

A scenic view of a rocky hillside. In the foreground, several tall, thin stems with clusters of small, bright pink flowers grow from the rocks. The rocks are grey and jagged. The background is a lush green valley with rolling hills and a winding road. The overall scene is vibrant and natural.

Atlas 2020 – almost there!

Pete Stroh, BSBI

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



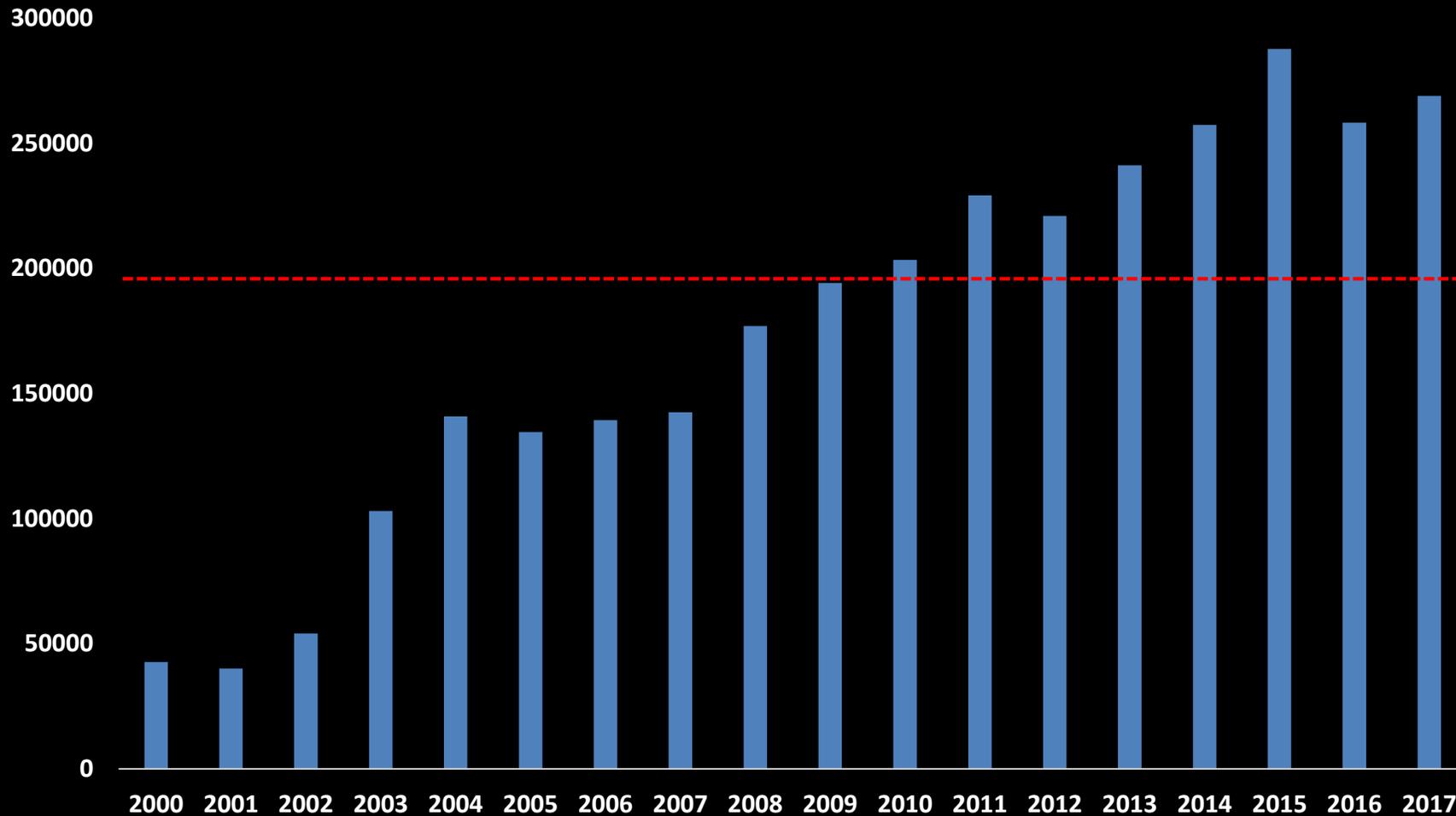
Total number of records 2000-2017

21,226,523

Total number of records 1987-1999

8,010,417

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



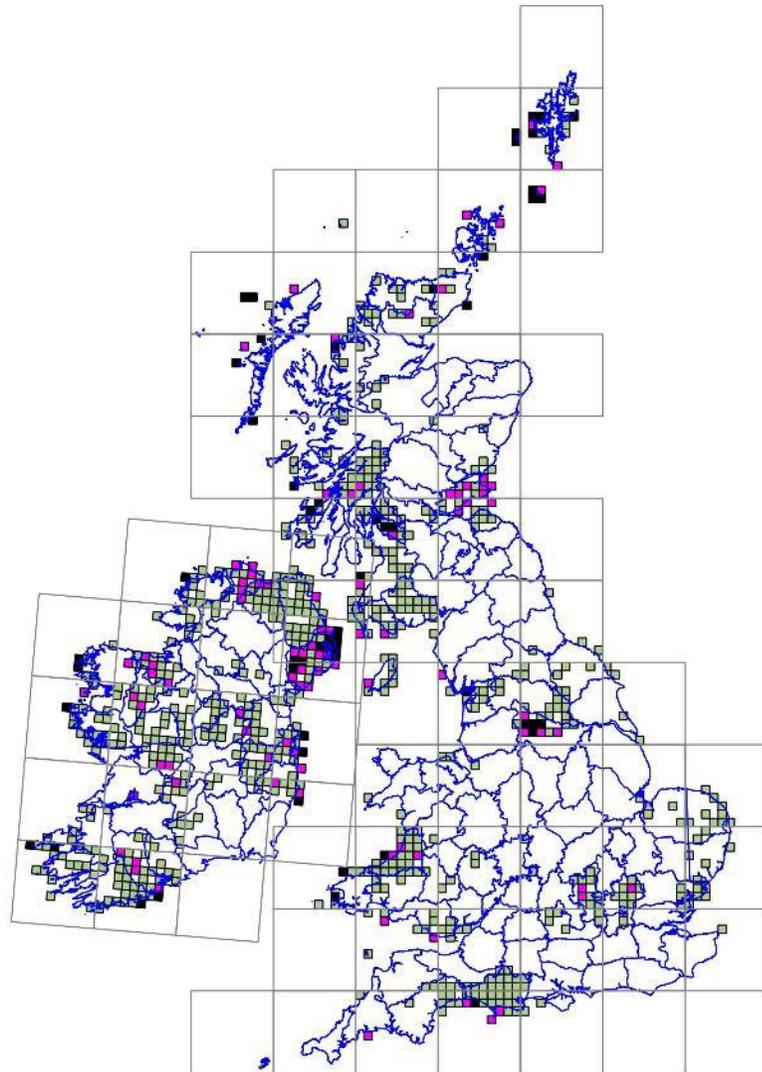
Total number of records
(Scotland) 2000-2017

