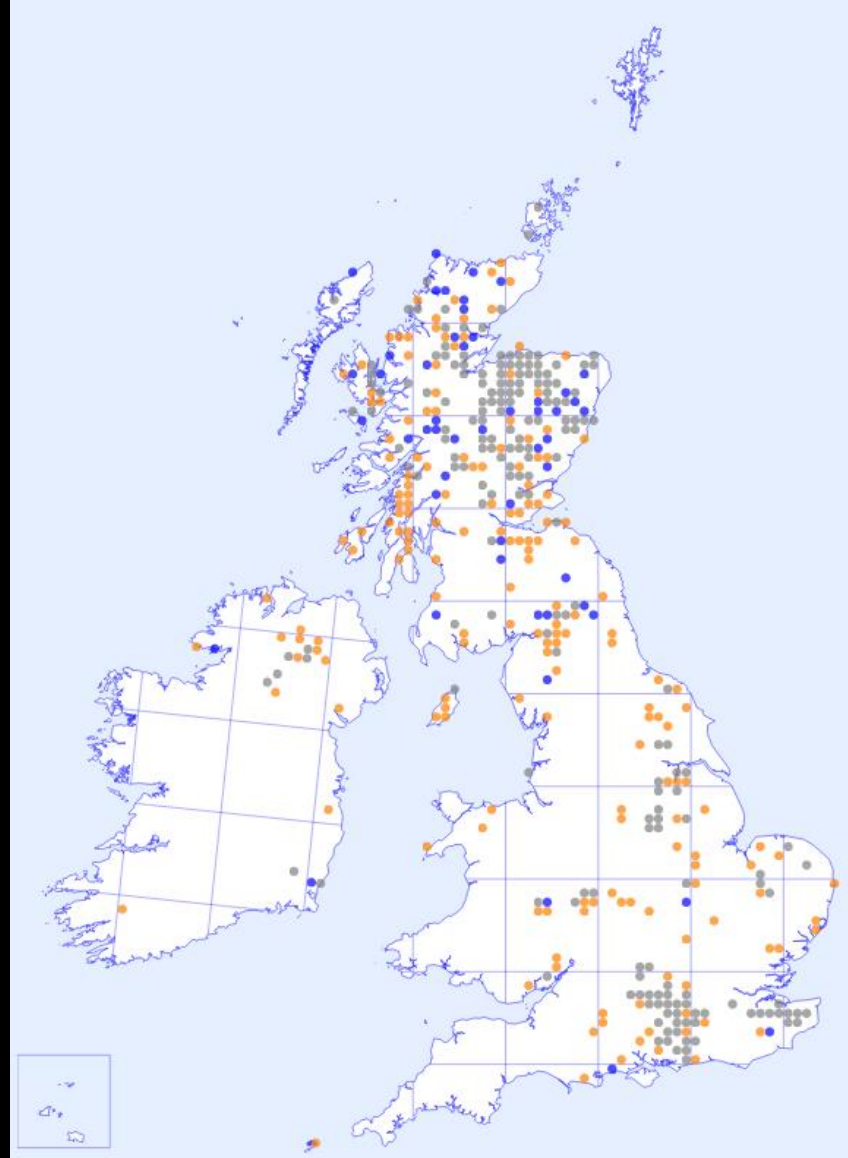
*Polygonum boreale* (Northern Knotgrass)

