



Nottingham

City Council

Nottinghamshire Vice County 56

Rare Plant Register
3rd Edition

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The Rare and Scarce Vascular Plants of Nottinghamshire Vice County 56

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Front Cover photographs: *Hypochaeris glabra* at Besthorpe (Steve Hammonds)
Coeloglossum viride at Teversal (Ken Balkow)

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Introduction

This is the third edition of the register that provides details of the distribution and abundance of rare, scarce and threatened plants found in Vice County 56 Nottinghamshire. The register is intended to contribute to the national initiative of the Botanical Society of the British Isles (BSBI), which aims to produce rare plant registers for all of the Vice Counties (VC) of the British Isles.

The register includes records of plants recorded between 1970 and 2019 and the last known records of plants, which are now extinct in the county, if the records are pre-1970. Although this is a relatively long period of time it is considered to be necessary, because it is now 57 years since the publication of the last County Flora by Howitt & Howitt (1963). The only other publication since 1963 being a flora of the City of Nottingham, written by Dr. P. Shepherd, published in 1998.

Although there has been relatively little by way of published works relating to Nottinghamshire's plants, extensive survey work has been carried out by individuals and organisations, which has contributed to the production of this register. The revised publication of this register is intended to promote studies so that the distribution and abundance of the plants in this register will continue to be better understood. A practical outcome of this register is the targeting of conservation action to reinstate declining and extinct species. For example, creeping willow *Salix repens* has been re-planted at sites where it has declined or become extinct and bilberry *Vaccinium myrtillus* will be the next species to undergo reintroduction at selected sites. The register also provides baseline information to inform conservation management of declining species.

In the latter part of the 20th Century, industrial development and agricultural intensification has had a profound impact on the flora of the county. The west of the county and the Trent valley has been particularly affected by industrial development including surface and underground mineral extraction and the construction of power stations. Sherwood Forest has lost much of its heathland, because of afforestation and intensive arable farming on the more productive soils. Agricultural intensification has modified farming systems on the Lias Clays and Keuper Marls leading to a significant reduction in livestock farming and large-scale conversion to rotational arable systems. A noticeable impact of this conversion has been the removal of hedgerows in order to increase field sizes and maximise efficiency. A further outcome of agricultural intensification has been the general eutrophication of soils and aquatic ecosystems.

In recent years there have been successful efforts by conservation organisations, land-owners and land-managers to reverse some of the adverse impacts described above and to conserve rare and scarce plants as part of larger initiatives to promote biodiversity. This has coincided with a greater public awareness of conservation and environmental issues, and a greater desire to see environmental improvements and protection of wildlife. For example, the colliery spoil tips have provided opportunities to create new habitats. The cessation of deep mining has also seen the return of higher water tables, which has aided the restoration of wetlands and rivers in the county. Other initiatives include heathland restoration on previously afforested land and the reinstatement of traditional management of semi-natural habitats such as low-intensity grazing. The sympathetic management of semi-natural habitats is being supported by a general trend towards larger scale conservation schemes that link up the County Wildlife Sites and Statutory Sites of Nature Conservation interest, which are often isolated islands of biodiversity. At the time of writing the long-term future of Environmental Stewardship Schemes is uncertain, but financial assistance for landowners and land-managers to facilitate some of the initiatives that are described above may be realised through the pending Environment Bill and the application of Biodiversity Net Gain.

The County

In the last county flora, Howitt & Howitt (1963) described Nottinghamshire as being a fairly typical Midlands county and although lacking dramatic landscapes was not without its own charm. The rivers of the county dominate the landscape, particularly the River Trent, which drains most of the county. Low rolling hills adjoin the river valleys in the south, west and central parts of the county. Elsewhere the lands to the east and north are relatively flatter with occasional hills that form prominent landscape features.

Nottinghamshire has a varied geology that was separated into divisions by Professor J. W. Carr in the Victoria County History. Howitt & Howitt subsequently adopted the divisions for their 1963 County Flora. The divisions are still useful to this day and form the basis for understanding the distribution of plants within the county. The divisions include Permian Marls, Coal Measures and Dolomitic Limestones; Bunter Sandstones; Keuper Waterstones and Marls, and Lias Clays.

Howitt & Howitt (1963) provides a detailed but succinct description of the geological formations of the county and the flora that each geological formation supports. As the work is out of print and no longer readily available, it is

considered that the inclusion of a brief description of the geology and land use is appropriate in order to provide an insight into the modern distribution and abundance of the rare and scarce plants of the county.

In broad terms the bedrock geology of Nottinghamshire is relatively simple, consisting of a succession of rock formations, from oldest in the west to youngest in the east, which outcrop in a series of belts running the length of the county (Figure 1). In detail there are minor complications to this apparently simple arrangement which result from folding, faulting and overlap. For botanical purposes the bedrock succession can be conveniently grouped into four principal divisions, each yielding a specific range of soil types and plant habitats. A fifth division covers superficial deposits of Glacial and Recent age (Figure 2).

I. Coal Measures and Permian Mudstones and Dolomitic Limestones

The Coal Measures and overlying Permian formations are confined to the western edge of the county, and although variable in composition, are here considered together because of their relatively restricted outcrop within the county. The Coal Measures consist chiefly of mudstones with subordinate siltstones, sandstones and coals, giving rise to a topography characterised by rolling hillsides and small river valleys. The legacy of coal mining has left behind it a heavily industrialised landscape with sprawling settlements intermingled with farmland. One of the most significant features of the landscape are the numerous colliery spoil tips, and there are also extensive areas of post-industrial brownfield land that are of botanical interest and provide a reservoir for wildlife in built-up areas. The Coal Measures dip eastward beneath younger formations, and this concealed part of the coalfield has been exploited from a number of deep mines situated well to the east of the Coal Measures outcrop. The sites of these collieries are marked by large spoil tips.

In the north, the Rivers Meden and Maun flow east towards Sherwood Forest. Both rivers join the River Idle, which is a significant tributary of the River Trent. The rivers are relatively small and of moderate flow-rate. They are now slowly recovering from the legacy of deep coal mining, the surface expression of which has had a significant impact on the quality and quantity of the water they carry. The River Erewash, which forms part of the county boundary, flows south to the River Trent at Attenborough and has similarly suffered from the same adverse impacts of coal mining.

Rocks of Permian age include Mudstones and Siltstones of the Edlington and Roxby formations (formerly named the Middle and Upper Permian Marls respectively), and Dolomitic Limestones of the Cadeby and Brotherton formations (formerly the Lower and Upper Magnesian Limestone). Both the Permian and Coal Measures Mudstones and Siltstones produce acid to circum-neutral, poorly drained clays that are of limited value for growing arable crops. As a consequence, livestock farming is still fairly frequent in the area. Permanent grasslands are a common feature, but very few examples of semi-natural Coal Measures and Permian Mudstone/Siltstone grasslands still exist.

Dolomitic (Magnesian) Limestones support arable farming where the topography is favourable, giving rise to calcareous loams that are suitable for growing a variety of crops, with cereals being the most prevalent. The well-bedded Dolomites of the Cadeby Formation have long been quarried for building stone, roadstone and agricultural lime. There are a few natural rocky Limestone outcrops, such as are found at Creswell Crags and Pleasley Vale, which support semi-natural grassland and woodland habitats, but it is the disused quarries, dismantled railway lines and river valleys that support most of the remaining semi-natural limestone habitats within the county. Unmodified sections of these rivers support a characteristic emergent flora dominated by branched bur-reed *Sparganium erectum*.

Woodland cover in this division is patchy, but there are some areas with significant tracts of woodland. The Annesley and Warsop areas support several ancient woodlands that overlie the Coal Measures and Permian Mudstones. Many have been coniferised, but extensive areas of broadleaved woodland still exist and in places are of significant botanical interest with species such as wood barley *Hordelymus europaeus* and columbine *Aquilegia columbinum*. Woodlands on the limestone are less common, but are of equal botanical interest and support species such as nettle-leaved bellflower *Campanula trachelium*, large-leaved lime *Tilia platyphyllos* and Solomon's seal *Polygonatum multiflorum*.

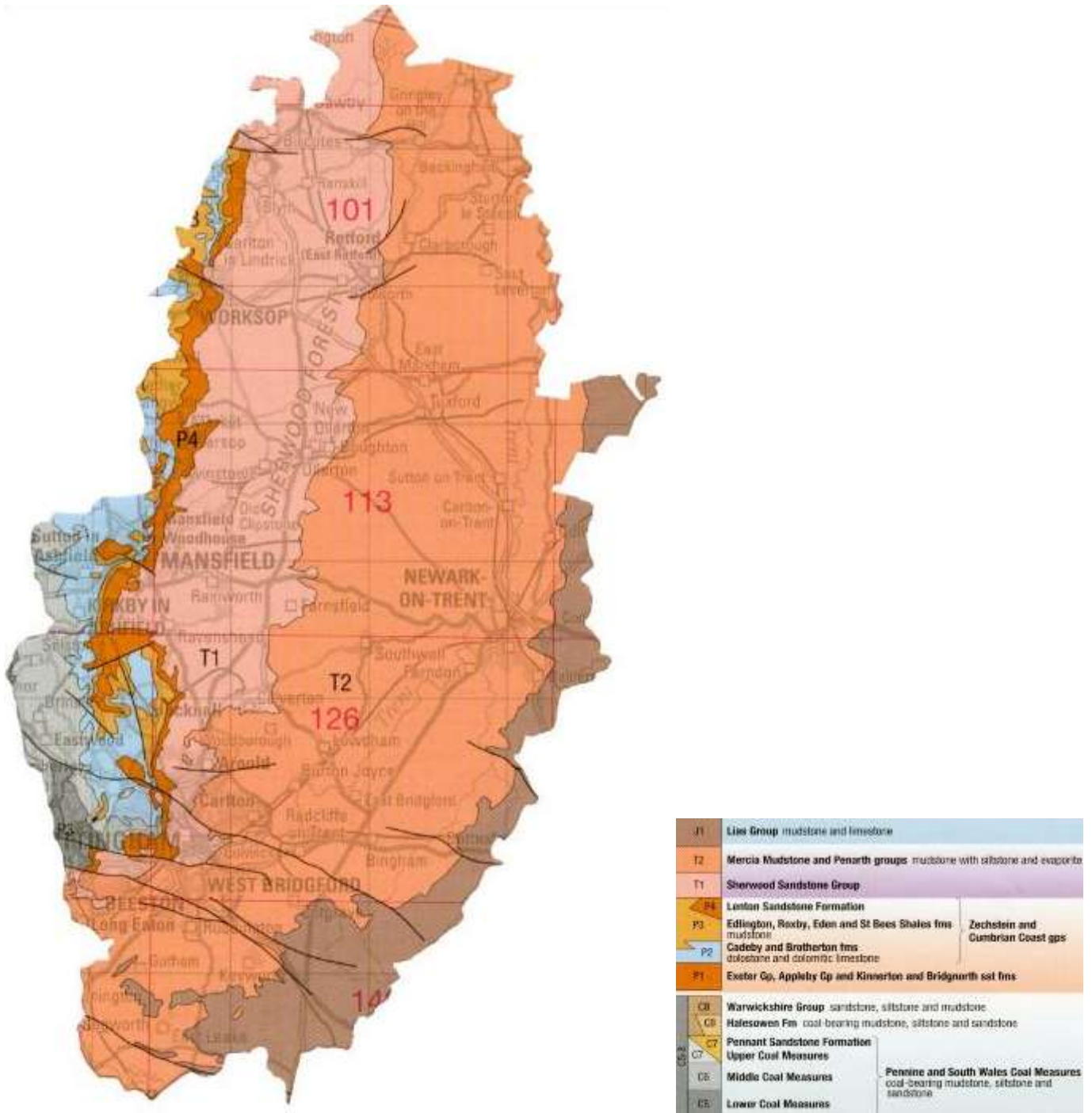


Figure 1. Nottinghamshire bedrock geology

Extracted from British Geological Survey 1:625 000 scale Bedrock Geology map, 5th ed. 2007. (CP13/031 British Geological Survey © NERC. All rights reserved. Topographic base map © HarperCollins Publishers Ltd. 2007).