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

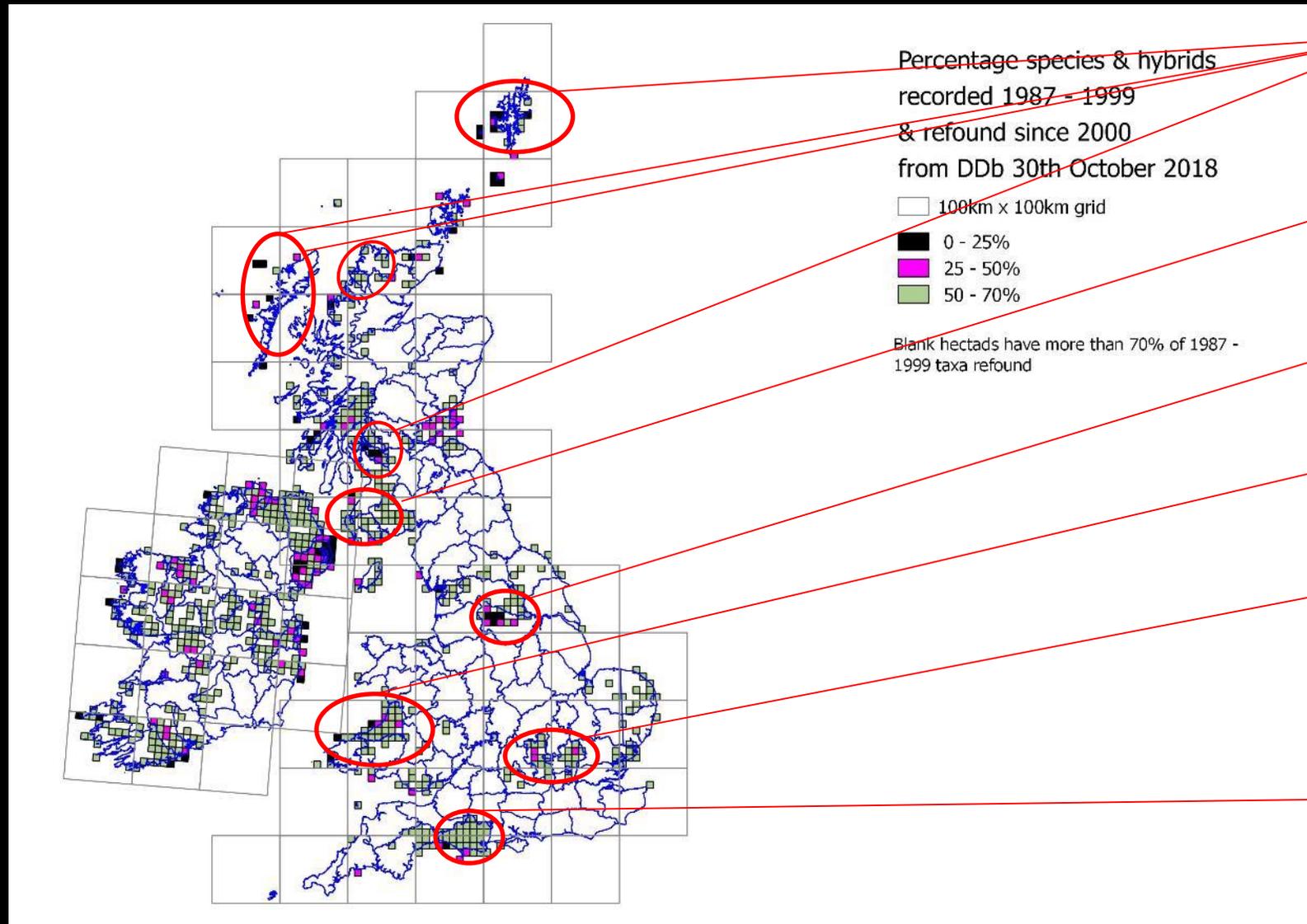
■ 0 - 25%

■ 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

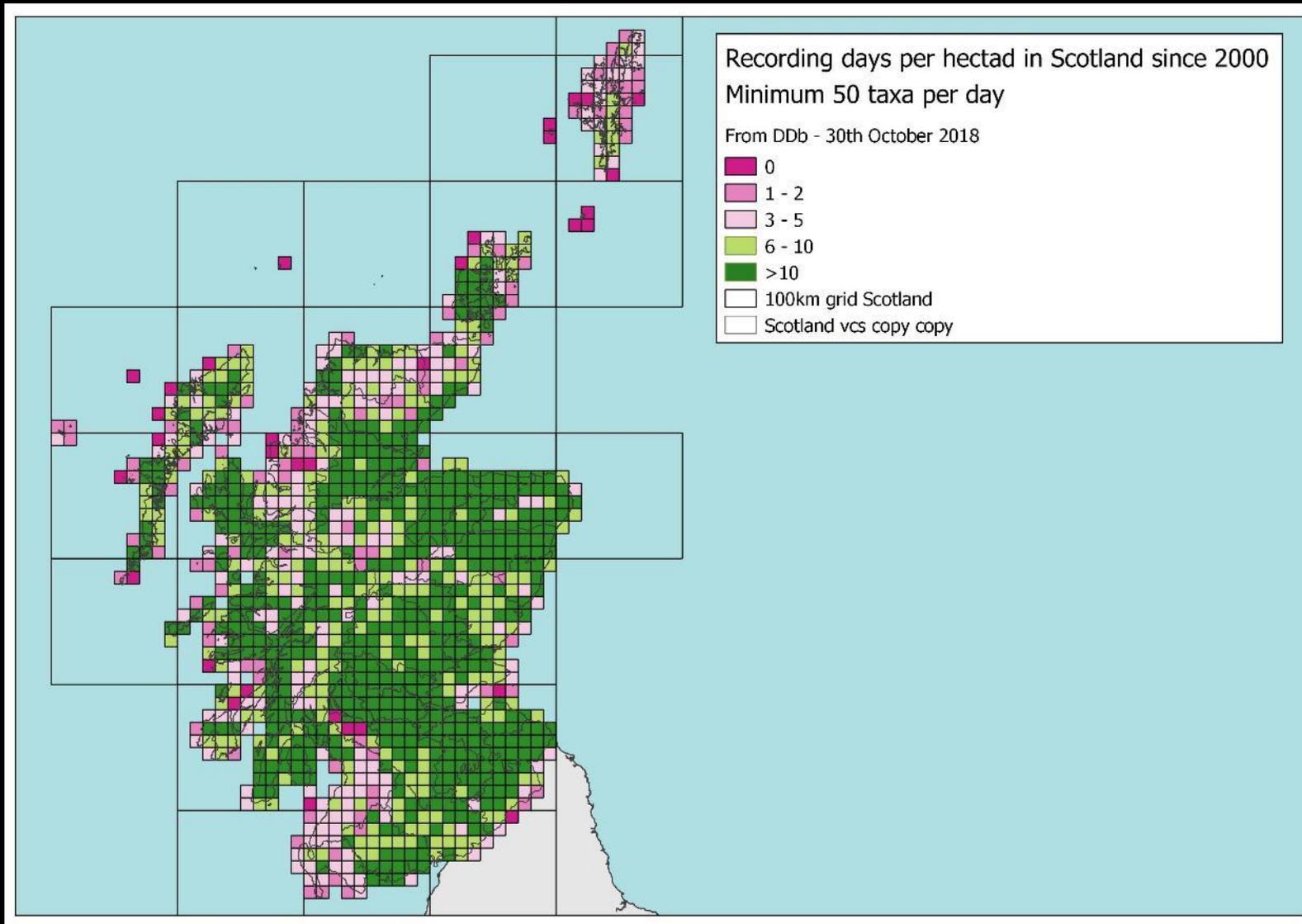
Difficult to replicate coverage

Many thousands of records being digitised

Large dataset just about to be transferred

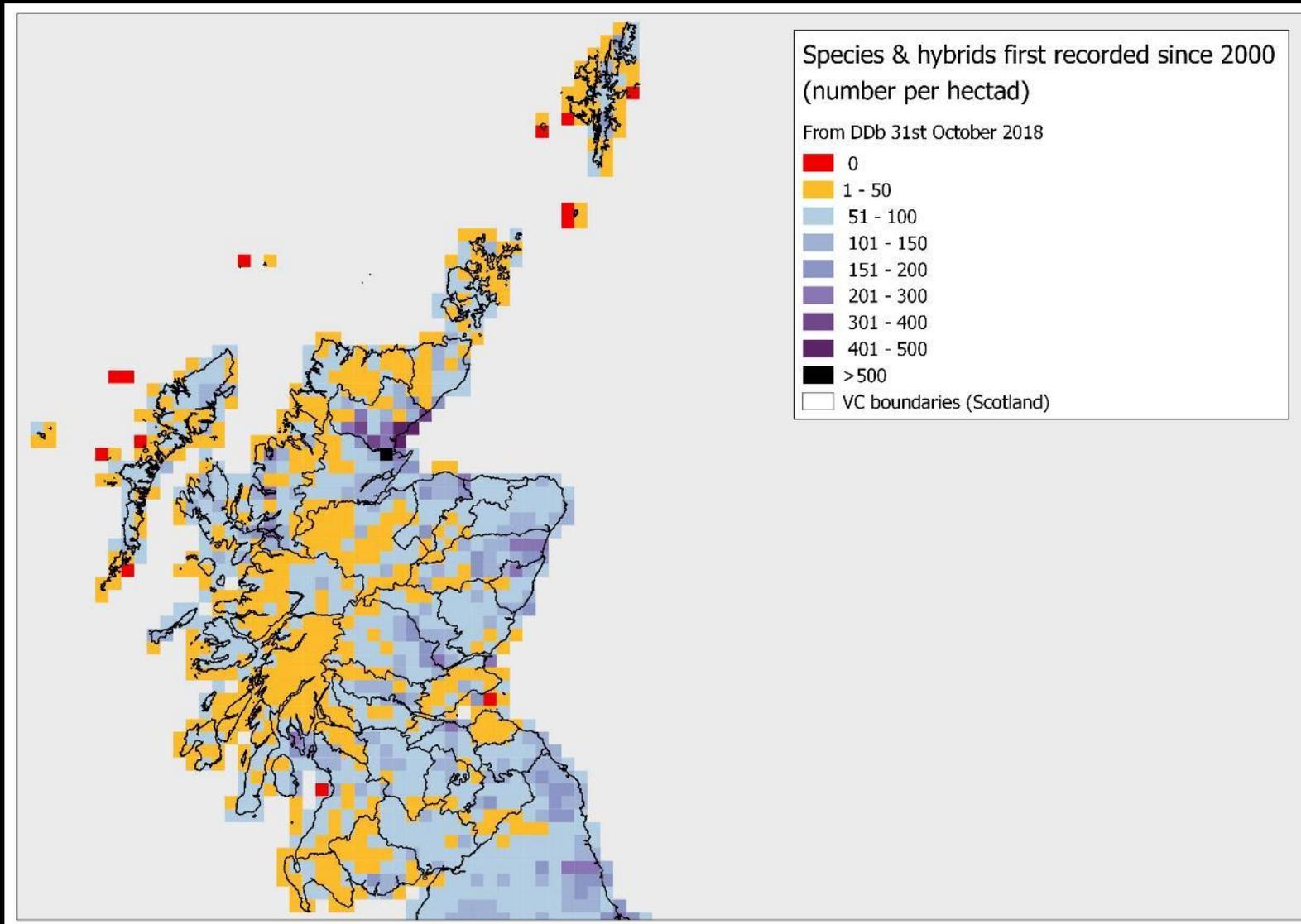
