



the
species
recovery
trust

2022 Progress Report

Field Gentian

This project has been part-funded by Natural England

Summary



2022 saw Field Gentian decimated in the south of the country by the heatwave and associated drought



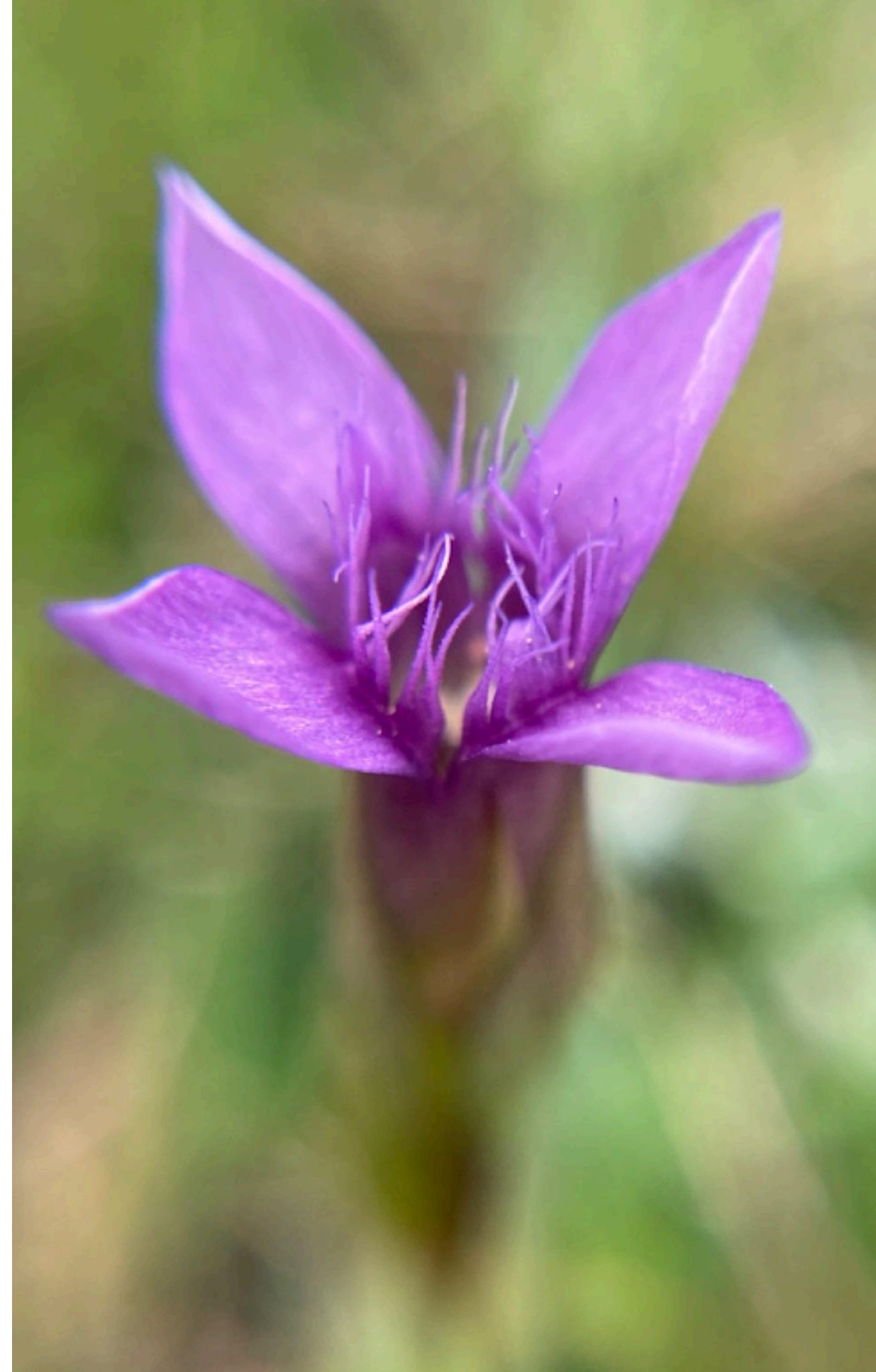
In the north, populations fared rather better, and a surprise re-emergence at Yockenthwaite gave us hope that populations may be restored from seed banks following a change in site management