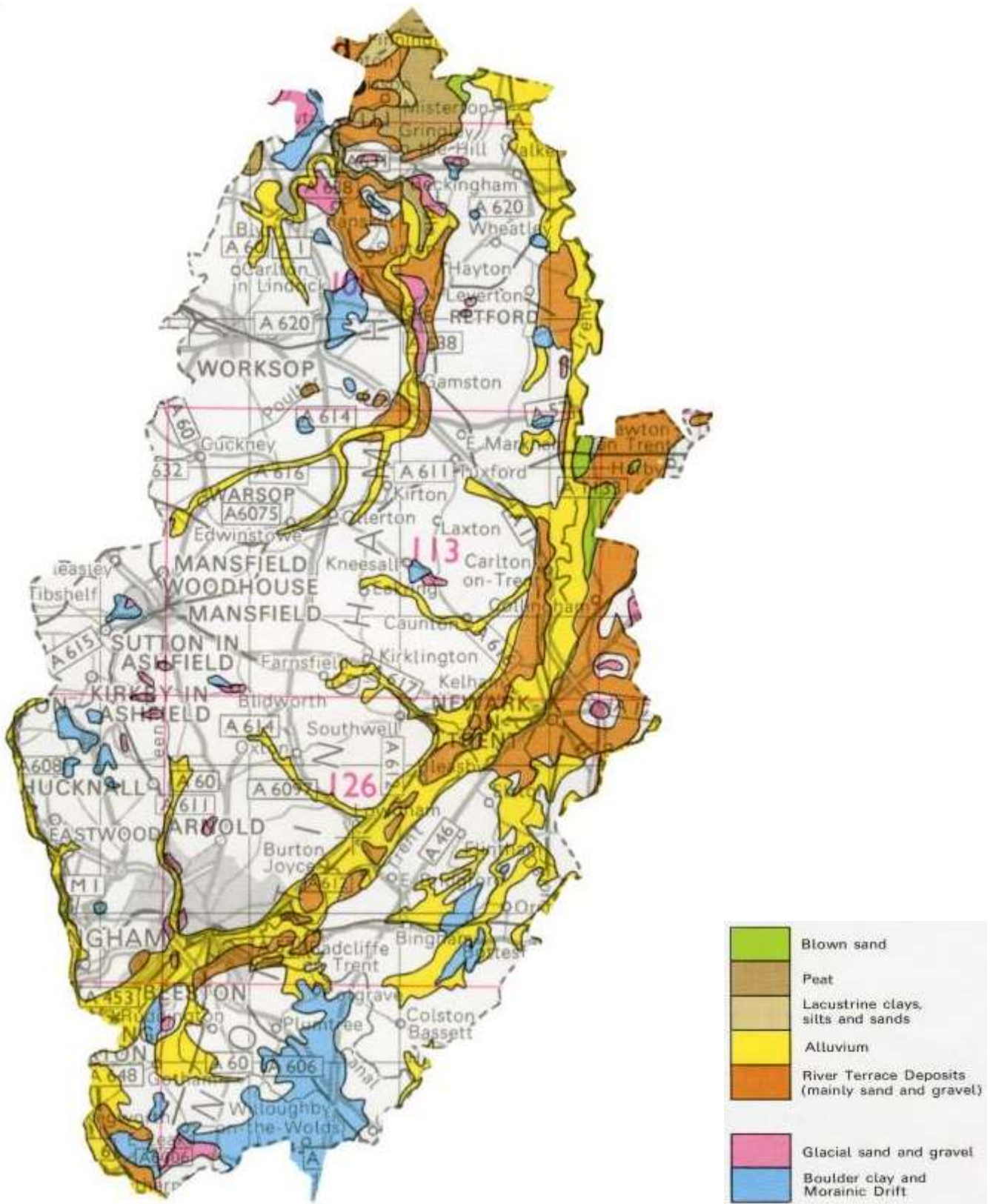


Figure 2. Nottinghamshire superficial geology

Extracted from British Geological Survey 1:625 000 scale Quaternary map, 1977. (CP13/031 British Geological Survey © NERC. All rights reserved. Contains Ordnance Survey data © Crown copyright & database rights 1977).

II. Permo-Triassic Sandstones

The Sherwood Sandstone Group (formerly named the Bunter Sandstone) and Lenton Sandstone Formation (formerly Lower Mottled Sandstone) together, occupy a belt of land stretching northward from Nottingham into Yorkshire, with an outcrop width of up to 14km. A large part of the division underlies Sherwood Forest, an area of approximately 40,000 ha that was Royal Forest until the end of the sixteenth century. Up to the beginning of the twentieth century the sandy soils of this area supported extensive areas of heathland, acid grassland, open birch woodland and bracken. Following the break-up of the Royal Forest, much of the land passed into the ownership of a few families and areas such as Welbeck, Osberton, Thoresby, Rufford and Clumber Park became known as the Dukeries. To this day Osberton, Thoresby and Welbeck are still privately owned estates. The National Trust purchased Clumber Park, whereas the Rufford estate was sold off piecemeal with Nottinghamshire County Council taking over the gardens and ruins of the hall and abbey.

During the twentieth century the Forestry Commission and private landowners afforested vast areas of heathland. More productive soils were agriculturally improved and converted to arable cropping maintained by repeated inputs of artificial fertiliser. The legacy is a landscape of large conifer woodlands and relatively large arable fields with poor, scrubby hedgerows. Despite the widescale changes, rare and scarce plants have managed to persist on the scattered fragments of heathland, woodland rides, sand pits and other marginal lands. In recent years there has been a major change in woodland policy, which has seen a return to heathland at the expense of conifer plantations, along with targeted management of semi-natural habitats. This change of policy appears to be having a beneficial impact on the characteristic plants of the area, with heathland, acid grassland and ruderal habitats all significantly increasing their extent over the last decade.

The rivers Meden, Maun, Ryton, and Rainworth Water flow across the Sherwood Forest area, draining eastward to join the rivers Idle and Trent. There are few rare plants associated with the rivers, but the estates through which some of the rivers flow have created lakes by damming the rivers in close proximity to the Great Houses. The margins of the lakes add to the local botanical interest and in some cases support scarce species such as wild celery *Apium graveolens*. The River Leen also flows through the Sherwood Forest area, but originates at the south end of the Forest and, unlike the other rivers, flows in a south-westerly direction from Newstead towards Nottingham, where it joins the River Trent at Lenton. The margins of the river support a fairly species-rich botanical assemblage, and where the river traverses the Permian dolomitic limestone, rare plants such as whorl grass *Catabrosa aquatica* can be found.

III. Mercia Mudstone Group

This group of formations, formerly named the Keuper, consists predominantly of red-brown mudstones with a significant sandstone at its stratigraphical base (Sneinton Formation, formerly named Keuper Waterstones) and numerous indurated siltstone and sandstone 'skerries' which form upstanding topographic features. The group is of wide extent and occupies half of the county. It underlies the Trent Valley from Nottingham to Newark, but for the most part gives rise to a rolling rural landscape dotted with small villages. Nowadays the land is mostly arable, being used for cereal and rape crops. The remaining areas of wetter land that still support grassland are fragmented and confined to small fields, many of which are grazed by ponies rather than farm livestock. The Sneinton Formation occupies the western area of the Mercia Mudstone outcrop; its flaggy sandstones and siltstones give rise to an undulating incised topography yielding a light, slightly acid clay soil that supports 'heathy' semi-natural vegetation with species such as heath milkwort *Polygala serpyllifolia*. Woodlands are most prevalent on the slopes of scarps and tend to be oak-birch dominated with fern-rich field layers. The mudstones which form the greater part of this group yield slightly calcareous silt and clay soils, which support a calcicolous semi-natural flora. Gypsum has long been either mined or quarried from various horizons in the Mercia Mudstone, but most operations have been confined to the south-eastern edge of the outcrop, between Gotham and Newark, where former opencast workings provide a substrate for semi-natural calcareous grassland.

The woodlands, which are often located on the wetter clay soils, are some of the most botanically diverse in the county, with a mixed canopy of tree and shrub species subject to local variation. Some of the richest woodlands in the county are located on the Mercia Mudstone and rare and scarce species such as greater butterfly orchid *Platanthera chlorantha*, small teasel *Dipsacus pilosus* and bird's nest orchid *Neottia nidus-avis* are present. Between Nottingham and Southwell there are several fern-rich strips of broadleaved woodland, which occupy narrow gorges known as Dumbles. These are small streams, which run over skerry beds and cut through the softer clays. In places they are impenetrable, but they can support a diverse flora represented by both calcicoles and calcifuges.

IV. Lias Group

This group is located along the southern and eastern margin of the county and consists of grey mudstone with bands of flaggy grey limestone. The mudstone weathers to sticky clay, which is calcareous. The semi-natural grasslands of this group support a typical calcareous grassland flora which has a similar suite of species to the Permian dolomitic limestone assemblages, but there are more species normally associated with the south of England. Arable land supports cereal production and there are species in this division, such as spreading hedge parsley *Torilis arvensis*, night-flowering catchfly *Silene noctiflora* and corn gromwell *Lithospermum arvense*, that are absent or very rare elsewhere in the county. The limestones were formerly worked for the manufacture of hydraulic cement, most notably at Barnstone.

V. Superficial Deposits of Glacial and Recent age (Figure 2)

Nottinghamshire is relatively free of glacial deposits, but in the south of the county a large sheet of glacial till (boulder clay of older usage) caps the Lias Group. This sheet, the Oadby Till, forms the Nottinghamshire Wolds, a rolling landscape of low hills. The flora is not dissimilar to that of the Lias mudstones, from which, in part, this silty-clay stony till is derived. Small, localised patches of till occur in other parts of the county, their composition commonly reflecting that of the underlying bedrock. The tills may be associated with small spreads and pockets of glacially-derived sand and gravel, which support an acid grassland flora.

The floodplain of the River Trent is characterised by neutral river gravels, which produce light sandy soils that support a heathy flora with species such as common cudweed *Filago germanica*. There are however extensive areas of calcareous gravels, which support a calcicolous flora similar to the assemblage that is found on calcareous mudstones adjacent to the floodplain. Virtually all of the semi-natural floodplain grasslands have been agriculturally improved in the last 50 years and nowadays support a species-poor sward, but relict areas of grassland can still be found on the margins of the numerous gravel-pits alongside the river.

Within the floodplain there are numerous gravel-pits, ox-bow lakes and borrow pits, which provide habitats for a diverse aquatic and wetland flora. Some of these areas were planted with willows, which supported a thriving basket industry until the start of World War II. Relic patches of willows *Salix* spp. are still found on the banks of the river and in marginal areas of the floodplain, species such as green-leaved osier *Salix x rubra* are indicative of relic willow holts. The tidal section of the River Trent is characterised by finer silts, which give rise to extensive areas of pasture grassland that is productive and relatively species-poor. The margins of the river that are not reinforced support an inundation flora that can be diverse, with a mix of species such as oak-leaved goosefoot *Oxybasis glauca* and sea aster *Tripolium pannonicum* adapted to both brackish and freshwater habitats.

The River Soar in the south of the county has similar characteristics to the Trent, but has been less modified in the latter part of the twentieth century. As a consequence, the margins of the river support extensive and diverse assemblages of emergent plants that are reduced to isolated fragments on the banks of the River Trent. Rare species associated with the River Soar include the only remaining population of shining pondweed *Potamogeton lucens* left in the county.

To the east of the River Trent is an area of light soils associated with the former course of the Trent. The lightest soils are blown sands, which form inland dune systems and are of very limited agricultural use. The less mobile soils support a heathland type flora, which is stabilised by sand sedge *Carex arenaria*, which is characteristic of this area. The less stable areas and lightest soils support a range of rare and scarce species such as smooth cat's-ear *Hypochaeris glabra*, shepherd's-cress *Teesdalia nudicaulis* and blue fescue *Festuca longifolia*.

At the north end of the county is an area of fenland on the southern fringe of the more extensive fenland of Hatfield Chase and the Isle of Axholme. The area has an extensive cover of superficial deposits including alluvium, peat, blown sand, old river terrace and glacial deposits. The fenland has been much modified following drainage works started by Vermuyden in the seventeenth century. The land is drained by the rivers Idle, Torne, Went and Don, which before modification formed a complex pattern of channels and pools that were flanked by mires and swamp. Numerous drainage schemes since the seventeenth century have resulted in uniform, canalised river channels along with numerous field and flood drains, which rapidly transfer water into the River Idle and neighbouring flood channels. As a consequence, the botanical interest is nowadays largely restricted to the drains and a few sites such as Misson Carr and Misson Line Bank, which have managed to escape wholesale modification. These sites support a large number of rare and scarce wetland and aquatic plants such as whorled water milfoil *Myriophyllum verticillatum*, lesser marshwort *Helosciadium inundatum* and lesser water plantain *Baldellia ranunculoides*.

See Appendix IV for further details about the availability of geological information for Nottinghamshire.

Criteria for Inclusion in the Register

A total of 415 extant taxa are described in the register, which includes details of 122 extinct (as a native) or probably extinct taxa. Taxa are listed under international, national and county criteria as being nationally rare or scarce; or listed as occurring in IUCN categories (Great Britain or England); or are listed as Local Biodiversity Action Plan species. The decision to include extinct species is influenced by the re-appearance of taxa that were not recorded for over a century. Examples include grass-poly *Lythrum hyssopifolia* and small-flowered catchfly *Silene gallica*, which re-appeared in the VC after a gap of 271 years and 119 years respectively. The first and second editions included an additional section containing taxa that occupied more than ten 1km squares in the VC. Such taxa have showed obvious declines since 1970 or have always had a restricted distribution within the county. In both cases the taxa are vulnerable to losses and without protection are at threat of further decline.