No correction for effort, or new taxa found post-1999

Geographic coverage (effort)



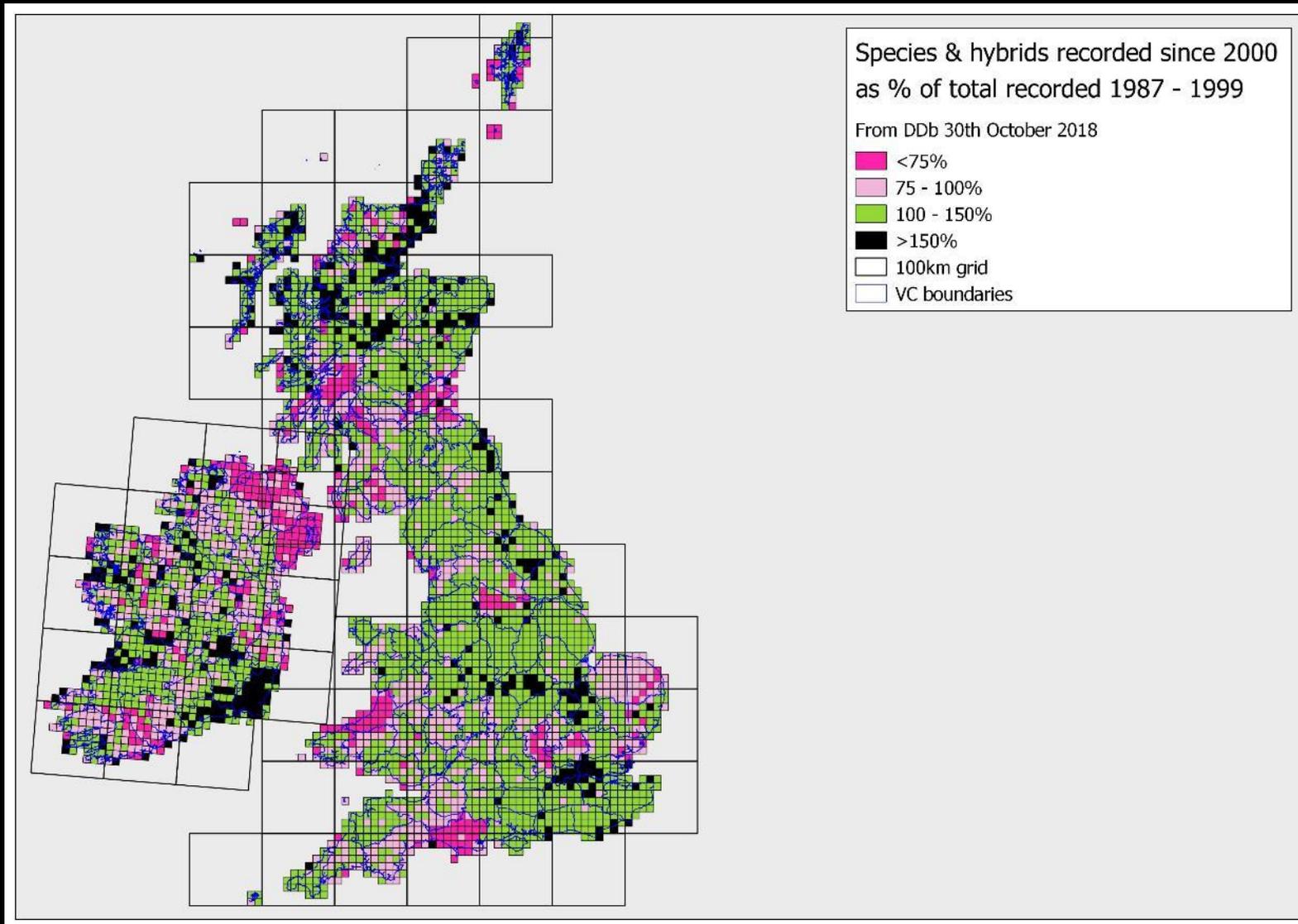
- Many '0' hectads are coastal/mostly in the sea, or are small, relatively inaccessible islands
- Light magenta squares (3-5) often reflect terrain/number of botanists available, etc.
- Based on DDb – records still to come in
- Shows enormous effort!