Efforts to grow the plants ex-situ are progressing slowly, although this years sample have behaved in an unexpected way

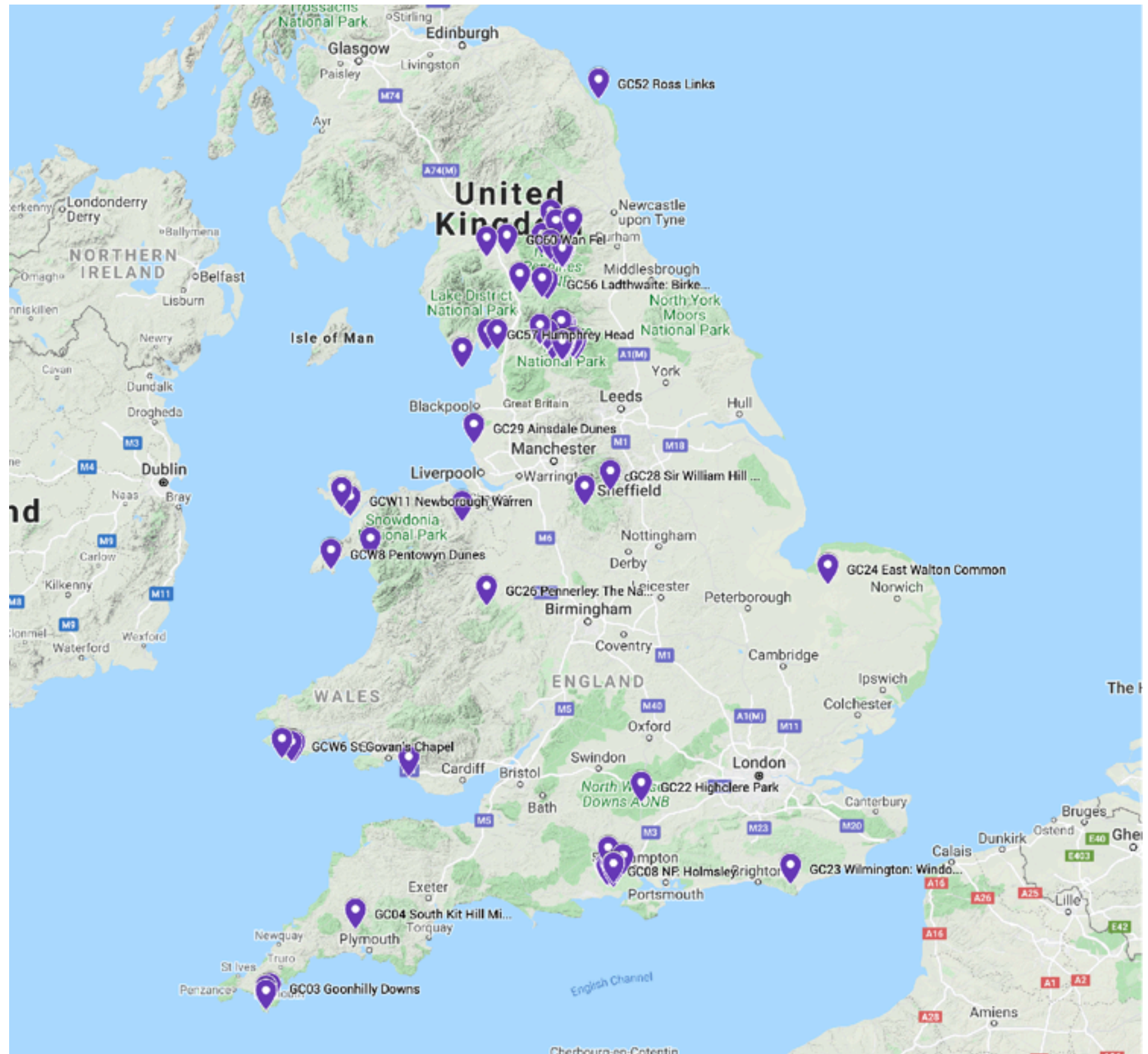


We continue to expand our monitoring network to cover more sites



Sites

England and Wales



Cornwall



Lizard Downs

The Lizard

The population here is now extremely small. In July a small number of plants were recored, but as the heatwave and drought took effect these sadly all died before they were able to form seed pods. Several other visits failed to find any other living populations.