The register includes species, which are native in the British Isles, though not necessarily native in Nottinghamshire. In some cases, taxa have been included such as large-leaved lime *Tilia platyphyllos* and whitebeam *Sorbus aria*, which have been recorded as both native and introduced in the county. Native x neophyte hybrids and archaeophyte x neophyte hybrids are also included in the register.

For the most part, the botanical and common names follow the nomenclature of Stace (2019) and the species are arranged in alphabetical order. There are, however, exceptions to provide continuity with historical records. An example is the elms *Ulmus* spp., which also makes use of the relevant volumes of Sell & Murrell (1996 to 2018).

Changes to the Register

This edition of the register has excluded the additional section given that the preparation of a county flora is intended within the next few years and full descriptions of such taxa will be included. Table 1 lists those species that are at threat of further declines or have been excluded from this edition, but were included in either of the previous two editions. Appendix I summarises the conservation criteria for each species described in the text.

Table 1. Declining or Uncommon Species

Taxon	Common name	Conservation Status
<i>Agrimonia procera</i>	Fragrant agrimony	Uncommon
<i>Asplenium ceterach</i>	Rustyback fern	Uncommon
<i>Brassica oleracea</i>	Wild cabbage	Uncommon casual
<i>Bromus racemosus</i>	Smooth brome	Uncommon
<i>Callitriche brutia</i> subsp. <i>hamulata</i>	Intermediate water starwort	Uncommon
<i>Carduus x stangii</i>	Musk thistle x welted thistle	Uncommon
<i>Carex arenaria</i>	Sand sedge	Uncommon and localised
<i>Carex divulsa</i> subsp. <i>divulsa</i>	Grey sedge	Uncommon and possibly increasing
<i>Carex lepidocarpa</i>	Long-stalked yellow-sedge	Uncommon and localised
<i>Carex pallescens</i>	Pale sedge	Declining
<i>Chrysosplenium alternifolium</i>	Alternate-leaved golden saxifrage	Uncommon and localised
<i>Dactylorhiza purpurella</i>	Northern marsh-orchid	Uncommon and previously overlooked
<i>Dipsacus pilosus</i>	Small teasel	Uncommon and localised
<i>Epilobium x floridulum</i>	Hoary x American willowherb	Uncommon
<i>Epilobium x interjectum</i>	Broadleaved x American willowherb	Uncommon (possibly under-recorded)
<i>Epilobium x limosum</i>	Hoary x broadleaved willowherb	Uncommon (possibly under-recorded)
<i>Epilobium x palatinum</i>	Hoary x square-stemmed willowherb	Uncommon (possibly under-recorded)
<i>Equisetum sylvaticum</i>	Wood horsetail	Uncommon and localised
<i>Erophila glabrescens</i>	Glabrous whitlow-grass	Uncommon and previously overlooked
<i>Galium palustre</i> subsp. <i>elongatum</i>	Marsh bedstraw	Uncommon and probably overlooked
<i>Geranium rotundifolium</i>	Round-leaved crane's-bill	Uncommon
<i>Geum x intermedium</i>	Water x Wood avens	Uncommon and localised
<i>Hypericum maculatum</i>	Imperforate St. John's-wort	Uncommon and probably overlooked
<i>Hypericum x desetangsii</i>	Des Etangs St. John's-wort	Uncommon and probably overlooked

Taxon	Common name	Conservation Status
<i>Lathyrus sylvestris</i>	Narrow-leaved Everlasting-pea	Uncommon
<i>Linaria repens</i>	Pale toadflax	Uncommon and possibly increasing
<i>Lythrum portula</i>	Water purslane	Declining
<i>Mentha x piperata</i>	Peppermint	Uncommon
<i>Mercurialis annua</i>	Annual mercury	Uncommon (sometimes casual)
<i>Narcissus pseudonarcissus</i> subsp. <i>pseudonarcissus</i>	Wild daffodil	Declining
<i>Orobanche minor</i>	Common broomrape	Uncommon
<i>Parentucellia viscosa</i>	Yellow bartsia	Uncommon and possibly increasing
<i>Paris quadrifolia</i>	Herb paris	Uncommon and localised
<i>Polygonatum multiflorum</i>	Solomon's-seal	Declining
<i>Populus nigra</i> subsp. <i>betulifolia</i>	Black poplar	Uncommon and localised
<i>Potamogeton berchtoldii</i>	Small pondweed	Declining
<i>Potamogeton x lintonii</i>	Flat-stalked x Curled pondweed	Declining, probably scarce
<i>Ranunculus peltatus</i>	Pond Water-crowfoot	Uncommon
<i>Ranunculus sardous</i>	Hairy buttercup	Uncommon (sometimes casual)
<i>Rosa caesia</i> sens. lat.	Northern dog-rose	Uncommon (requires segregation)
<i>Rosa sherardii</i>	Sherard's downy rose	Uncommon
<i>Salix pentandra</i>	Bay willow	Uncommon and localised
<i>Salix x multinervis</i>	Eared x Grey willow	Uncommon and probably overlooked
<i>Salix x reichardtii</i>	Goat x Grey willow	Widespread and overlooked
<i>Scirpus sylvaticus</i>	Wood Club-rush	Uncommon and localised
<i>Sorbus aria</i>	Common whitebeam	Uncommon, frequently planted
<i>Spirodela polyrhiza</i>	Greater duckweed	Uncommon and localised
<i>Stachys x ambigua</i>	Hedge x Marsh woundwort	Uncommon and localised
<i>Stellaria neglecta</i>	Greater chickweed	Uncommon and probably overlooked
<i>Thymus drucei</i>	Wild thyme	Uncommon and localised
<i>Torilis nodosa</i>	Knotted hedge-parsley	Declining
<i>Verbascum nigrum</i>	Dark mullein	Uncommon
<i>Verbena officinalis</i>	Vervain	Uncommon
<i>Vicia sylvatica</i>	Wood vetch	Uncommon and localised

Since the first edition, a Vascular Plant Red List for England has been published, Stroh *et al* (2014). For the first time this register includes those species that were classified under IUCN criteria for England only. Although some species are still relatively common and in some cases are expanding because of active intervention, other once common species are rapidly declining in England and such declines are likely to influence future conservation action at county level. Table 2 lists the taxa that are new to this edition because of their inclusion in Stroh *et al* (2014).

Table 2. Red List Plant Species for England

Taxon	Common name	Conservation Status
<i>Briza media</i>	Quaking Grass	Near Threatened
<i>Calluna vulgaris</i>	Heather	Near Threatened
<i>Campanula rotundifolia</i>	Harebell	Near Threatened
<i>Carlina vulgaris</i>	Carlina Thistle	Near Threatened
<i>Cerastium arvense</i>	Field Mouse-ear	Near Threatened
<i>Cerastium arvense x tomentosum</i>	Hybrid Mouse-ear	County Rare
<i>Cichorium intybus</i>	Chichory	Vulnerable
<i>Erica cinerea</i>	Bell heather	Near Threatened
<i>Hydrocotyle vulgaris</i>	Marsh pennywort	Near Threatened
<i>Knautia arvensis</i>	Field scabious	Near Threatened
<i>Lathyrus linifolius</i>	Bitter vetch	Near Threatened
<i>Lepidium campestre</i>	Field pepperwort	Near Threatened
<i>Logfia minima</i>	Small cudweed	Near Threatened
<i>Mentha arvensis</i>	Corn mint	Near Threatened
<i>Nardus stricta</i>	Mat grass	Near Threatened
<i>Ononis spinosa</i>	Spiny restharrow	Near Threatened
<i>Oxalis acetosella</i>	Wood sorrel	Near Threatened

Taxon	Common name	Conservation Status
<i>Potentilla erecta</i>	Tormentil	Near Threatened
<i>Ranunculus flammula</i>	Lesser spearwort	Vulnerable
<i>Sanicula europaea</i>	Wood sanicle	Near Threatened
<i>Silene flos-cuculi</i>	Ragged-robin	Near Threatened
<i>Succisa pratensis</i>	Devil's-bit scabious	Near Threatened
<i>Trifolium fragiferum</i>	Strawberry clover	Vulnerable
<i>Valeriana officinalis</i>	Common valerian	Near Threatened
<i>Veronica officinalis</i>	Heath speedwell	Near Threatened

Exclusions

Stoneworts *Characeae*, microspecies of Dandelions *Taraxacum* spp. and Brambles *Rubus* spp. have been omitted, because of the lack of targeted surveys in modern times. There is a lack of hawkweed *Hieracium* spp. records, because there are relatively few taxa that are present in the county and most do not fulfil any of the criteria for inclusion in this register; the less common taxa are under-recorded. Howitt & Howitt, 1963 contained records of several elms *Ulmus* spp., that are not treated as separate taxon by Stace 2019. Aside from Howitt's post 1963 records there is a general lack of elm records that refer to the nomenclature adopted by Sell & Murrell, 2018.

Records and Recorders

The records contained in this register originate from a variety of sources, with the joint Vice County Recorder David Wood being responsible for largest number of records. However, significant contributions have been provided from a large number of recorders, increasingly so because of recent surveys for the National Atlas update. Records have also been collected by systematic recording at various geographic scales such as hectad recording for the BSBI National Atlas scheme (before 1999), tetrad recording for the BSBI Local Change Project and Atlas 2020 project, and sites visits to County Wildlife Sites organised by the Nottinghamshire Biological and Geological Records Centre (NBGRC). Recording schemes carried out by other conservation organisations such as the Nature Conservancy Council and Nottinghamshire Wildlife Trust under various initiatives and schemes have also made a significant contribution to the work. After 56 years of recording there is now sufficient information to be confident that the distribution and abundance of the county's rare and scarce plants is relatively well known and any changes can be readily detected and updated each time a new edition of the register is prepared.

In some cases, the origin of records has been allocated to an organisation rather than an individual because the names of individuals were not recorded. For example, the Nature Conservancy Council (NCC) carried out systematic surveys of ditches and drains in the north of the county during the early 1980s and the Natural History Museum at Wollaton Hall (Nottinghamshire Biological & Geological Records Centre) organised county surveys in the 1970s, 1980s and 1990s. Some of the historic records do not contain the names of the recorders, but such records are usually associated with organised recording schemes that were carried out by competent field surveyors. The names of all of the known recorders who have contributed to this register are listed in Appendix III.

Confidentiality

It is the policy of this register to try and provide the most detailed information available with regards to the distribution and abundance of rare taxa in the county. As a general rule, the location of plants is provided at 100m x 100m resolution, but there are exceptions. There are private landowners who do not wish to provide detailed locations of the whereabouts of plants on their land. In such cases plant records are provided at monad or hectad scale.

Many of the rare and scarce plants included in this register grow on private property and the publication of their locations does not provide a right of access without landowner permission. For the most part landowners are likely to grant access to visit sites with rare or scarce plant species upon receipt of a courteous request, but exceptions may occur because of considerations such as site safety.

Extant and Extinct Taxa

The extant taxa in this part of the register qualify under the following categories:

- Endemic to Britain (see Cheffings & Farrell 2005);
- Restricted distribution internationally (EC Habitats and Species Directive Annex IIb, IVb or Vb; or Appendix I of the Bern Convention or Appendix I or II of CITES);
- Schedule 8 of the Wildlife and Countryside Act 1981;
- IUCN criteria: Critically Endangered, Endangered, Vulnerable and Near Threatened for the UK (Cheffings & Farrell 2005) or England (Stroh et al, 2014);
- Nationally rare (occurring in 15 or fewer 10km squares in Britain);
- Nationally scarce (occurring in between 16 and 100 10km squares in Britain);
- County rare (occurring in 1 to 3 monads in VC56);
- County scarce (occurring in between 4 and 10 monads in VC56), and
- Nottinghamshire Local Biodiversity Action Plan Species (LBAP).

Extinct taxa have been historically recorded in the county, but are no longer extant.

Distribution maps in the text are separated into three date classes:

Date Class **Colour**

1970 – 1985 ●

1985 – 1999 ●

2000- 2019 ●

Adiantum capillus-veneris L.

Maidenhair Fern

National Status: Least Concern (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Rare

Monads: 2

As a native, maidenhair fern *Adiantum capillus-veneris* is mainly found near to the coasts in southern England on damp calcareous cliffs. Inland it is introduced or an escape that is occasionally found growing out of mortar on sheltered walls or in old greenhouses. The two recent records for the VC are both located on sheltered walls. The original record for Hodsock Priory is undated and the recorder is unknown, however, during 2013, the presence of the plant was confirmed.

Location	GR	Date	Recorder
Hodsock Priory Wall	SK611854	2013	RAJ
Tottle Brook Retaining Wall	SK522387	2003	RAJ

Adonis annua L.