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

- 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

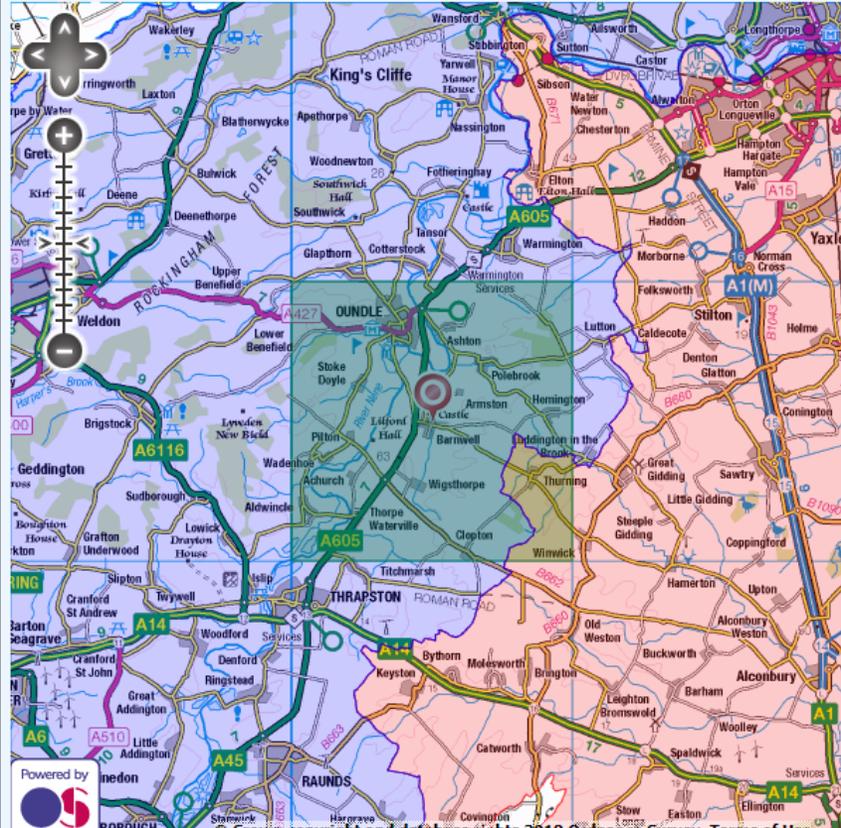
Tools New maps search search history

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



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grid reference

exclude taxa with fewer than records.

earliest year

recent record boundary year

county

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

Taxon list for [TL08](#)

- | | | | | |
|---|---|--|--|--|
| Agrostemma githago (1999) 2 0 | Asparagus officinalis s.s. (2009) 1 1 | Epilobium palustre (2014) 1 3 | Mellilotus albus (2010) 0 2 | Rumex palustris (2016) 6 4 |
| Alchemilla mollis (1998) 1 0 | Asparagus officinalis s.l. (2009) 0 1 | Epilobium parviflorum (2011) 2 34 | Mellilotus altissimus (2010) 0 1 | Rumex pulcher (2011) 4 9 |
| Allium paradoxum (1997) 3 0 | Asplenium ceterach (2011) 2 5 | Epilobium tetragonum (2010) 3 9 | Mercurialis officinalis (2009) 1 2 | Rumex sanguineus (2015) 5 51 |
| Alnus incana (1997) 3 0 | Asplenium ruta-muraria (2014) 4 10 | Equisetum arvense (2015) 4 40 | Mentha aquatica (2011) 12 71 | Ruscus aculeatus (2017) 1 2 |
| Ambrosia artemisiifolia (1998) 3 0 | Asplenium scolopendrium (2011) 2 7 | Equisetum fluviatile (2011) 1 6 | Mentha arvensis (2011) 3 13 | Sagina apetala s.l. (2010) 0 1 |
| Anthyllis vulneraria (1998) 2 0 | Asplenium trichomanes (2011) 3 5 | Equisetum palustre (2011) 4 11 | Menyanthes trifoliata (2011) 3 4 | Sagina procumbens (2011) 6 11 |
| Aphanes arvensis agg. (1997) 2 0 | Atriplex littoralis (2001) 0 3 | Equisetum telmateia (2010) 2 4 | Mercurialis perennis (2015) 11 40 | Sagittaria sagittifolia (2011) 4 23 |
| Asplenium adiantum-nigrum s.s. (1997) 2 0 | Atriplex patula (2011) 3 19 | Eranthis hyemalis (2014) 0 8 | Moehringia trinervia (2011) 5 10 | Salix alba (2011) 18 39 |
| Athynium filix-femina (1998) 1 0 | Atriplex prostrata s.s. (2011) 1 8 | Erigeron acris (2011) 3 5 | Muscari armeniacum (2015) 0 3 | Salix x sepulcralis (2015) 0 5 |
| Atriplex prostrata agg. (1997) 2 0 | Atropa belladonna (2010) 3 1 | Erophila verna s.s. (2012) 1 4 | Mycelis muralis (2014) 0 1 | Salix x fragilis (2007) 10 1 |
| Avenula pratensis (1998) 1 0 | Aubrieta deltoidea (2015) 3 8 | Erophila verna s.l. (2015) 2 14 | Myosotis arvensis (2015) 13 36 | Salix babylonica (2011) 1 1 |
| Barbarea intermedia (1999) 5 0 | Aucuba japonica (2014) 0 1 | Erysimum cheiri (2015) 3 6 | Myosotis discolor (2015) 0 6 | Salix caprea (2015) 11 35 |
| Berberis vulgaris (1999) 1 0 | Avena fatua (2014) 2 2 | Euonymus europaeus (2013) 3 17 | Myosotis laxa (2014) 6 14 | Salix x calodendron (2003) 0 1 |
| Betonica officinalis (1997) 2 0 | Avena sativa (2008) 0 2 | Eupatorium cannabinum (2011) 3 4 | Myosotis ramosissima (2010) 0 1 | Salix cinerea (2011) 12 32 |
| Bidens cernua (1999) 2 0 | Avenula pubescens (2011) 4 2 | Euphorbia exigua (2011) 1 1 | Myosotis scorpioides (2011) 21 48 | Salix fragilis s.l. (2011) 9 30 |
| Bromus x pseudothominei (1999) 5 0 | Azolla filiculoides (2011) 11 2 | Euphorbia helioscopia (2015) 3 19 | Myosotis sylvatica (2015) 0 10 | Salix purpurea (2008) 4 3 |
| Callitriche obtusangula (1997) 2 0 | Ballota nigra (2015) 3 24 | Euphorbia lathyris (2014) 0 3 | Myosoton aquaticum (2011) 4 28 | Salix triandra (2008) 4 10 |
| Callitriche platycarpa (1997) 2 0 | Barbarea vulgaris (2015) 7 18 | Euphorbia peplis (2015) 4 23 | Myriophyllum spicatum (2008) 2 8 | Salix viminalis (2011) 13 26 |
| Carex distans (1996) 1 0 | Bellis perennis (2015) 16 73 | Euphrasia nemorosa (2007) 2 1 | Narcissus x boutignyanus (2015) 0 1 | Salix x holosericea (2008) 0 1 |
| Carex elata (1998) 2 0 | Berula erecta (2011) 4 6 | Fagus sylvatica (2014) 7 27 | Nasturtium officinale agg. (2010) 13 7 | Salvia verbenaca (2010) 3 1 |
| Carex rostrata (1998) 1 0 | Betula pendula (2015) 5 33 | Fallopia baldschuanica (2010) 0 1 | Nasturtium officinale s.s. (2015) 3 21 | Sambucus nigra (2015) 20 93 |
| Carex vesicaria (1997) 2 0 | Betula pubescens (2015) 1 1 | Fallopia convolvulus (2011) 5 4 | Neottia ovata (2008) 4 4 | Sanguisorba officinalis (2011) 4 14 |
| Catabrosa aquatica (1999) 1 0 | Bidens tripartita (2011) 3 11 | Festuca ovina (2008) 0 1 | Nepeta cataria (2010) 0 1 | Sanicula europaea (2011) 1 3 |
| Cerastium arvense (1994) 1 0 | Brachypodium pinnatum s.s. (2008) 5 4 | Festuca ovina agg. (2008) 0 2 | Nigella damascena (2011) 0 1 | Saponaria officinalis (2011) 2 2 |
| Cerastium tomentosum (1997) 3 0 | Brachypodium pinnatum s.l. (2011) 1 2 | Festuca rubra (2015) 7 24 | Nuphar lutea (2010) 13 36 | Saxifraga granulata (2017) 3 1 |
| Chenopodium album agg. (1997) 2 0 | Brachypodium sylvaticum (2015) 13 42 | Festuca rubra agg. (2011) 5 23 | Nymphaea alba (2011) 3 10 | Saxifraga tridactylites (2014) 3 7 |
| Cicerbita macrophylla (1999) 1 0 | Brassica napus (2015) 4 8 | Ficaria verna (2015) 16 48 | Nymphoides peltata (2008) 5 2 | Schedonorus arundinaceus (2015) 4 6 |
| Clinopodium acinos (1998) 1 0 | Brassica nigra (2009) 0 1 | Filipendula ulmaria (2011) 15 81 | Odonites vernus (2014) 5 30 | Schedonorus giganteus (2015) 3 20 |
| Corydalis cheilanthifolia (1997) 2 0 | Briza maxima (2014) 0 1 | Filipendula vulgaris (2008) 4 2 | Oenanthe fistulosa (2011) 7 11 | Schedonorus pratensis (2011) 2 21 |
| Cruciata laevipes (1992) 1 0 | Briza media (2011) 6 9 | Foeniculum vulgare (2014) 0 2 | Oenothera biennis (2013) 0 1 | Schoenoplectus lacustris (2011) 14 53 |
| Cryptomeria japonica (1999) 1 0 | Bromopsis erecta (2008) 3 2 | Fragaria ananassa (2010) 2 1 | Ononis repens (2011) 5 10 | Schoenoplectus tabernaemontani (2008) 0 10 |
| Cytromium falcatum (1997) 1 0 | Bromopsis ramosa (2011) 4 14 | Fragaria vesca (2009) 2 3 | Ononis spinosa (2011) 3 2 | Scorzoneroideis autumnalis (2011) 7 46 |
| Cytisus scoparius (1997) 3 0 | Bromus commutatus (2008) 3 2 | Frangula alnus (2014) 0 1 | Onopordum acanthium (2011) 3 7 | Scrophularia auriculata (2015) 14 53 |
| Dryopteris filix-mas agg. (1990) 2 0 | Bromus hordeaceus (2011) 6 27 | Fraxinus excelsior (2015) 22 99 | Ophioglossum vulgatum (2008) 4 2 | Scrophularia nodosa (2015) 2 7 |
| Echinops sphaerocephalus (1991) 2 0 | Bromus racemosus (2015) 3 1 | Galanthus nivalis (2015) 2 14 | Ophrys apifera (2008) 7 3 | Scutellaria galericulata (2011) 5 24 |
| Euphrasia officinalis agg. (1999) 1 0 | Bromus secalinus (2016) 0 1 | Galeopsis tetrahit s.s. (2009) 0 1 | Orchis mascula (2013) 1 4 | Sedum acre (2015) 3 10 |
| Fallopia japonica (1997) 2 0 | Bronia dioica (2015) 10 40 | Galium album (2015) 5 23 | Oriaganum vulgare (2010) 3 1 | Sedum album (2011) 2 3 |