The New Forest

GENTIAN NEW FOREST CENSUS			2015	2017	2018	2019	2020	2021	2022
GC			2015	2017	2018	2019	2020	2021	2022
5x	Dur Hill		Extinct						
6	Burbush	SU 20142 01660			0	5	9	4	0
7	Magpie	SU 21000 00100	Extinct						
8a	Holmsley	SZ 21800 98600	Extinct						
8b	Holmsley	SZ 21980 99200				91	36	45	0
8c	Holmsley	SZ 22000 99219				42	12	30	0
8d	Holmsley	SZ 22061 99256				1	0	0	0
8e	Holmsley	SZ 22029 99217						7	0
9	Fritham	SU 21957 13062	2000		25	800	20	900	50
10	Spy Holms	SU 23888 02537	850		0	900	150	470	0
11	Markway Inclosure Roadside	SU 24252 02114	20		0	1	1	4	0
12x	Markway		Extinct						
13x	Wilverley Plain	SU 24800 01900	Extinct						
14a	Markway Trackside West	SU 24707 01951						11	0
14b	Markway Trackside East	SU 24861 01986				124		30	0
14c	Markway Trackside Hollow	SU 24928 02009	120	130	0	40	33	5	0
15a	Tiptoe	SZ 25626 98568			0	30	123	25	0
15b	Tiptoe	SZ 25545 98606					13	0	0
16	Wilverley Plain Main	SU 25638 01561			0	3419	0	1907	0
16b	Wilverley Plain pit	SU 25613 01281	150		0	326	0	36	0
16c	Wilverley Plain Heather	SU 25210 01420				6	6	20	0
17	Duckhole Bracken	SU 25617 02373	210		0	75	20	73	0
17b	Duckhole Pine	SU 25578 02328				136	47	86	0
18	Longslade Bottom	SU 26053 00716	428		0	316	0	12	0
19	Whitefield Moor	SU 28324 02343	260	600	0	200	15	490	0
19b	Whitefield Moor E	SU 28345 02441					300	500	0
20	Matley Wood	SU 32979 07806			0	6	0	9	0
20b	Matley Wood	SU 33144 08059						150	0
TOTALS			4038	730	25	6518	785	4664	50



New Forest (continued)

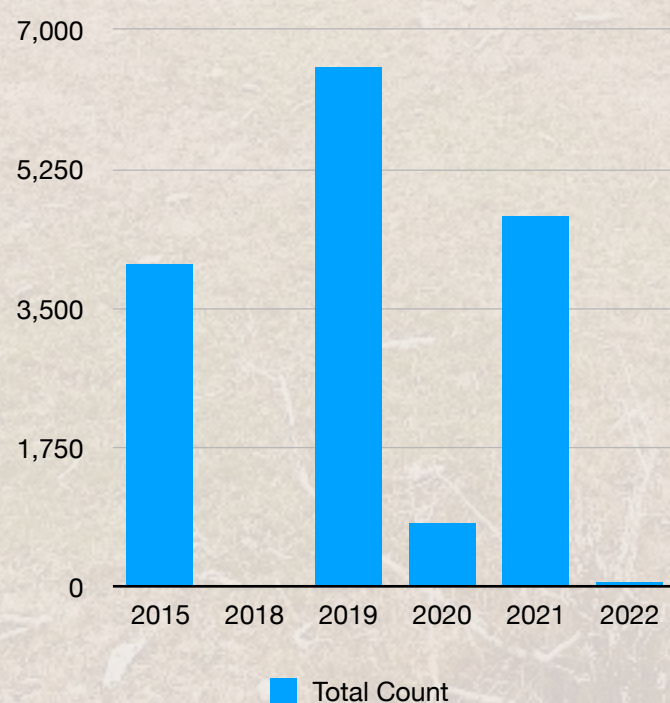
The New Forest (along with most of the UK) suffered one of the most severe heatwaves in 2022. There were three heatwaves; the first was for three days in June, the second for three days in July, and the third for six days in August. These were periods of unusually hot weather caused by rising high pressure from the European continent. There were also more grass fires and wildfires than average, and in August a drought was declared in many regions.