Pheasant's Eye

National Status: Endangered (GB and Eng.), Nationally Rare

Nottinghamshire Status: County Rare

Pheasant's eye *Adonis annua* has been recorded four times in the VC. The earlier records originate from an unspecified location near Bingham and Welbeck chicken grounds. More recently R.C.L. and B.M. Howit recorded the species on a railway line and most recently there is an unconfirmed record from Cottam Power Station.

Location	GR	Date	Recorder
Bingham	SK73	1863	Unknown
West Park, Welbeck	SK57M	1915	RG
Normanton-on-Soar Railway	SK5324	1966	RCLH, BMH
Cottam Power Station	SK818798	2013	Jacobs

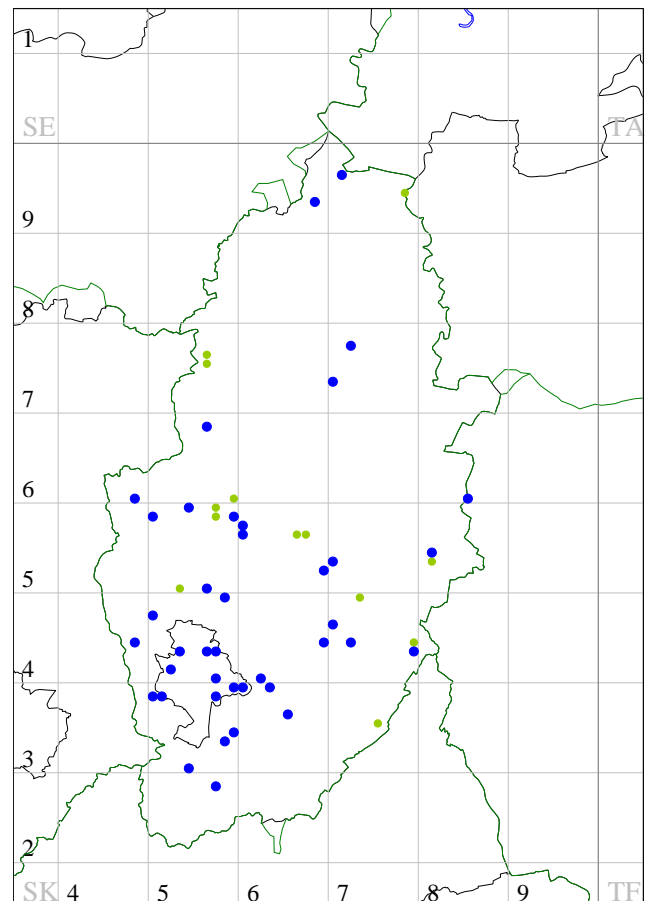
Agrostemma githago L.

Corncockle

National Status: Waiting List (GB and Eng.)

Nottinghamshire Status: Uncommon (as a neophyte)

Monads: 14 (1970-1999) 39 (2000-2019) as a neophyte, 1 as an archaeophyte



Corncockle *Agrostemma githago* is an annual weed of arable crops, which is possibly extinct in the VC as an archaeophyte. R.C.L. Howitt was the last person to record the species as a confirmed archaeophyte in the northwest of the VC. Nowadays the species is often a component of wildflower seed mixes and all but one of the modern records at Collingham (R. Johnson, 2012) are either deliberate introductions or garden escapes, often casual and not persisting.

Agrostis x fouilladeana Lambinon & Verloove *A. capillaris x castellana*

National Status: Data deficient
Nottinghamshire Status: Rare
Monads: 1

Stace, Preston, Pearman, 2015 states that this hybrid must be overlooked in Britain, given its frequent occurrence in countries where Highland bent-grass *Agrostis castellana* is native and the frequency with which Highland bent is sown in Britain, alongside common bent-grass *Agrostis capillaris*. It is probably overlooked because the characteristic features of the hybrid are intermediate and require detailed examination of the lemmas and ligules and can be easily overlooked in the field. The only record to date was found by D.C. Wood in his own garden.

Location	GR	Date	Recorder
Edwalton	SK600356	2015	DCW

Agrostis x murbeckii Fouill. Ex P. *A. capillaris x stolonifera* Fourn.

National Status: Data deficient
Nottinghamshire Status: Scarce
Monads: 6

This hybrid is a vigorous, highly sterile tetraploid that has been recorded from scattered localities in Britain. It is widespread in northern Europe and is probably common in Britain wherever the parents occur together, Sell & Murrell (1996). In the VC this hybrid was not recorded before 1970, but since that time it has been recorded at two sites and it is probably under-recorded.

Location	GR	Date	Recorder
Holme Pierrepont Gravel Pits	SK6037	1988	DCW
Holme Pierrepont Gravel Pits	SK6038	1988	DCW
Holme Pierrepont Gravel Pits	SK6137	1988	DCW
Holme Pierrepont Gravel Pits	SK6138	1988	DCW
Holme Pierrepont Gravel Pits	SK6238	1988	DCW
Willow Park	SK689673	2010	MW

Alchemilla xanthochlora Rothm. Pale Lady's-mantle

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 3

Predominantly found in northern England and becoming rare to the south. In Nottinghamshire, the records are associated with base-rich soils. The records from the Skegby grasslands have not been re-found since the 1970s and are probably no longer extant. The Thieves Wood site is associated with a limestone-surfaced forestry track and the Tranker Wood grassland is a former sports field on base-rich clays.

Location	GR	Date	Recorder
Tranker Wood Grassland	SK570802	2012	GC
Skegby Grassland	SK493617	1978	KLJ, NRL, CGC

Location	GR	Date	Recorder
Skegby Grassland	SK492622	1978	KLJ, NRL, CGC
Thieves Wood	SK546565	2001	DCW

Alisma x rhinocarpum Schotsman

Alisma plantago-aquatica x lanceolatum

National Status: Rare
Nottinghamshire Status: Rare
Monads: 1

Since 1980 this rare hybrid has been described from eight localities in the British Isles and in South Nottinghamshire it is present with both parents in a farm pond.

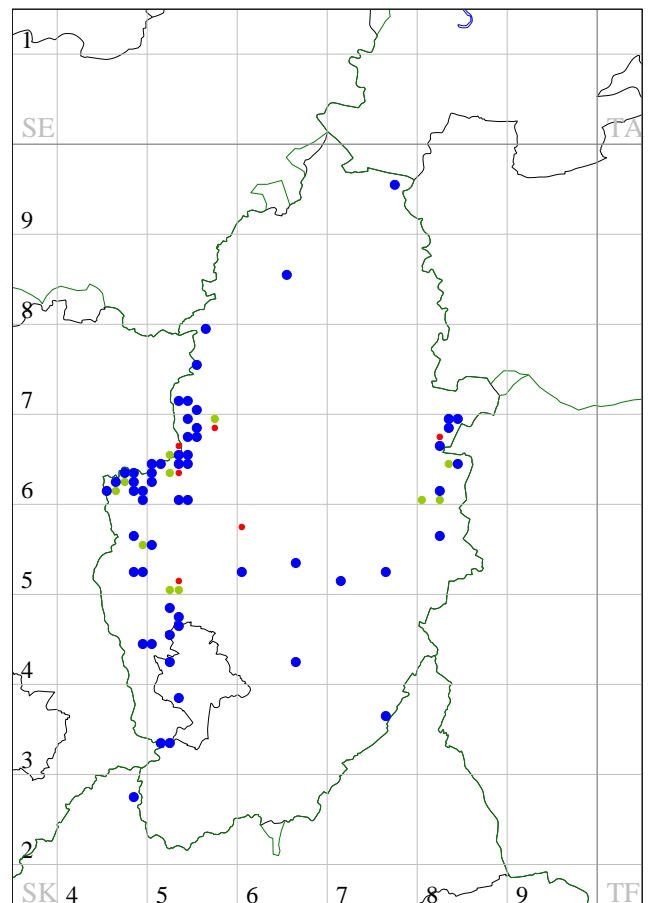
Location	GR	Date	Recorder
Stanton-on-the-Wolds Pond	SK649304	2010	DCW

Allium oleraceum L.

Field Garlic

National Status: Vulnerable (GB), Least Concern (Eng.), Nationally Scarce
Nottinghamshire Status: Local
Monads: 72

Field garlic *Allium oleraceum* is a bulbous perennial herb that grows in dry grassy places, usually on circum-neutral to base-rich soils. Most of the records in Nottinghamshire are associated with the Magnesian Limestone formations. Nationally there is evidence to suggest that the species has undergone declines, Preston, Pearman & Dines (2002), but this does not appear to be the case in Nottinghamshire. Howitt & Howitt (1963) stated that the species was uncommon, but widespread and the number of records since 1970 suggests that declines have not occurred. However, the species may have been under recorded or mis-recorded as wild onion *Allium vineale*.



Wild garlic *Allium oleraceum* at Bulwell Hall Park

Source: S. Hammonds

Allium scorodoprasum L.

Sand Leek

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Scarce
Monads: 6

Before 1970 sand leek *Allium scorodoprasum* was recorded only once in the east of the VC, at ballast pits near Barnby Moor, Howitt & Howitt (1963). Since 1970 the species has not been re-found at this site and the extant sites are a considerable distance from Barnby Moor. A population is present on the base-rich clays in the centre of the county on the verge of a ride in Kirton Wood SSSI and the population at Harworth is on a roadside verge on sandy soils; most of the population is located in Southwest Yorkshire (VC63). The other two larger populations are located in the northeast of the county at various locations alongside the River Idle. The population at Misterton extends along a 1km section of sandy riverbank and at West Stockwith the population extends along a 1.2km section of the floodbank. Surveys in 2015 and 2016, confirmed the presence of the populations at Misterton and West Stockwith, but competition with butterbur *Petasites hybridus* appears to be causing population declines.

Location	GR	Date	Recorder
River Idle, Misterton	SK783949	2015	RAJ
River Idle, Misterton	SK782949	2003	DCW, RAJ
River Idle, Misterton	SK778953	2003	DCW, RAJ
River Idle, Misterton	SK778952	2016	JC
River Idle, Misterton	SK773956	2011	DCW, RAJ
River Idle, Misterton	SK773955	2016	DaS
River Idle, Misterton	SK779950	2011	DCW, RAJ
River Idle, Misterton	SK779952	2011	RAJ
River Idle, Misterton	SK777953	2011	RAJ
Kirton Wood	SK708686	2012	DCW, RAJ
River Idle, West Stockwith	SK786950	2015	RAJ
River Idle, West Stockwith	SK787949	2011	RAJ
River Idle, West Stockwith	SK787950	2011	RAJ
River Idle, West Stockwith	SK780950	2011	RAJ
River Idle, West Stockwith	SK786950	2011	RAJ
River Idle, West Stockwith	SK787950	2011	RAJ
River Idle, West Stockwith	SK786951	2011	RAJ
A631 Trunk Road (south side), Harworth	SK627925	2012	DCW, MW, RAJ

Alnus incana (L.) Moench. x *Alnus cordata* (Loisel.) Duby

Hybrid Alder

National Status: Nationally Rare
Nottinghamshire Status: Scarce
Monads: 6

This hybrid has been found at six locations including two new locations (in bold) since 2012. Six locations are associated with landscape reclamation schemes on, or close to, colliery tips where both parents have been planted together. A sapling has also been found at Collingham Gravel Pits on disturbed, sandy soils close to planted trees. The 2002 Bentinck Colliery Tip record is likely to be the first record in the wild, because the native distributions of the two species are geographically isolated and as such, the hybrid has been given native status. The distribution of *Alnus cordata* is restricted to small areas of the southern Apennines and mountains in northeastern Corsica at altitudes between 200m and 1600m and *A. incana* is found in the Carpathian Mountains, a distance of over 1000km between the two species.

Location	GR	Date	Recorder
Bentinck Colliery Tip	SK490548	2002	DCW
Kirkby Bentinck Track	SK48435475	2014	DCW, MW
Harworth Colliery Tip	SK615901	2004	DCW
Gedling Colliery Tip	SK613437	2012	DCW
Freckland Wood, Newstead Colliery Tip	SK527521	2012	MW
Collingham Gravel Pits	SK8140662822	2013	MW, DCW
Langold Colliery	SK58208584	2018	MW
Langold Colliery	SK58208608	2018	MW

Alnus x elliptica Req.*Alnus glutinosa* (L.) Gaertn. x *A. cordata* (Loisel.) Duby

National Status: Nationally Rare
Nottinghamshire Status: Rare
Monads: 2

This hybrid was first found on the shoreline of a gravel pit at Hoveringham, in the River Trent valley. It was found growing with both parents, which were planted together as part of a landscape restoration scheme following the cessation of gravel extraction. The 2006 record at Hoveringham is believed to be the first time this hybrid was confirmed in the British Isles, but in 2001 the unconfirmed hybrids were recorded at two sites where both parents were growing in close proximity. This information was not available for the previous editions of this register.

Location	GR	Date	Recorder
Hoveringham Gravel Pits	SK717478	2006	DCW
Bentinck Colliery Tip	SK489549	2013	DCW

Alopecurus aequalis Sobol.