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 taxon name

grid reference grid square

county/region Northamptonshire only

date recorded to 1999 to ▼ for vague record date ranges use end date

checklist/linked attribute England Red list value CR,EN,VU

validation state Accepted or unchecked

group by species (excluding higher ranks) include species and aggregates (naive concept)

subdivide by date range (min/max date)

grid-ref and vc validation records matching or within 2km of county boundary

more options ▼

join with Records (specimens or observations) ▼

join using species exclude

taxon taxon name

grid reference grid square

county/region Northamptonshire only

date recorded from 2000 from ▼ for vague record date ranges use start date

checklist/linked attribute England Red list value CR,EN,VU

validation state Accepted or unchecked

grid-ref and vc validation records matching or within 2km of county boundary

more options ▼



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



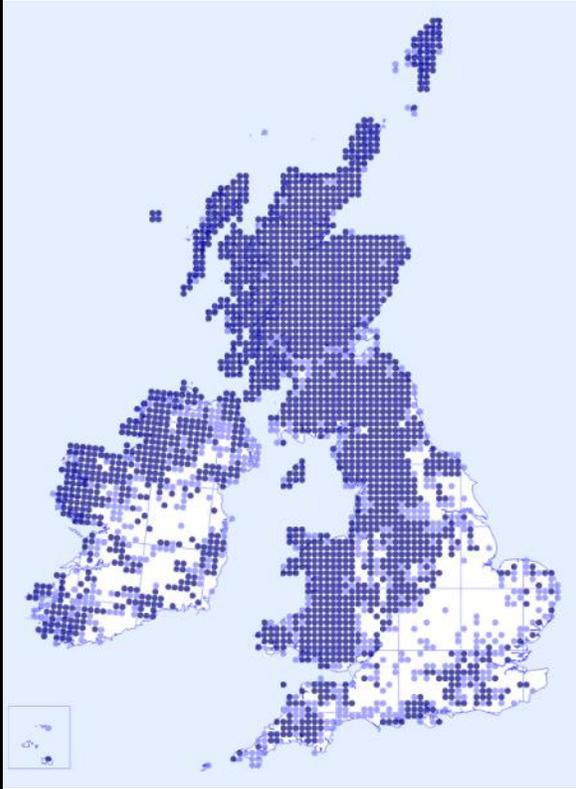
What will the atlas look like?

Online atlas (eAtlas)

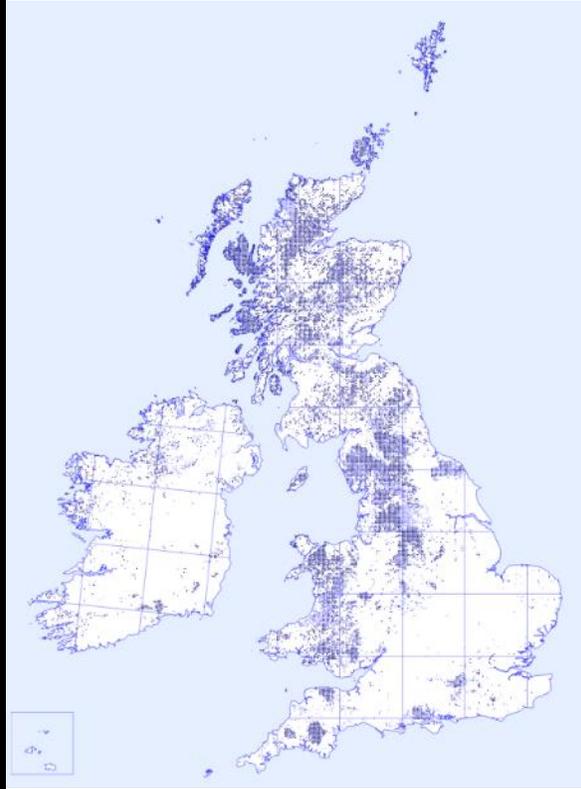
- **Online distribution maps** (fixed for the atlas period)
- **Multiple maps** for all species
- **Updated captions** and **new captions**
- **Metrics** e.g. change + lowland/upland split
- **Links** to online species accounts, ecological information, photographs, *Red Data Book* and *Scarce Plants*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