The Met Office issued its first red warning for extreme heat on 8th July, which affected all of central and southern England. On 15th July, it declared a national emergency after the red warning was put in place and on 19th July, a record temperature of 40.3 °C was recorded.

The severity and timing of these heatwaves caused an unduly harsh impact on Field Gentian, as they coincided with the exact times of year when the plants first emerge and flower, and this, combined with the plants growing in dry grasslands with skeletal soils, led to the failure of nearly every population in the Forest.

In some ways the population crash in 2022 was not as dramatic as the one in 2018, but it still represented a massive decrease. What is becoming clear is a strong pattern of dips on even numbered years and spikes on odd ones. Despite having five years of detailed census data, we are still unsure about whether this is a natural cycle in the plants growth pattern, or a response to particularly harsh weather in those years. What is encouraging is the populations ability to bounce back after low years. However, in a scenario where two successive heatwaves occur, this may prove more disastrous for the plants.

Continued detailed monitoring of these populations should hopefully reveal more answers to this.



New Forest (continued)

When rains finally returned in late September we re-monitored all the sites, but failed to find any plants, until finally on the 13th September, with a group of 10 surveyors, we found a small single plant, and then about 50 more, lurking deep in the bracken at Fritham Down.

Our work in the Forest has also involved continued liaison with Forestry England, looking at management of all the native sites, and how we can best maintain a balance of short sward grassland, which the plants have historically favoured, along with areas of Bracken and Heather, which is likely to become more of a refuge for the plants as climate change produces more severe weather.



North Hampshire



Highclere Park

The population at Highclere continues to mirror the fluctuations seen in the New Forest and in 2022 several surveys failed to find a single plant. As with the New Forest we are yet to see whether this is a natural 2-year cycle, or a response to heatwaves which have been unusually severe in 2018, 2020 and 2022.

2018 0

2019 158

2020 0

2021 1243

2022 0

Liaison work has continued on carrying out some vegetation cutting to open up the sward, and keeping a close eye on the current sheep grazing regime.

Wilmington

This site has suffered from inappropriate sheep grazing for many years, and it subsequently became apparent that local NE staff were unaware of the presence of the species on the site. Having monitored a further decline in this population in 2021, we are now closely liaising with NE staff and the landowner to ensure a better future for this site, and after a site meeting in October proposals were drafted for a temporary fence to keep the sheep away from the plants during late summer.



East Walton Common

Field Gentian was last recorded here in 1997, but an absence of further data meant we were unsure whether it had become locally extinct, or was simply not being recorded.