Orange Foxtail

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 3

Preston, Pearman & Dines (2002) state that between 1962 and 1999, orange foxtail *Alopecurus aequalis* appears to have declined nationally, but losses may have been offset by the species ability to readily colonise new sites. The situation may have also been confused by the species lack of appearance in years when water levels remain high and the ease with which the species can be mistaken for marsh foxtail *Alopecurus geniculatus*. In the VC the species was first recorded in 1939 at Haxey and since then has only been recorded at four other sites at the edge of lakes or ponds. The Eastwood Hall site is no longer extant and essentially the species is considered to be a casual in VC56.

Location	GR	Date	Recorder
Eastwood Hall	SK463476	1973	RCLH

Location	GR	Date	Recorder
Bestwood Country Park (Colliery Tip)	SK556469	1990	Woll.
River Leen subsidence pond, Hucknall.	SK550493	1991	GL
Bleasby Gravel Pits	SK705493	2008	RAJ, DCW
Bleasby Gravel Pits	SK706493	2008	RAJ

Alopecurus x brachystylus
Peterm.

A. geniculatus x pratensis

National Status: Data Deficient
Nottinghamshire Status: Extinct

A highly sterile hybrid that is intermediate in characters and habitat. It is found by ditches and streams, being scattered throughout lowland Britain and widespread in continental Europe. It was last recorded in Nottinghamshire in 1905 near Kegworth Bridge on the River Soar.

Location	GR	Date	Recorder
River Soar, Kegworth	SK4927	1905	JWC

Anacamptis morio (L.) R.M. Bateman, Green-winged Orchid
Pridgeon & M.W. Chase

National Status: Near Threatened (GB), Vulnerable (Eng.), Nationally Scarce
Nottinghamshire Status: Scarce
Monads: 9 (since 2000)

In the VC green-winged orchid *Anacamptis morio* was formerly common and widespread in meadows on basic soils, but the loss of unimproved grasslands since 1945 has caused dramatic declines. Since 1970, the species has been recorded at 17 sites, but is probably extant at only nine sites. The loss of two populations at Treswell (SK791795) and Annabel's Farm (SK6125-6126) has been caused by agricultural improvement and habitat destruction. Only three of the remaining sites including Wilwell Cutting, Ashton's Meadow and West Burton Meadow support large populations. All of these sites are nature reserves and their long-term future is relatively secure. At other sites the populations are smaller and are possibly more vulnerable to decline or loss. Since 2012, surveys of Wilwell Cutting and West Burton Meadow Nature Reserves and Laxton have confirmed the continued presence of the populations (in bold).

Location	GR	Date	Recorder
Trent Hills	SK6945	c.1987	NRL
Halam Reservoir	SK662546	1999	DCW, MW
Laxton South Field Sykes	SK729655	2003	DCW
Laxton South Field Sykes	SK730655	2019	JC, RAJ
Laxton South Field Sykes	SK731656	2012	RAJ
Misterton Grassland	SK759944	2003	Woll.
Normanton-on-the Wolds Grassland	SK626331	1990	DCW
Normanton-on-the Wolds Grassland	SK625332	1990	DCW
Warsop Hills and Holes*	SK5567	Undated	GL
Colston Basset Old Hall Drive*	SK694335	Undated	per CP
Lady Lee Quarry	SK5679	1986	Woll.
Wilwell Cutting	SK567351	2019	MB
Wilwell Cutting	SK568352	2019	MB
Wilwell Cutting	SK566348	2015	RAJ
Ashton's Meadow	SK786800	2016	DaS
Ashton's Meadow	SK788800	2019	GH
Ashton's Meadow	SK787799	2011	DCW, RAJ
West Burton Meadow	SK787851	2015	KW
West Burton Meadow	SK785850	2019	JC

Location	GR	Date	Recorder
West Burton Meadow	SK786851	2019	JC
West Leake Grassland	SK537273	1993	DCW

*Unconfirmed

Antennaria dioica (L.)
Gaertner

Mountain Everlasting

National Status: Least Concern (GB), Vulnerable (Eng.)
Nottinghamshire Status: Extinct

Mountain everlasting *Antennaria dioica* is a native perennial that was always rare in the VC and confined to the Sherwood heathlands south of Mansfield. It was last recorded on a heath at Annesley towards the end of the 19th Century.

Location	GR	Date	Recorder
Annesley	SK55	1880	AG

Anthemis arvensis L.

Corn Chamomile

National Status: Endangered (GB and Eng.)
Nottinghamshire Status: Extinct

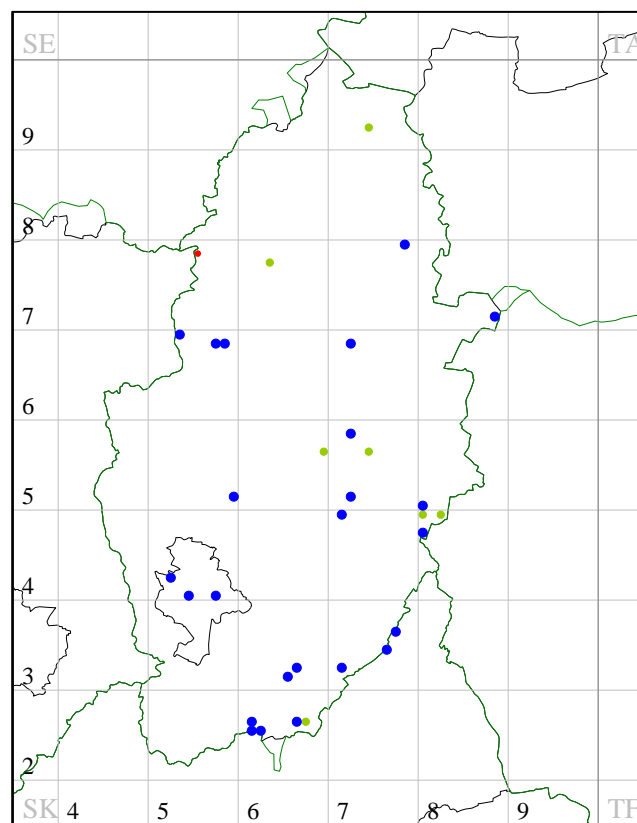
Before the 1960s this archaeophyte annual had a localised distribution, but was widely distributed on the sandy soils of the Sherwood area. It was last recorded in the VC in the early 1960s by R.C.L. Howitt having dramatically declined in a similar manner to the national decline. The decline is considered to have happened because of the development of increasingly effective herbicide compounds.

Location	GR	Date	Recorder
Hodsock and Osberton	SK68	1961	RCLH

Anthemis cotula L.

Stinking Chamomile

National Status: Vulnerable (GB and Eng.)
Nottinghamshire Status: Uncommon
Monads: 32



Preston *et al.* (2002) stated that stinking chamomile *Anthemis cotula* declined substantially in the 20th Century despite being fairly resistant to the early phenoxy herbicides. According to Howitt & Howitt (1963) this species of arable fields and roadsides, which was widespread on heavy soils, was also declining in the VC before the 1960s. Since 1970 the species has been recorded in 31 monads, somewhat scattered throughout the VC. The number of records suggests a slight increase in abundance, but in modern times the species has often occurred as a casual.

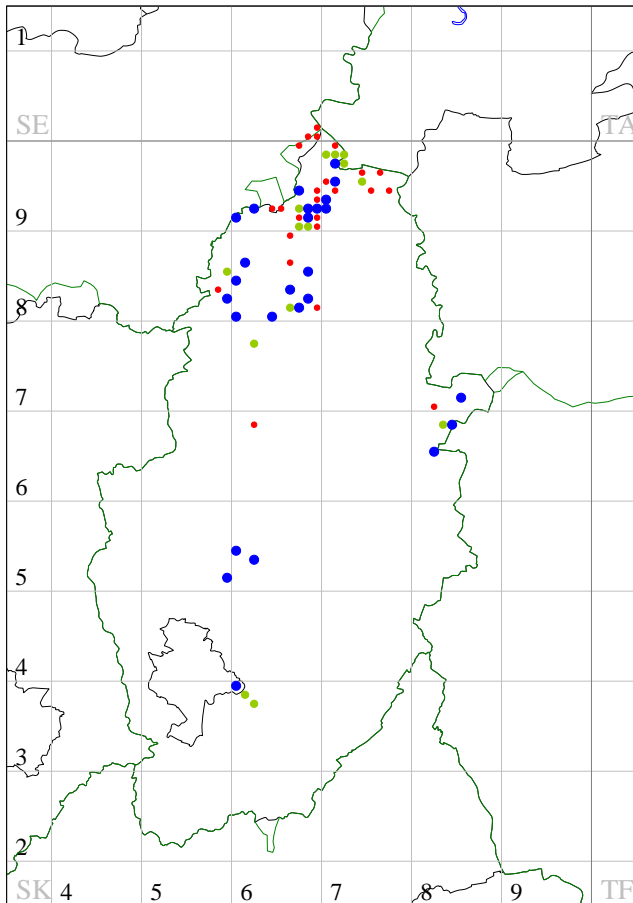
Apera spica-venti (L.) Beauv. Loose Silky-bent

National Status: Near Threatened (GB), Least Concern (Eng.), Nationally Scarce

Nottinghamshire Status: Uncommon

Monads: 66

Since 1970, loose silky-bent *Apera spica-venti* has been recorded throughout the VC on arable and open habitats with sandy soils. Howitt & Howitt (1963) stated that the species was abundant on the edge of the Carrs in the north of the VC, which is confirmed by the distribution map. Howitt & Howitt (1963) considered the species to be native, but the transient nature of many populations suggests otherwise and supports Preston *et al.* (2002), who consider the species to be an archaeophyte. Since 2015, the species has only been recorded at three locations, all of which are new monads in the modern era.



Apium graveolens L. Wild Celery

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Scarce

Monads: 8

Many inland sites for wild celery *Apium graveolens* were lost before 1930, Preston *et al.* (2002). In the VC Howitt & Howitt (1963) considered wild celery to be extinct by the 1960s, but since 1998 the species has been recorded at seven locations. It is likely that these

records are recent colonists, because the plant has not been found at any of its pre-1960 locations. The species has been found on lakesides at three sites; a typical habitat for the species. Less typically, the species has been found elsewhere as a casual. The cultivated variety *A. graveolens* var. *dulce* has been recorded as a casual at Hawton (SK801502). There have been no further records since 2015.

Location	GR	Date	Recorder
Clayworth Road, Gringley-on-the-Hill	SK736902	1998	DCW
Netherfield Former railway Sidings*	SK631406	1999	DCW
Strelley Trackside Verge (dumped materials)*	SK504427	2002	DCW
Bramcote Hills Landfill*	SK504386	2004	DCW
Clumber Park Lake	SK625743	2004	DCW
Rufford Country Park Lake	SK645650	2006	MW
Colwick Country Park Lagoon	SK609397	2011	DCW
Pleasleyhill*	SK509638	2013	DCW

*Casual records

Aquilegia vulgaris L. Columbine

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare (as a native)

Monads: 2 as a native

Howitt & Howitt (1963) described columbine *Aquilegia vulgaris* as very rare and only native in habitats overlying Magnesian Limestone. The species was recorded near all three of its native, extant locations long before the 20th Century, but seems to have disappeared from several other sites on the Magnesian Limestone such as Bulwell, Newstead, Pleasley and Skegby despite the continuing presence of suitable habitat. Away from the Magnesian Limestone, there are approximately 180 records for the species as a neophyte, which are not included in this register. Since 2012, a further 65 records of garden escapes have been submitted, many being repeat records. Since 2015 the Broxtowe populations have been confirmed as extant, but the Teversal population was not found in 2017.

Location	GR	Date	Recorder
Broxtowe Country Park	SK523431	2005	PA
Broxtowe Country Park	SK523429	2011	DCW
Broxtowe Boundary Bank	SK529425	2016	RAJ
Morning Springs Wood	SK496492	1998	Woll
Morning Springs Wood	SK498494	2015	DCW
Morning Springs Wood	SK497494	2015	DCW
Teversal Trail	SK491637	2004	DCW, RAJ
Teversal Trail	SK49036364	2012	NC

Arabis hirsuta (L.) Scop. Hairy Rock-cress

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Scarce

Monads: 7

Historically the species was only ever recorded on sites overlying Magnesian Limestone. Howitt & Howitt (1963) described ten sites including four that they visited during the mid-20th Century. Since 1970 the species has been recorded at four sites on the Magnesian Limestone including the Teversal Trail, Warsop Hills and Holes, Pleasley Vale Dismantled Railway and Creswell Crags at Holbeck. In addition, the species has been recorded on calcareous sands at Barrow Hills, Everton and at Sutton-cum-Lound Gravel Pit as a casual on imported limestone. Since 2015, surveys at Warsop Hills and Holes have confirmed the presence of the population (in bold).