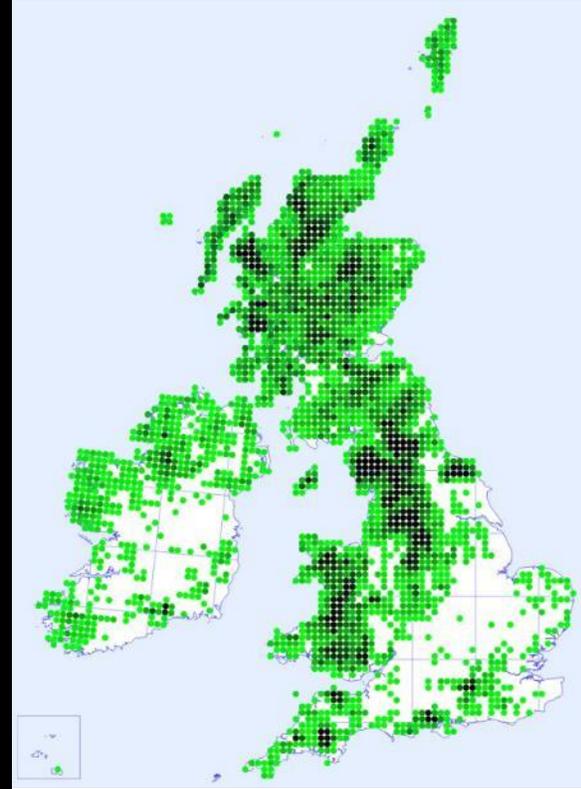
Nardus stricta (Mat-grass)