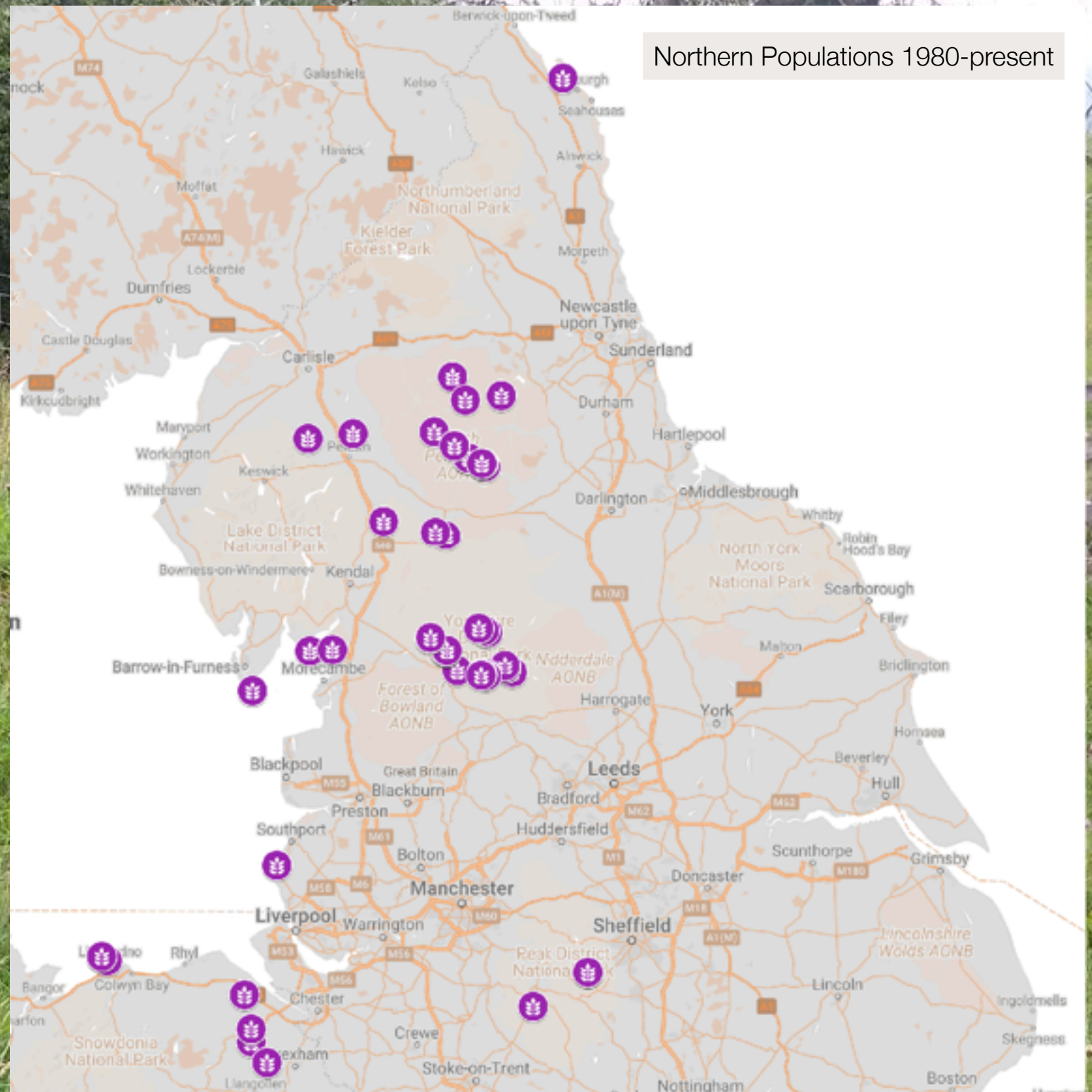
Surveys in 2018, 2021 and 2022 failed to find any plants here, and it is likely the site has become extinct.