Location	GR	Date	Recorder
Barrow Hills	SK6891	1986	DCW

Location	GR	Date	Recorder
Creswell Crag, Holbeck	SK534740	2012	DCW
Pleasley Vale Dismantled Railway	SK520649	2007	RAJ, DCW
Northfield House Woodland, Mansfield Woodhouse	SK519649	2011	DCW
Sutton-cum-Lound Gravel Pits*	SK6985	1987	DCW
Teversal Trail, Norwood	SK4863	1970	NRL
Warsop Hills and Holes	SK558681	2017	DCW, RAJ, et al
Warsop Hills and Holes	SK557679	2016	DaS

*Casual

Arctium x nothum Ruhmer

A hybrid Burdock

National Status: Data Deficient**Nottinghamshire Status:** Rare**Monads:** 2

This hybrid is intermediate in character and is fertile. It is found in south and central England wherever the parents occur together; but it is infrequent. It was not recorded in the VC before 1970, but in 1998 a single plant was found growing with both parents on a bank of the River Devon, south of Newark-on-Trent. In 2017 a single plant was recorded at a field entrance near Barton-in-Fabis.

Location	GR	Date	Recorder
Hawton Fox Covert, Devon Bank	SK787478	1998	DCW
Barton-in-Fabis Field	SK527337	2017	DCW

Arnoseris minima L.

Lamb's Succory

National Status: Extinct**Nottinghamshire Status:** Extinct

This archaeophyte was last recorded in the VC before 1963 growing on sandy infertile soils in a field that had not been cultivated in recent years. Earlier in the 20th Century the species was also recorded in sandy fields at Pusto Hill, Everton, Finningley near Doncaster and West Drayton.

Location	GR	Date	Recorder
Barrow Hills, Everton	SK680920	<1963	RCLH

Armeria maritima (Mill.) Willd.

Thrift

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare**Monads:** 1

This halophyte has been recorded twice in the county. The Bramcote Landfill record was probably a garden throwout. The A46 Trunk Road record is on the roadside verge and probably relies on salt applications. It has not been recorded since 2012, but it was only noticed because of the recorder being stuck in a traffic jam.

Location	GR	Date	Recorder
Bramcote Landfill	SK503387	2003	DCW
A46 Trunk Road, Hickling	SK652283	2012	RP

Asplenium trichomanes L.
subsp. *quadrivalens* D.E. Mey

Maidenhair Spleenwort

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare (Data Deficient)**Monads:** 1

Most records of maidenhair spleenwort do not identify the taxon beyond species rank. The subspecies *quadrivalens* is likely to be

the most common taxon on mortared walls, but further work is required.

Location	GR	Date	Recorder
Yorke Street, Hucknall	SK533491	2013	MW

Artemisia maritima L.

Sea Wormwood

National Status: Least Concern (GB), Near Threatened (Eng.)**Nottinghamshire Status:** Rare**Monads:** 1

The population consists of several plants located on the east side margins of the Nottingham Ring Road with ruderal herbs between SK56813530 and SK56853527. The population was first recorded in 2018 but may have been overlooked before that time because of the location, which is difficult to access on foot.

Location	GR	Date	Recorder
A52 Trunk Road, West Bridgford	SK56813530	2019	DCW

Avena x hybrida Peterm.

Hybrid Oat

National Status: Data Deficient**Nottinghamshire Status:** Extinct

The hybrid was found by R.C.L. Howitt and confirmed by C.E. Hubbard. Presumably the hybrid was found in close proximity to the parents, but information in the 1963 Flora is not particularly detailed.

Location	GR	Date	Recorder
Norwell	SK76	1952	RCLH

Baldellia ranunculoides (L.)
Parl.

Lesser Water-plantain

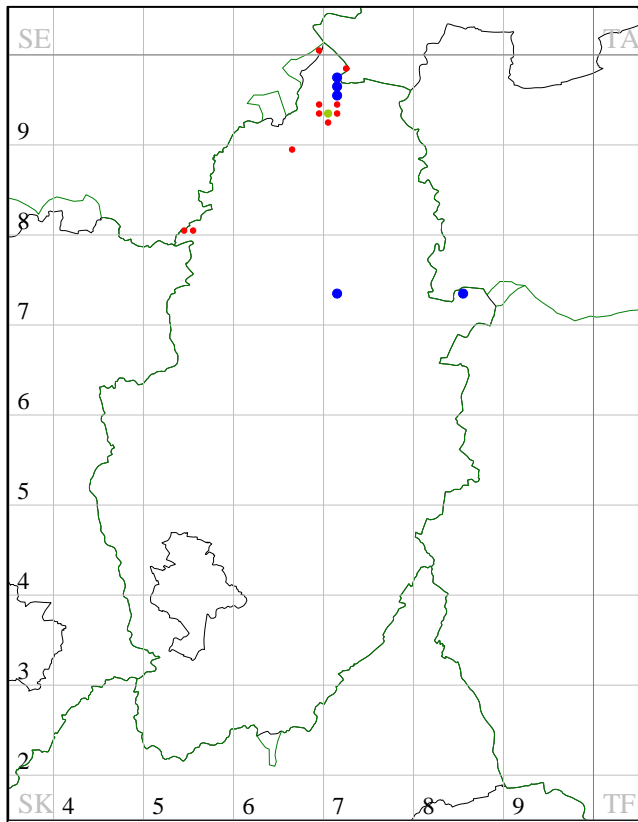
National Status: Near Threatened (GB), Vulnerable (Eng.)**Nottinghamshire Status:** Uncommon**Monads:** 12

Before the 1970s this perennial herb had a localised distribution in the VC, being associated with peat or limestone substrates in shallow drains and pools with fluctuating water levels. Since 1970, the species has been recorded in 14 monads and the decline in the VC appears to follow a similar pattern to the national decline. The declines are attributed to the loss of small water-bodies, eutrophication and a decline in grazing pressure. Since 2015, surveys have confirmed that the populations at Misson Carr and Gringley Carr Mother Drain are extant and the record at Bevercotes Country Park has been confirmed by photographic evidence (in bold).

Location	GR	Date	Recorder
Everton Carr Drain*	SK700933	1978	Woll, JH
Everton Carr Drain*	SK695932	1980	NCC
Everton Carr Drain*	SK693931	1980	NCC
Everton Carr Drain*	SK698932	1980	NCC
Everton Carr Drain*	SK705931	1980	NCC
Everton Carr Drain*	SK706929	1980	NCC
Everton Carr Drain*	SK703924	1980	NCC
Delve Drain, Everton Carr*	SK698946	1978	Woll, JH
Delve Drain, Everton Carr*	SK690942	1978	Woll, JH
Delve Drain, Everton Carr*	SK698947	1978	Woll, JH
Carr Road East Drain, Gringley Carr*	SK7194 - 7193	1978	Woll
Mother Drain, Gringley Carr	SK717956	2018	DCW, MW
Mother Drain, Gringley Carr	SK71819568	2018	RAJ, DCW

Location	GR	Date	Recorder
Misson Carr	SK712972	2018	DCW, MW, KW
Misson Carr	SK710972	2018	DCW, MW, KW
Misson Carr	SK712975	1994	DCW
Misson Line Bank	SK716961	2004	DCW, RAJ
Misson Line Bank	SK710960	1982	JNCC
Levels Lane Drain, Misson *	SK712970	1983	JOM
New Idle Drain, Misson*	SK725987	1983	JOM
Ranskill Gravel Pits*	SK667891	1977	Woll
Shireoaks Park Lake*	SK552807	1978	Woll, JH
Darnsyke, Thorney	SK855738	2001	DCW
Misson Line Bank*	SK715960	1978	NRL, KLJ
Misson Line Bank	SK716960	2012	DCW, JC
Bevercotes Country Park	SK71047376	2016	DaS

*Possibly no longer extant



Betula x aurata Borkh.

B. pendula x pubescens

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 4

The taxonomic difficulty associated with identification of this hybrid means that the national distribution map is very incomplete, Stace *et al* (2015). The same situation is very likely to be the case in Nottinghamshire. There are only five modern records at four sites, with specimens being present with both parents. The earliest record (1972) has not been seen in recent years. Targeted surveys are likely to increase the number of records.

Location	GR	Date	Recorder
Gamston Airfield	SK7076	1972	RCLH, BMH
Elkesley	SK6874	2012	JS
Old Moor Wood	SK499520	2015	RAJ
Clipstone Forest	SK617608	2015	RAJ, JC
Clipstone Forest	SK612614	2015	RAJ, JC

Blitum bonus-henricus (L.)
 Rchb.

Good-King-Henry

National Status: Vulnerable (GB and Eng.)
Nottinghamshire Status: Declining
Monads: 12

Though never common, the species was once widespread and well established. Since 1970 the species has undergone serious declines and several of the more recent records are for single plants or small populations. This is because it is no longer cultivated as a culinary herb and unmanaged areas on farms that could support relict populations have been tidied up. Since 2015 there have been five records in four monads, with three being in previously unrecorded locations

Location	GR	Date	Recorder
Saundby Railway Crossing	SK7988	1970	RCLH
Osberton (near Chequers Bridge)	SK648815	1970s	JH
Rainworth	SK595578	1972	JH
Martins Pond	SK5240	1987	JCo
Red Hill	SK4930	1987	DCW
River Trent, Hoveringham	SK703463	1993	DCW
River Leen, Basford	SK549434	1995	DCW
Sneinton Quarry	SK592406	1995	DCW
Colston Bassett	SK705335	1996	DCW
Pleasley Vale	SK524648	1996	DCW
River Trent, East Stoke	SK737508	1996	MW
River Idle, Mattersey	SK691894	1999	KB
Mansfield	SK546615	2001	DCW
Kelham	SK778556	2003	DCW
Kirkby-in-Ashfield	SK506576	2003	RAJ
Beauvale, Greasley	SK486487	2008	PO, DCW
Oldcotes Grassland	SK587884	2009	DCW
Mother Drain, Sturton-Le-Steeple	SK815856	2010	DCW
Farnsfield Roadside Verge	SK654566	2012	DCW
Barton-in-Fabis	SK52053303	2018	NP
Brinsley	SK45735023	2019	DCW
Sturton-Le-Steeple	SK815856	2018	MW
Sturton-Le-Steeple	SK816853	2018	MW
Norton Roadside Verge	SK572723	2018	MW

Blysmus compressus (L.) Panz.
 Ex Link

Flat Sedge

National Status: Vulnerable (GB and Eng.), Species of Principal Importance
Nottinghamshire Status: Extinct

The species was last recorded in the county in the 1970s and despite repeated searches, the species has not been re-found at any of the sites listed below and is, therefore, considered to be extinct in the county.

Location	GR	Date	Recorder
Lady Lee Quarry	SK563794	1972	JH
Skegby Stream	SK495609	1972	RCLH
Boon Hills Meadow	SK539700	1968	RCLH

Botrychium lunaria (L.) Sw.

Moonwort

National Status: Least Concern (GB), Vulnerable (Eng.)
Nottinghamshire Status: Extinct

Despite searches of suitable habitats and historic locations in recent times, moonwort *Botrychium lunaria* has not been seen since 1963 and is therefore, considered to be extinct in the VC The Vascular Plant Database indicates that historically the taxon was recorded in seven hectads, scattered across the county, but absent in the southeast on the Lias Clays.

Location	GR	Date	Recorder
Barrow Hills, Everton	SK680920	<1963	RCLH, BMH
Ranskill	SK68	<1963	RCLH, BMH

Brachypodium x cugnacii A.
Camus.

B. pinnatum x sylvaticum

National Status: Data Deficient
Nottinghamshire Status: Rare

The single record originates from an uncut area of Norwell Churchyard. Both parents are present in the churchyard and the hybrid has intermediate characters. The identification of the hybrid was confirmed by D.C. Wood.

Location	GR	Date	Recorder
Norwell Churchyard	SK7756170	2014	RAJ

Brassica nigra (L.) W.D.J
Koch

Black Mustard

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 2

The species used to be frequent in the county, but since 1970 it has only been recorded at eleven localities in the VC. All records are considered to be casuals and there are probably only two extant populations (in bold).