- = unchanged 1987-2018
- = not recorded post-1999
- = new post-1999



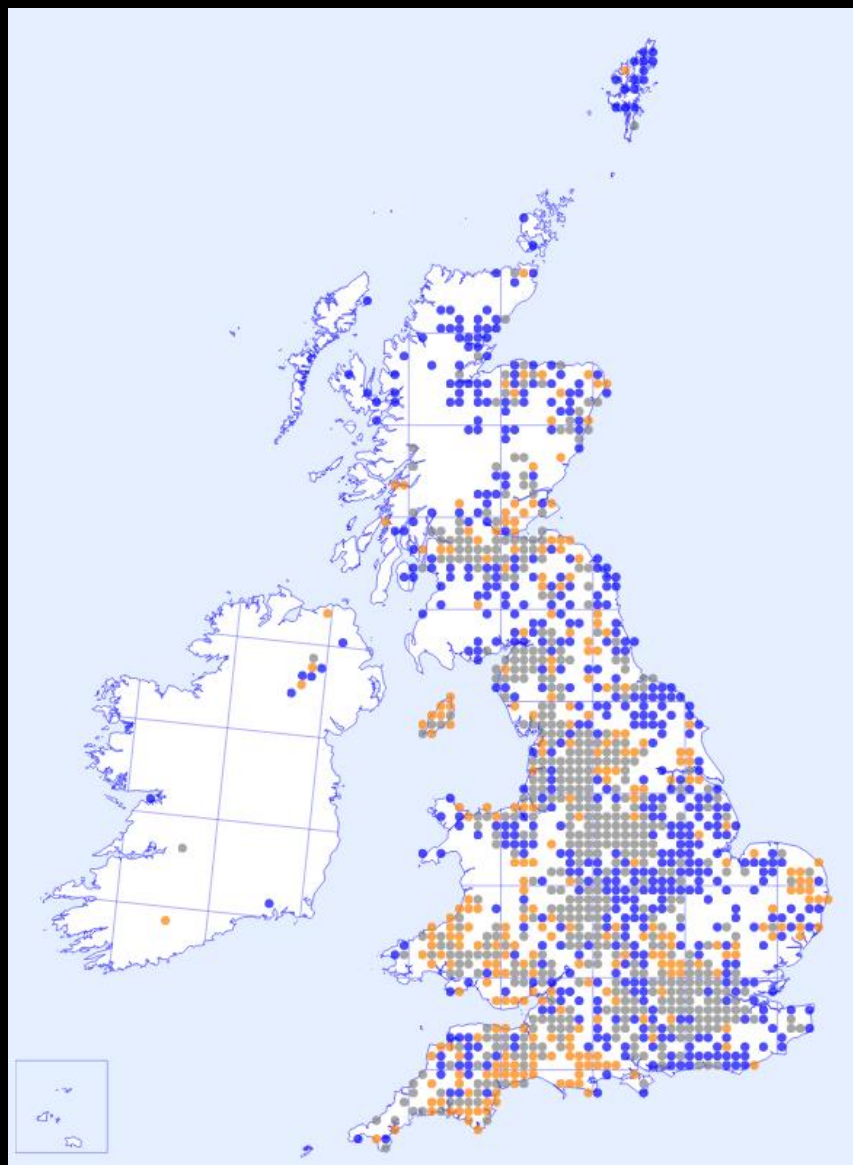
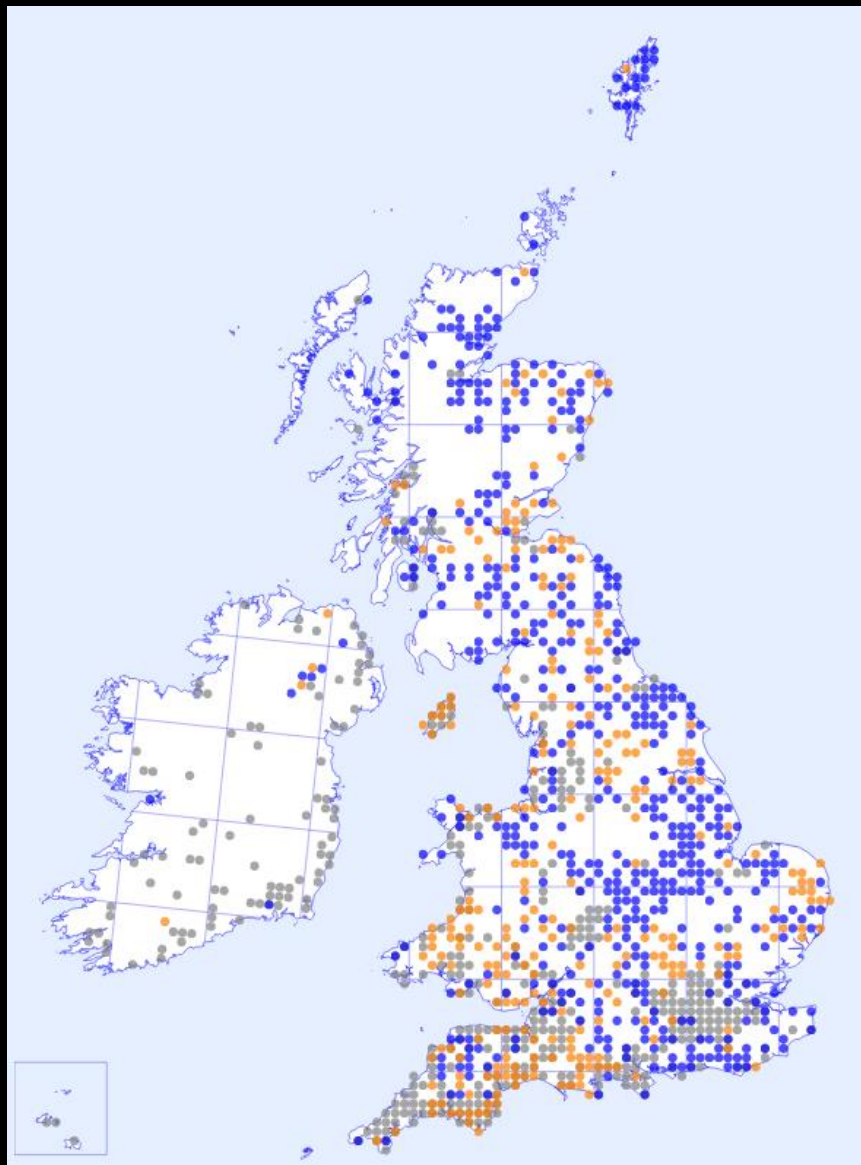