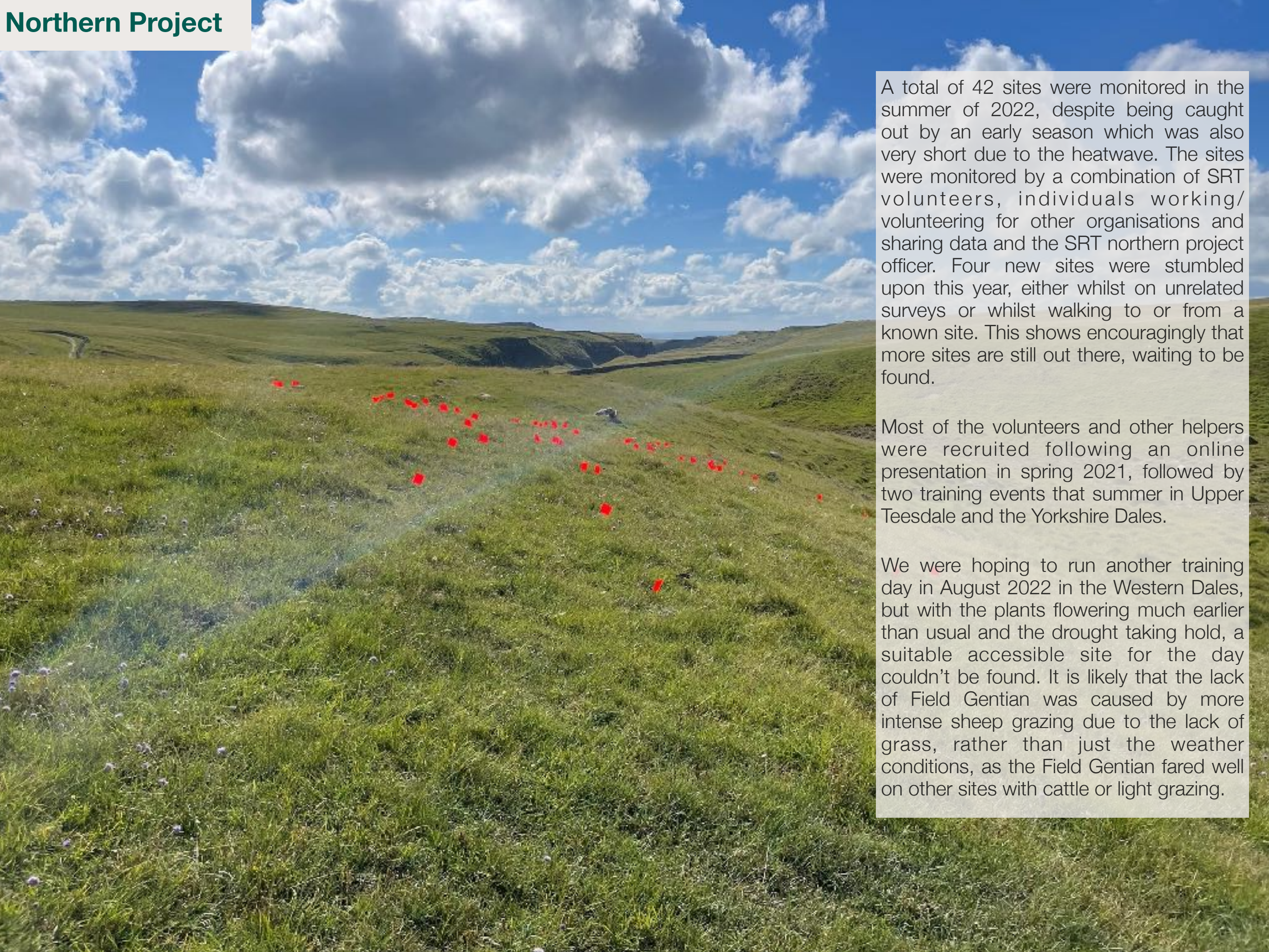
We will now consider a re-introduction at this site, starting by opening a dialogue with all the relevant parties.

North England Project

2022 saw the Field Gentian project continue to grow, with the number of sites in the north of England (Derbyshire and northwards) expand to seventy (excluding sub sites).

This was partly as a result of a data trawl in winter '21/22 when county recorders and local data centres were contacted, as well as searching the BSBI database for new records. This added 23 sites to the existing records.





A total of 42 sites were monitored in the summer of 2022, despite being caught out by an early season which was also very short due to the heatwave. The sites were monitored by a combination of SRT volunteers, individuals working/volunteering for other organisations and sharing data and the SRT northern project officer. Four new sites were stumbled upon this year, either whilst on unrelated surveys or whilst walking to or from a known site. This shows encouragingly that more sites are still out there, waiting to be found.

Most of the volunteers and other helpers were recruited following an online presentation in spring 2021, followed by two training events that summer in Upper Teesdale and the Yorkshire Dales.