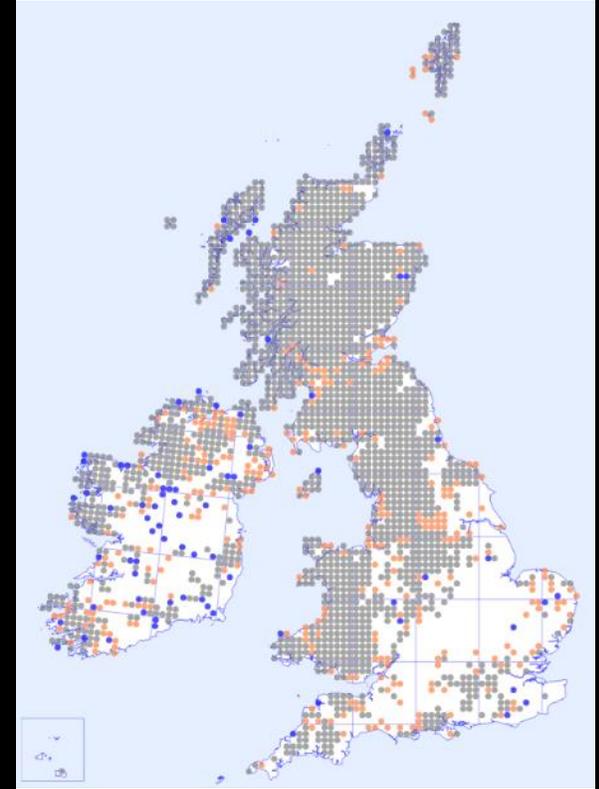
Hectad pre-post 2000



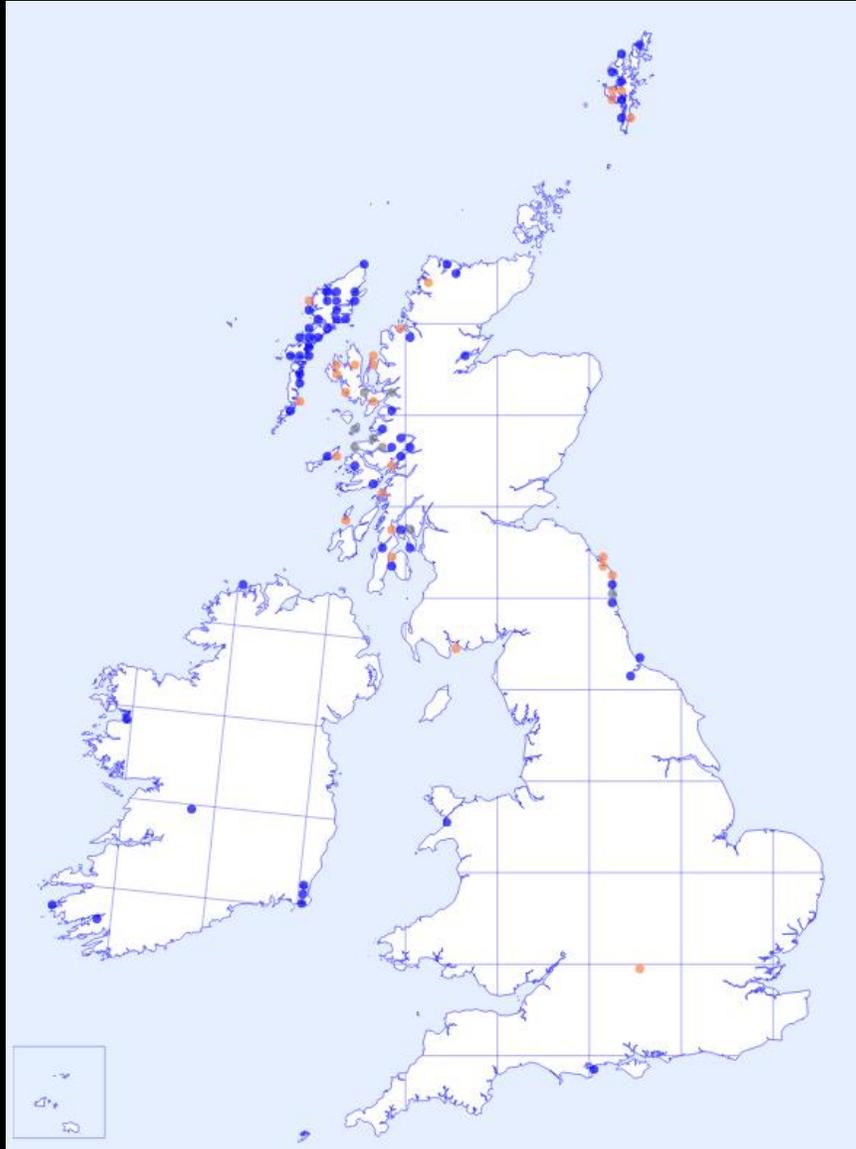
Tetrad pre-post 2000



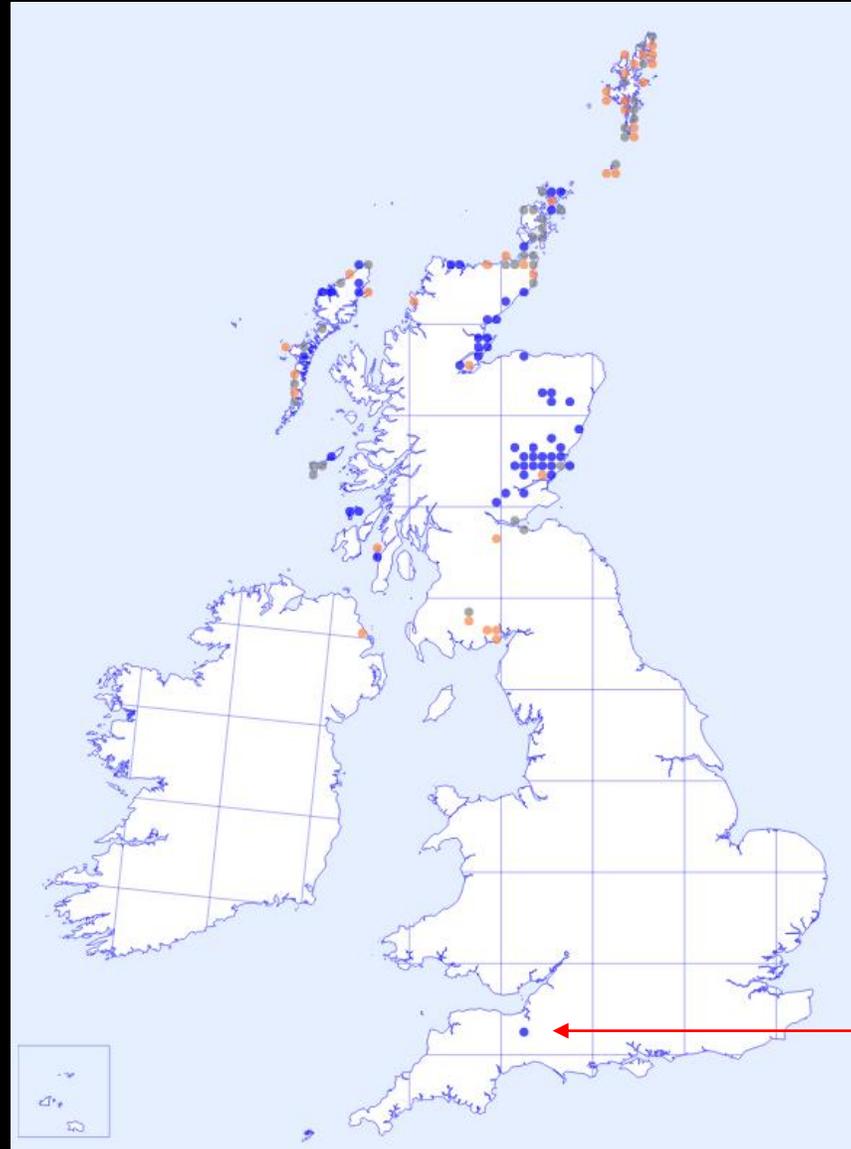
Tetrad frequency
at hectad scale



Hectad change since 1987-99

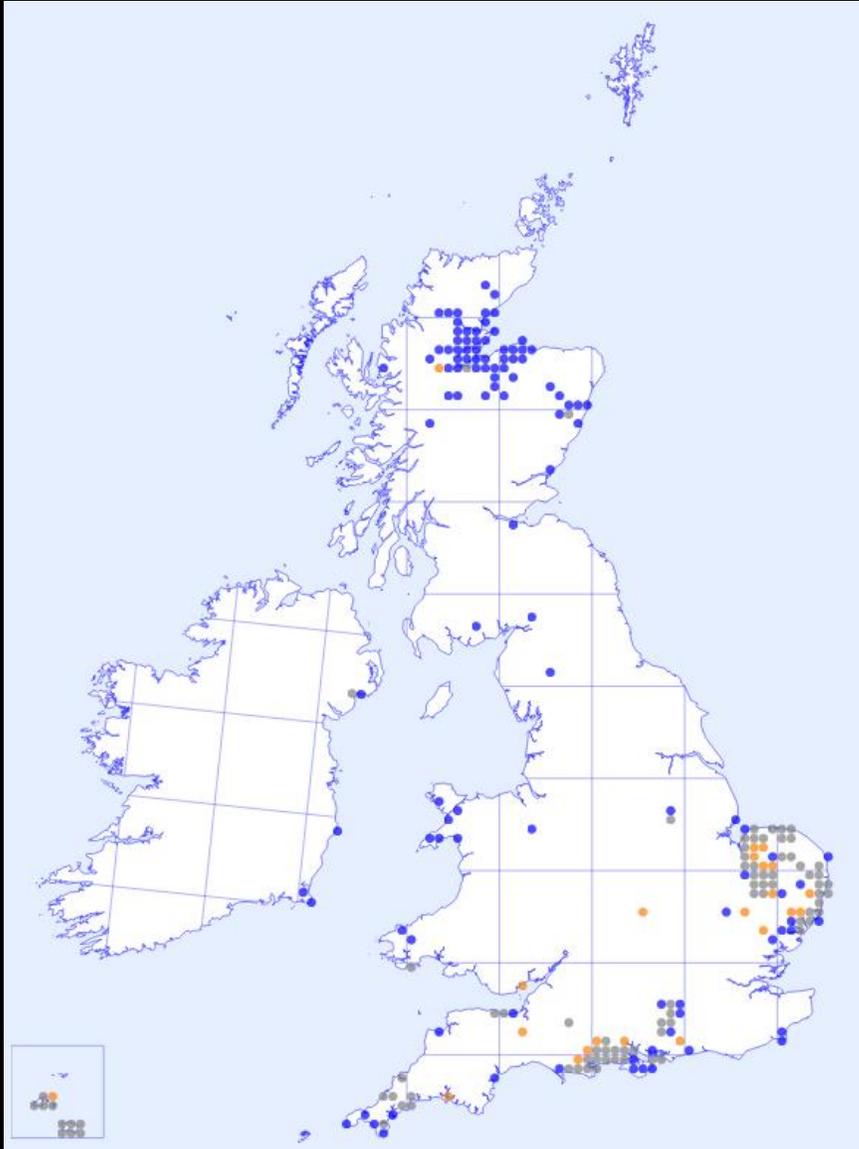


Atriplex praecox (Early Orache)

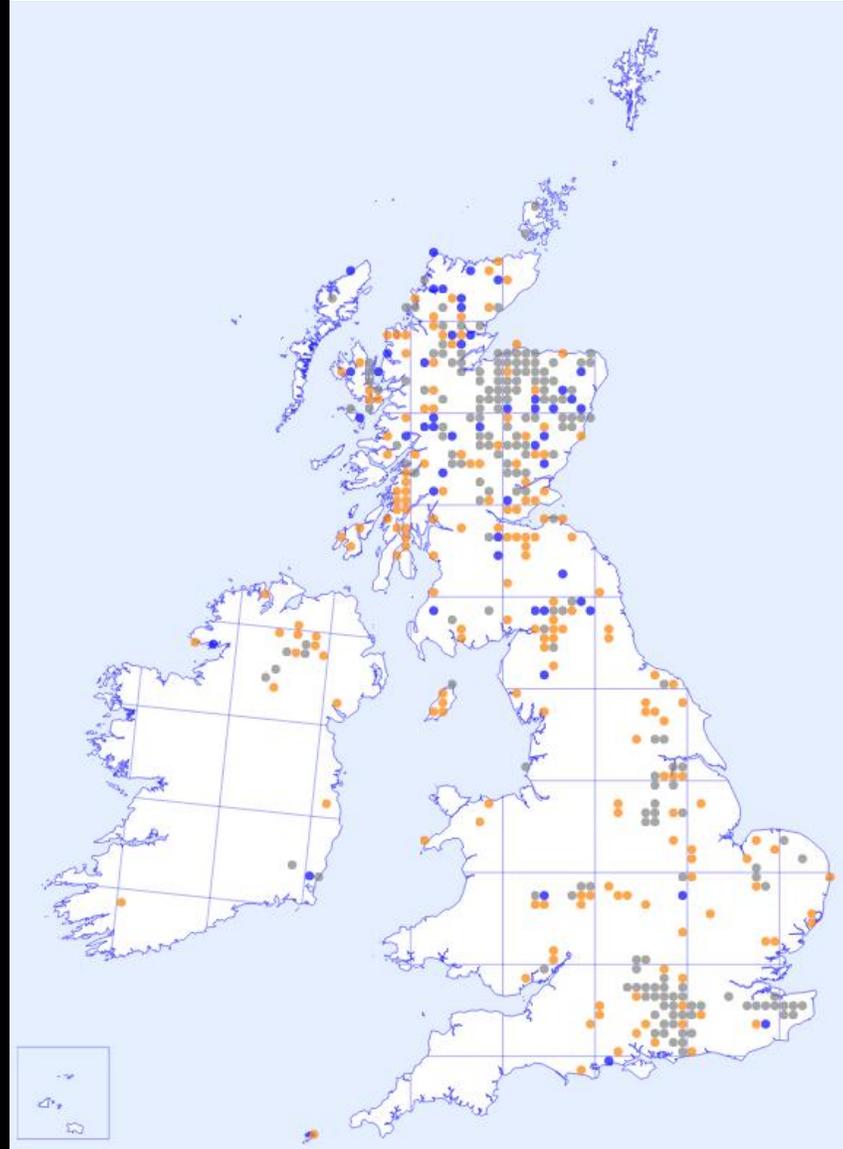


Polygonum boreale (Northern Knotgrass)