Location	GR	Date	Recorder
Balderton Sewage Works Pond	SK8150	1975	RCLH, BMH
Beeston Bus Station	SK530367	2019	GH
Bingham	SK707407	2019	DCW
Cotgrave Colliery	SK650362	1993	DCW
Holme Pierrepont Landfill	SK6339	1981	DCW
Huthwaite Tipped Spoil	SK462579	1994	DCW
Cotgrave Plantation	SK649362	1999	DCW
New Clipstone Colliery Tip	SK590628	1994	DCW
Toton Sidings	SK489346	2001	DCW
Retford Dump	SK6984	1962	RCLH
Southwell	SK6853	2010	NW
Vicar Water	SK593628	1974	JH
Warsop Dump	SK5666	1966	RCLH, BMH

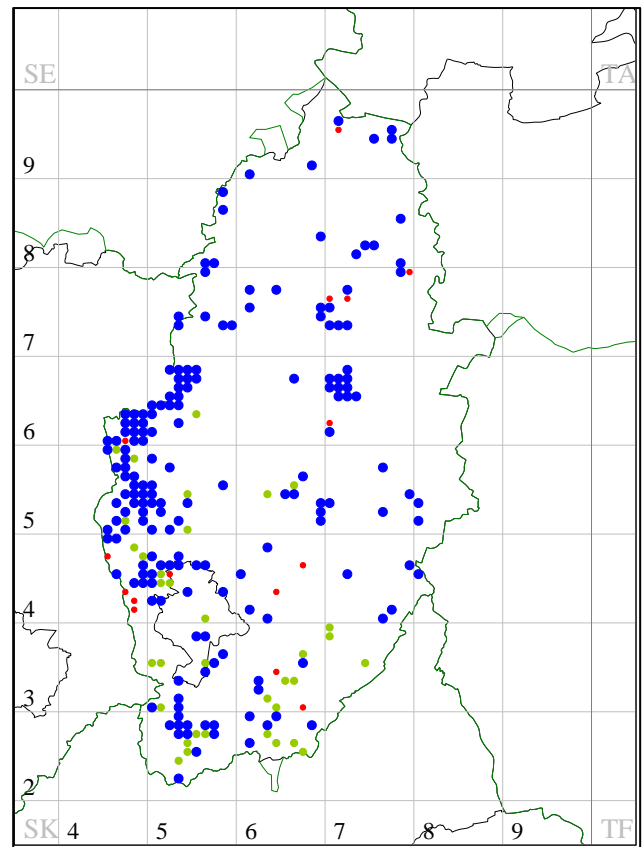
*No longer extant

Briza media L.

Quaking Grass

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Uncommon
Monads: 230

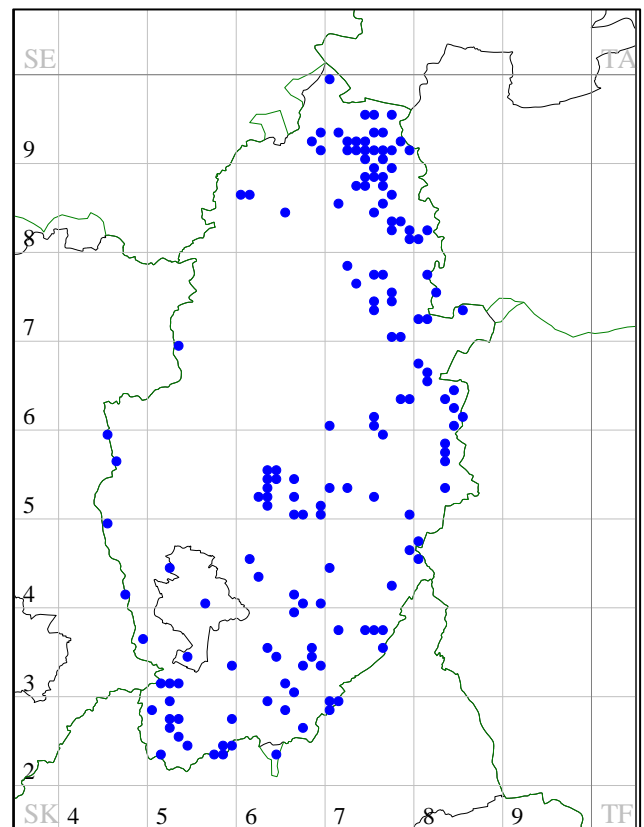
The decision to include species of conservation concern in England has resulted in this taxon appearance in the register. The species is found across the county in base-rich habitats, but also occurs on blown sands in the east of the county. The decline of this species at national and county level is caused by agricultural improvement of grasslands, habitat loss and the cessation of management leading to scrub encroachment and loss of open grassland conditions.



Bromus secalinus L.

Rye Brome

National Status: Vulnerable (GB), Near Threatened (Eng.)
Nottinghamshire Status: Scattered
Monads: 198



This archaeophyte is exclusively associated with arable fields and has a very strong affinity with cereal crops. It has a scattered distribution throughout the VC, but occurs on a range of soil types. Howitt & Howitt (1963) did not provide any modern records, which could be a reflection of 19th and early 20th Century declines, Preston *et al* (2002). In the first edition of this register, it was suggested that the species may increase in Nottinghamshire given the comeback in other counties. In the past eight years, the number of records has significantly increased with records distributed throughout the county and all associated with arable fields. The only explanation that appears to be feasible is seed contamination, but as to whether this very large increase in distribution is being seen to the same extent in other counties and whether the increase will be sustained, is to date, unknown.

Bupleurum rotundifolium L.

Thorow-wax

National Status: Critically Endangered (GB and Eng.), Nationally Rare

Nottinghamshire Status: County Rare

Monads: 2

Before 2018, the taxon was last recorded in 1917, but the taxon was not considered to be native. Similarly, the 2018 record was an escape from planted material. The status of the Tuxford population is more likely to be native given the location. Approximately 15 plants were growing approximately 5m from the the margin of a cereal crop. There were very few other arable weeds other than very common species at the field edge.

Location	GR	Date	Recorder
Cresswell Crags	SK57	1839	GH
Welbeck	SK57	1917	JWC
Keyworth	SK61263084	2018	NP
Tuxford Arable Field	SK73417085	2019	MW

Callitriche brutia Petagna *subsp.* Pedunculate Water-starwort
brutia

National Status: Least Concern (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Scarce

Monads: 6

The taxon is scattered across the county, mainly associated with shallow drains, but it also occurs in ponds at Haughto Decoy and Hollinwell Golf Course. The status of the populations at Gringley Carr, Misterton, Misson is uncertain because surveys since the 1980s have failed to re-locate the populations. Lower water tables and eutrophication in the Carr lands may be responsible.

Location	GR	Date	Recorder
Gringley Carr	SK728930	1984	JOM.
Haughton Decoy	SK6871	2011	DCW, MW
Hollinwell Golf Course	SK524546	2009	DCW
Mother Drain, Misterton	SK765960	1983	JOM
Newington Drove, Misson	SK675936	1983	JOM
Barton-in-Fabis Drain	SK528332	2017	RAJ

Callitriche truncata W.D.J. Koch

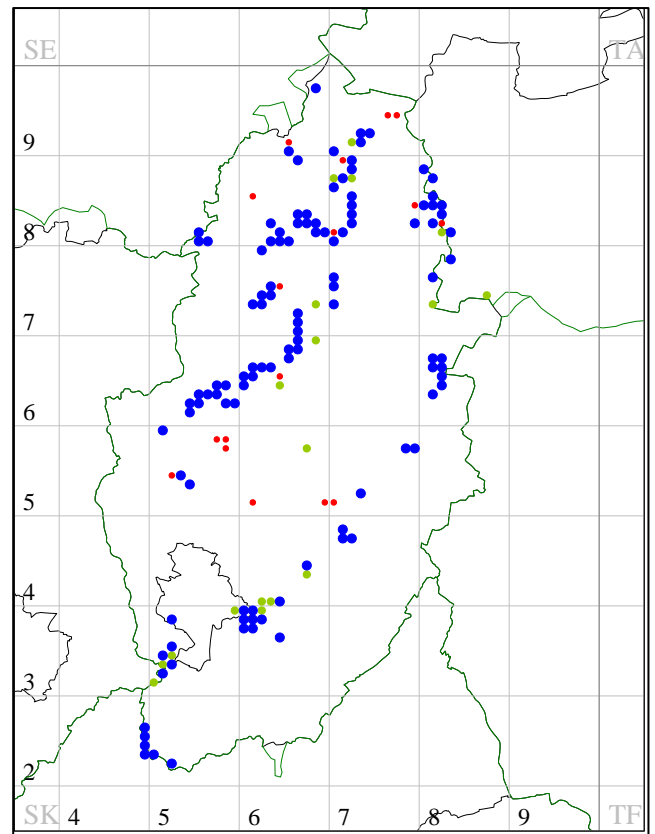
Short-leaved Water-starwort

National Status: Least Concern (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Locally Frequent

Monads: 105

This annual or occasionally perennial herb is nationally scarce, but in the VC the species is locally frequent in base-rich mesotrophic or eutrophic waters, but rarely occurs on wet mud. Historically, Howitt & Howitt (1963) considered that the species was local and chiefly found in the north of the VC in slow streams, canals and large drains. In modern times the species has been found to be locally frequent in the River Trent valley and its tributaries. Since 2015 the taxon has been recorded at 35 locations, all of which are at previously recorded populations.



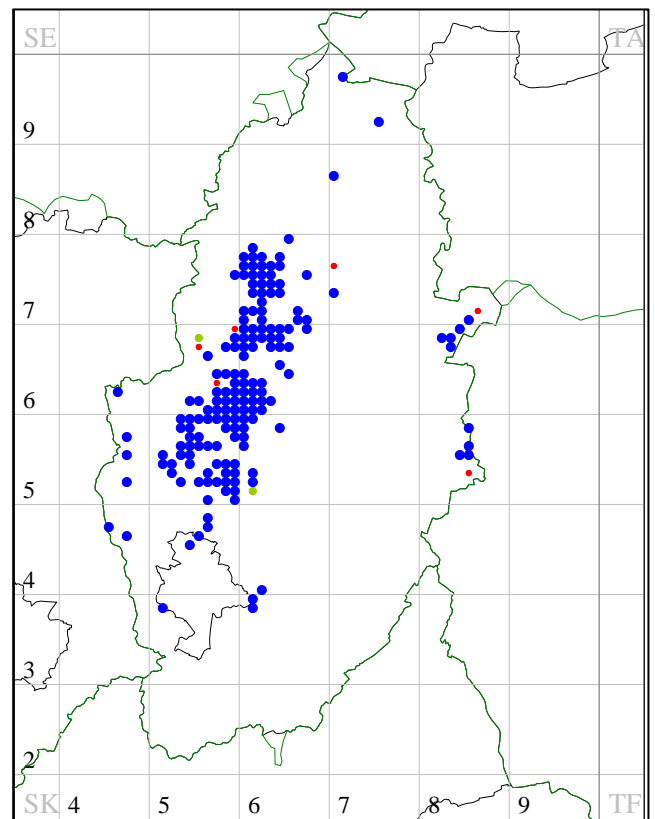
Calluna vulgaris (L.) Hull.

Heather

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Locally Frequent

Monads: 184



The Red Plant List for England (Stroh et al, 2014) describes the status in England as surprising, but is indicative of the loss of lowland heathland in England. In Nottinghamshire heather is associated with Sherwood Forest and the blown sands to the east of River Trent. The distribution map is somewhat misleading because of the extensive and successful effort in recent years to create lowland heathland on forestry plantations and colliery spoil tips.

Calystegia sepium subsp. roseata Brummitt. A Hedge Bindweed

National Status: Occasional, possibly introduced
Nottinghamshire Status: Rare
 Monads: 2

This taxon is considered by Stace (2010) to be local near the west coast of Britain and occasional, perhaps introduced elsewhere. Targeted searches may confirm that the taxon is actually rare, rather than under-recorded. To date, it has been recorded at two locations in North Nottinghamshire alongside a drain and next to Chesterfield Canal. As to whether the taxon is associated with water-courses elsewhere in the county is yet to be determined.

Location	GR	Date	Recorder
Fenton Lane Drain	SK803830	2008	RBa
Chesterfield Canal, West Stockwith	SK782947	2015	DCW, MW
Chesterfield Canal, West Stockwith	SK780947	2015	DCW, MW

Campanula glomerata L. Clustered Bellflower

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
 Monads: 12 (3 as a native)

As a native, this calcicolous, perennial herb is found at four sites in the VC, three of which are located on the Magnesian Limestone. The fourth site at Balderton, near Newark-on-Trent is associated with base-rich drift geology. Before 1970 the species was also located in the south of the VC in the grasslands of the Lias clays and on base-rich clays in the Trent Valley, but the destruction of grasslands or agricultural improvement has reduced the number of localities in modern times. In addition, plants at Warsop have been dug up from time to time. Apart from the native sites, which are listed in the table below, the species has also been recorded as a neophyte at a further nine locations in the VC, which are not listed below.

Location	GR	Date	Recorder
Balderton Grassland	SK805511	1998	RAJ
Holbeck	SK57	1998	PA
Teversal Cemetery	SK484619	1999	DCW
Warsop Hills and Holes	SK556678	2003	DCW, RAJ
Warsop Hills and Holes	SK557686	1972	JH

Campanula patula L. Spreading Bellflower

National Status: Endangered (GB), Critically Endangered (Eng.), Nationally Scarce
Nottinghamshire Status: Extinct (as a native)

Spreading bellflower *Campanula patula* was first recorded in 1826 amongst underwood in Wellow Park by T. Jowett and was last recorded as a native in 1916 in the same locality by Mrs Collinson of Laxton. At that time, specimens were sent to Nottingham Natural History Museum.