We were hoping to run another training day in August 2022 in the Western Dales, but with the plants flowering much earlier than usual and the drought taking hold, a suitable accessible site for the day couldn't be found. It is likely that the lack of Field Gentian was caused by more intense sheep grazing due to the lack of grass, rather than just the weather conditions, as the Field Gentian fared well on other sites with cattle or light grazing.



18/08/20

The northern England Field Gentian population shows a varied picture, with some sites repeatedly recording large numbers (large numbers in this case being anything over 100 plants) and some sites recording lower numbers (20-100 plants) but with a stable population. However Field Gentian can have “off” years which may be linked to its sometimes biennial lifecycle, so some sites that typically record high numbers can only show a handful of plants.

The overall picture remains concerning though, with only fourteen sites showing a stable population and over fifty sites with plants numbering under 10, declining numbers or no plants recently found.

The one common factor of the fourteen sites is that they are all cattle grazed, either exclusively or with only small numbers of sheep. The best upland site for Field Gentian, where plants can run into thousands (over a large area) is Ingleborough NNR which has been exclusively cattle grazed for the past twenty years.

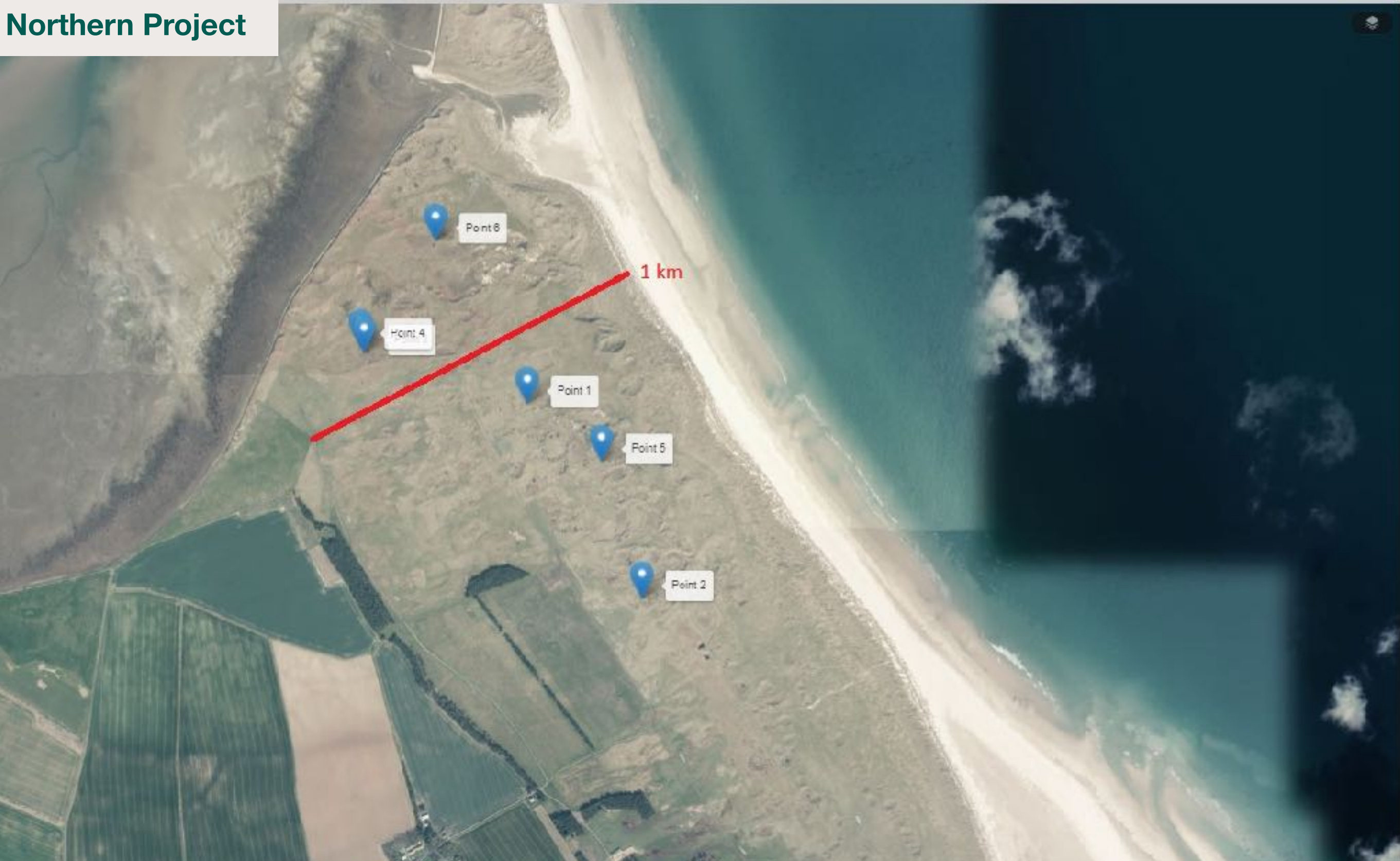
The flowers of Field Gentian are clearly palatable to sheep (which show a preference to grazing flowers in general) as in sheep grazed fields Gentian plants are often found with heads missing. Sheep can also create a dense sward which favours grass and low-growing, unpalatable plants such as Rock rose. As Field Gentian is a poor competitor, a high sheep density and/or unsuitable grazing timings therefore spells bad news for the plant. Cattle, on the other hand are both non-selective grazers and create a much more open sward, both with their hoof prints and their grazing method.