*Crassula tillea* (Mossy Stonecrop)



*Gnaphalium sylvaticum* (Heath Cudweed)

- = unchanged 1987-2018
- = not recorded post-1999
- = new post-1999



- = unchanged 1987-2018
- = not recorded post-1999
- = new post-1999

*Lycesteria formosa* (Himalayan Honeysuckle)

*Centaurea montana* (Perennial Cornflower)

# What will the atlas look like?

## Summary Report

- Concise, colourful, and containing **key findings** from the atlas survey
- Targeted at Government Agencies, NGOs, academics, conservationists, etc.
- Possibly separate Country summaries –but volunteer-dependant, and based on overall analyses
- Launched at the same time as the eAtlas





# What will the atlas look like?

## Atlas Book

- Preparatory work has been completed by BSBI staff, including draft title ('**Our Wild Flora**'), chapter headings, and a skeletal plan for each chapter - but suggestions only
- Book to be coordinated, written and edited by volunteers
- Book to be completed by **2022**, ideally coinciding with the launch of the eAtlas and Summary Report



# What will the atlas look like?

## Book of Maps (if considered popular enough)

- Just maps i.e. no captions (to save space) and with maps at hectad precision
- Similar to reprint of the first Atlas
- Quotes from designer and printer
- **Pre-order**, and print run based on uptake

**Show of hands, please!**



## Online Atlas tasks: 2018 onwards

- Fixed **list of taxa** to map (completed)
- Coordinating the authorship, writing and editing of **species captions** (ongoing)
- Coordination of the **validation** of data (ongoing)
- **Checking maps** for publication (ongoing)
- **Analyses and interpretation of BSBI data**, undertaken by CEH. A number of metrics will be produced from the analyses, including a measure of change over time (1987 – 2019; 1930 – 2019), and change split into upland and lowland (2020 onwards)
- Design of **eAtlas content**, maps and metrics (ongoing)
- **Testing of eAtlas** (late 2021 – with luck!)



**Keep going, almost there!**

Any questions, please ask

**Thank you for your time, expertise and all-round  
brilliance!**