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

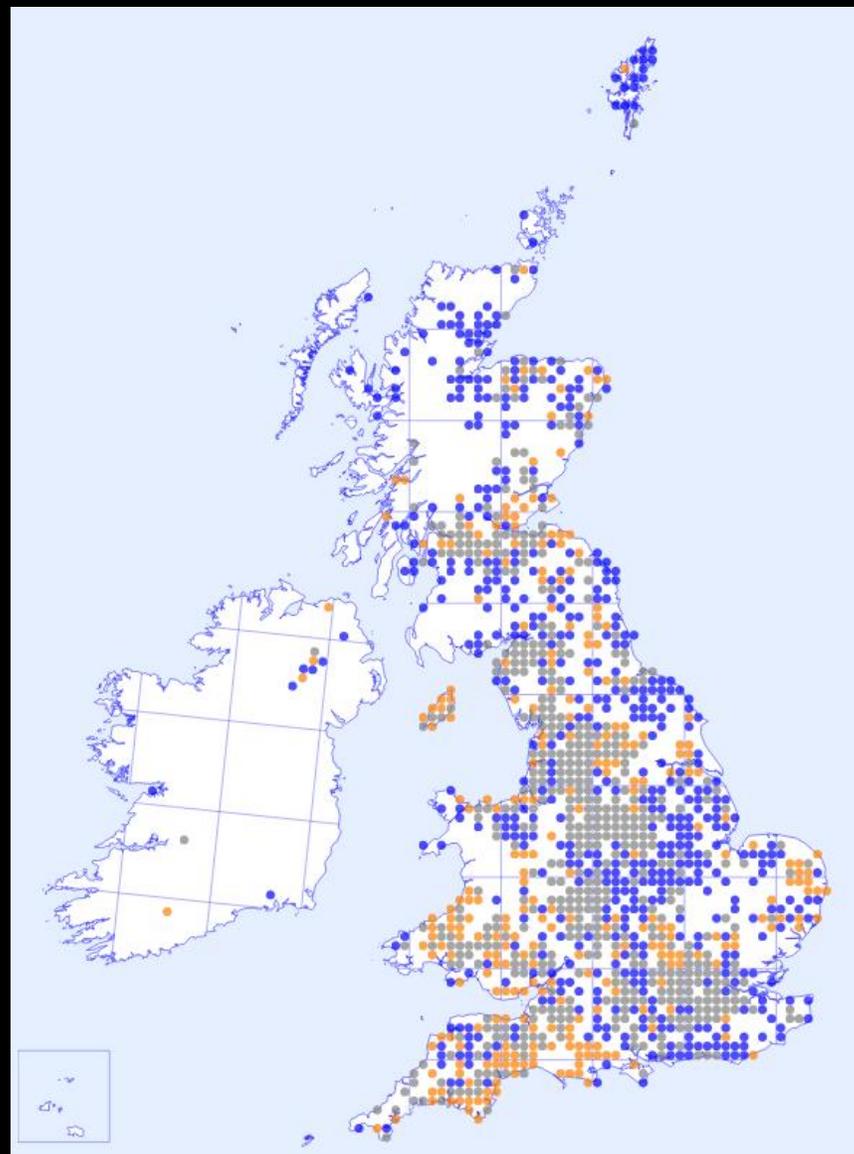
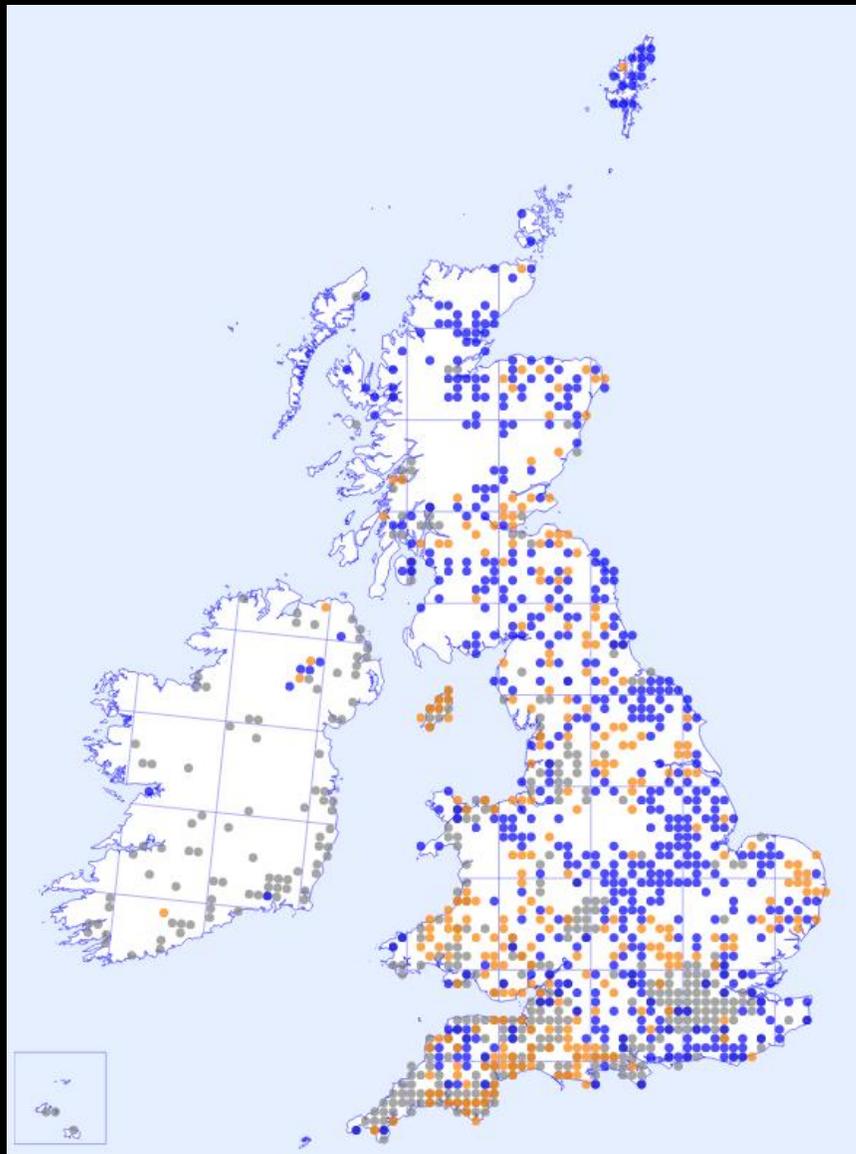


Crassula tillea (Mossy Stonecrop)



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!**