We had a successful trial in spring/summer 2022 where wooden hurdles (funded by the Yorkshire Dales National Park Authority) were erected to form an enclosure on a site in Wharfedale, where Field Gentian hasn't been seen since 2011. This site consists of close-cropped grass with high sheep numbers and we thought it might take a few years for the Field Gentian to recover, if at all. However we were delighted to hear that five plants were found within the enclosure in July.



Northern Project



For the first time the project officer visited the Northumberland coast, where two populations have previously been recorded. These are the only known sites on the eastern coast.

The amount and distribution of Field Gentian in the dunes near Holy Island was far more extensive than previously recorded, and as the dunes cover a very large area of approximately over 1km², one of the targets for 2023 is to organise a volunteer group to begin to record the full extent of the plant here.

Ex situ work

For the last 3 years we have been cultivating plants at Kew Gardens, Wakehurst, with the intention of learning more about seed dormancy and the life cycle of plants - in particular whether they are biennials, and what a vegetative plant may resemble in its first year. This work follows on from field trials in 2019 and 2020, where in fixed plots in the New Forest we were still unable to observe any overwintering rosettes.

Despite being sown outside, the Kew plants have further confused this picture by germinating (reluctantly), growing rapidly and then flowering in a few months, with flowers appearing in February. This has left us all rather confused about what these plants are up to, and we plan to continue this work until the picture becomes clearer

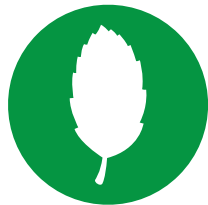


Looking forward

Project aims 2022-2030



Continue annual census in New Forest



Widen scope of project in Yorkshire to offer advice to more landowners, and carry out more trial management work



Continue research work at Kew, looking at growth ecology of plants and try and provide answers to lifecycles in the wild



Strengthen project in Wales with further monitoring and liaison with landowners



The Species Recovery Trust is a charity set up to tackle the loss of some of the rarest species in the UK.

There are over nine hundred native species in the UK that are classed as under threat, with several hundreds more currently widespread but known to be in significant decline. The countryside is now bereft of many species that were a familiar sight a mere generation ago.

A small number of these species are on the absolute brink of existence, poised to become extinct in our lifetimes; our goal is to stop them vanishing.

Our aim is to remove 50 species from the edge of extinction in the UK by the year 2050. In addition we are reconnecting people with wildlife and the natural world through training programmes and awareness raising.



A photograph of a forest floor in spring. The ground is covered with a dense carpet of small purple bluebells. Several large, weathered tree stumps are scattered across the scene, some with moss growing on them. The background is filled with tall, slender trees with fresh green leaves, suggesting a young forest or a woodland in recovery. Sunlight filters through the canopy, creating dappled light on the ground.

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