Location	GR	Date	Recorder
Wellow Park	SK685670	1916	Mrs Collinson

Campanula rapunculus L. Rampion

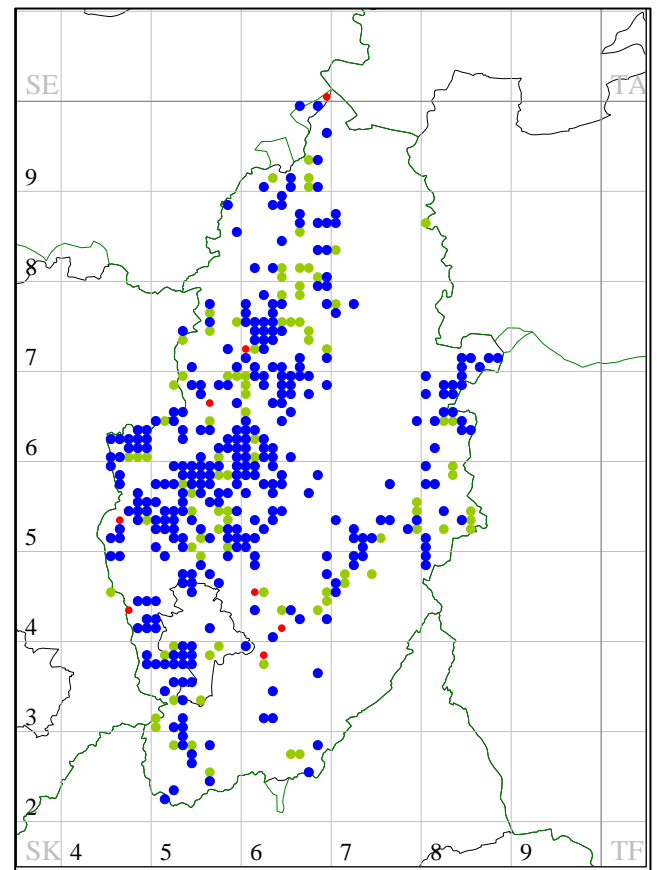
National Status: Endangered (GB and Eng.), Nationally Rare
Nottinghamshire Status: Extinct

This archaeophyte was "once frequently grown in gardens in our area for ornament and its edible roots. It was recorded from the wild as early as 1597, but fell out of favour as a vegetable around 1700 and consequently has seriously declined. It is now rarely encountered, either in cultivation or in the wild¹." Howitt & Howitt (1963) provided only two records for the VC, the first recorded by C. Deering in 1738 originating from Radford Hollows. The later T. Ordoyno record is provided below.

Location	GR	Date	Recorder
Plantation at Coddington	SK85	1805	TO

Campanula rotundifolia L. Harebell

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Locally Frequent
 Monads: 434



Still frequent on lighter soils across the county particularly in the Sherwood Forest area. Populations are also found on the alluvial soils of the river valleys, blown sands in the east and Magnesian Limestone in the west. The number of green circles is indicative of the decline across the county with losses occurring on all geological types, largely because of grassland improvement or destruction. Eutrophication is also likely to have been a factor on alluvial soils.

¹ <http://www.brc.ac.uk/plantatlas/index.php?q=node/3609>

Campanula trachelium L.

Nettle-leaved Bellflower

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 39

As a native, nettle-leaved bellflower *Campanula trachelium* has been recorded at nine locations in the northwest of the VC, all in woodland habitat and on Magnesian Limestone or limestone ballast. Populations at Pleasley Vale and Warsop have been re-visited since 2015 (in bold) to confirm the continuing presence of the populations. There are 19 additional records for the species, which are introductions or garden escapes (neophytes) including an additional 10 records since 2015. The neophytes are not included in the table. The species as a native has always been rare in the VC, but most of the populations recorded in the 1960s are still extant.

Location	GR	Date	Recorder
Boon Hills Wood	SK530696	1997	DCW
Boon Hills Wood	SK538697	2009	DCW
Boon Hills Wood	SK533695	2012	DCW
Boon Hills Wood	SK531694	2012	DCW
Cuckney Hay Wood	SK545698	2011	DCW, MW
Cuckney Hay Wood	SK544694	1996	DCW
Cuckney Hay Wood	SK546698	1996	DCW
Lady's Grove	SK535693	1998	DCW
Northfield Plantation	SK530652	1993	DCW
Pleasley Vale Dismantled Railway	SK521649	2009	DCW
Pleasley Vale Dismantled Railway	SK521648	2019	JC
Pleasley Vale Dismantled Railway	SK522648	2019	JC
Warsop Dismantled Railway	SK533690	2014	DCW
Warsop Dismantled Railway	SK535691	2002	DCW
Warsop Dismantled Railway	SK537693	2002	DCW
Warsop Dismantled Railway	SK551694	2002	DCW
Warsop Dismantled Railway	SK542693	2014	RAJ
Warsop Dismantled Railway	SK537691	2019	RAJ
Warsop Dismantled Railway	SK537692	2019	RAJ
Warsop Dismantled Railway	SK538692	2019	RAJ
Warsop Dismantled Railway	SK543693	2019	RAJ
Warsop Dismantled Railway	SK544693	2019	RAJ
Warsop Dismantled Railway	SK545693	2019	RAJ
Hatfield Plantation	SK528651	2009	MW
Lord Stubbin's Wood	SK536688	2012	DCW
Nether Langwith Woodland	SK540703	2012	KB

Cardamine impatiens L.

Narrow-leaved Bitter-cress

National Status: Near Threatened (GB), Least Concern (Eng.), Nationally Scarce**Nottinghamshire Status:** Extinct

The species was last recorded in the VC in the 19th Century on the banks of the Cromford Canal near Brinsley on the border with Derbyshire (VC57). Most of the canal at Brinsley is no longer present.

Location	GR	Date	Recorder
Cromford Canal	SK4450	1839	GH

Carduus tenuiflorus Curtis

Slender Thistle

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 10

Slender thistle *Carduus tenuiflorus* is an annual or biennial that is often considered to be an introduced species away from the coast. In the VC it is found on sandy soils and most of the records are located in close proximity to the River Trent. Before 1970, most of the records were associated with sites near Nottingham or on the banks of the River Trent, upstream of Newark-on-Trent. Since 1970

the species has been restricted to sites downstream of Newark-on-Trent (often where the river is tidal) and elsewhere in the north and east of the VC. The loss of the species around the Nottingham area could be due to habitat loss, but the reasons for the colonisation of sites to the north and east of Newark-on-Trent is not clear. The most recent record since 2015 is an extension to the range in an arable field.

Location	GR	Date	Recorder
River Trent, Coates	SK826815	2001	DCW
Harby	SK884725	2004	DCW, RAJ
Misson	SK689971	2002	DCW
Misson	SK689971	2010	DCW
River Trent, Rampton	SK825788	2003	DCW
Rolleston	SK749527	2003	RAJ
South Clifton	SK818697	2009	DCW
South Clifton	SK818696	2013	DCW, MW
South Clifton	SK818698	2014	DCW
South Clifton	SK819683	2000	DCW
South Clifton	SK819683	2000	DCW
South Clifton	SK818692	2000	DCW
River Trent, Sutton-on-Trent	SK811642	2001	DCW
Balderton Field	SK832525	2018	DCW

Carex canescens L.

White Sedge

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare**Monads:** 1

White sedge *Carex canescens* is a perennial species that is found in mesotrophic mires in the lowlands. Before 1970 the species was considered to be very rare in the VC and was recorded at only three sites on the Bunter Sandstone including Lindhurst, Scaftworth and Carlton-in-Lindrick. After 1970 the species was not re-found at Carlton-in-Lindrick, but in 1977 was found for the first time at Torworth Sandpit, approximately 3km to the south of Lings Wood, Scaftworth. Since 1990, however, the species has only been recorded once at Lindhurst and because of drainage and increasing shade at Scaftworth (SK668908) and Torworth (SK667862), it is considered to be no longer extant.

Location	GR	Date	Recorder
Foulevil Brook, Lindhurst	SK578583	1991	DCW

Carex diandra Schrank

Lesser Tussock Sedge

National Status: Near Threatened (GB), Vulnerable (Eng.)**Nottinghamshire Status:** Extinct

G. Howitt recorded lesser tussock sedge *Carex diandra* in the 19th Century in bogs near Mansfield. Howitt & Howitt (1963) however, stated that the species was probably extinct, because suitable habitat to the south of Mansfield was no longer present.

Location	GR	Date	Recorder
Near Bleak Hills, Mansfield	SK55	1839	GH

Carex digitata L.

Fingered Sedge

National Status: Least Concern (GB and Eng.), Nationally Scarce**Nottinghamshire Status:** Extinct

Fingered sedge *Carex digitata* was recorded in 1826 by T. Jowett in Pleasley Wood, Nottinghamshire. Nowadays only a small part of Pleasley Wood is located in Nottinghamshire and the location referred to by T. Jowett could now be in modern Derbyshire, because of boundary changes during the last 185 years. In 2006, the species was found in the Wood, approximately 200m from the boundary of the VC and it is perhaps reasonable to assume that this location is in the vicinity of T. Jowett's record. Suitable habitat (shaded, limestone outcrops) is present on the Nottinghamshire

side of the woodland and there is optimism that the species will be re-found in the VC.

Location	GR	Date	Recorder
Pleasley Wood	SK56	1826	TJ

Carex dioica L.

Dioecious Sedge

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 1

Nationally dioecious sedge *Carex dioica* has declined because of drainage, Preston *et al* (2002). The species is often found in calcareous springs and flushes and in the VC was last recorded during 1987 in a peaty flush overlying Magnesian Limestone at Sookholme Moor. Historically the species was more frequently associated with bogs on the Sherwood Bunter Sandstone, but virtually the entire resource was lost or destroyed during the 20th Century, because of drainage and habitat loss usually caused by coal mining activity. Droughts in the 1990s have also taken their toll and given the lack of recent sightings the species may be no longer extant in the VC.

Location	GR	Date	Recorder
Sookholme Moor	SK554678	1986	DCW

Carex distans L.

Distant Sedge

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Scarce

Monads: 10

Howitt & Howitt (1963) considered the species to be very rare in the VC, being recorded at only three localities and all on the Magnesian Limestone. Nationally the species appears to have declined at inland localities due to drainage, but this does not appear to be the case in the VC. The apparent increase in the number of records could be due to a genuine expansion in the species range or because of increased survey effort. However, it is worth noting that many of the populations are very small and at two sites consists of a single plant. The population at Staunton is probably no longer extant, because of shading. Surveys at three sites since 2015 have confirmed that the populations are still extant (in bold).

Location	GR	Date	Recorder
Annesley Woodhouse Quarry	SK489533	2013	DCW
Annesley Woodhouse Quarry	SK489532	2018	VH, DCW et al.
Car Colston Marsh	SK708418	2007	DCW
Sheepwash Brook, East Leake	SK559254	2000	DCW
Maplebeck Grassland	SK713617	1999	DCW, Woll
Potwell Dyke Meadow	SK703534	2016	RAJ
Ruddington Moor	SK561315	2009	DCW
Shireoaks Colliery Tip	SK564806	2015	RAJ
Shireoaks Park Cascade	SK548804	1997	DCW
Sookholme Moor	SK554678	2017	RAJ
Sookholme Moor	SK553678	2017	RAJ
Sookholme Moor	SK554678	2017	RAJ
Warsop Hills and Holes	SK553682	2011	DCW
Southwell Grassland	SK704534	2015	RAJ
Staunton-in-the-Vale Pond	SK818437	1988	DCW

Carex echinata Murray

Star Sedge

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Rare

Monads: 4

Star sedge *Carex echinata* was once a common species in the VC and was only absent on the Keuper Marl. The decline in the VC is

part of a larger national decline throughout the lowlands that has been brought about by land drainage and agricultural improvement. The species is considered to be vulnerable to extinction, because each extant population is small. However, a population at Wilwell Cutting, which was believed to be extinct was recorded again in 2018.

Location	GR	Date	Recorder
Selston Common	SK474527	2002	DCW
Clipstone Forest	SK613603	2009	DCW
Rainworth Heath	SK591591	2009	DCW
Wilwell Cutting	SK566348	2018	NDo

Carex elata All.

Tufted Sedge

National Status: Least Concern (GB), Near Threatened (Eng.),

Nationally Scarce

Nottinghamshire Status: Scarce

Monads: 7

Howitt (1839) described tufted sedge *Carex elata* as being rather frequent. Since the 19th Century the species has steadily declined in the VC and Howitt & Howitt (1963) described the species as being infrequent occurring on lighter soils next to water. Since 1970 the species has been recorded in only ten monads and at several sites is reduced to small populations. It is therefore, vulnerable to further declines. Since 2012, a search of the archives has revealed two records (in bold) in the same localities as the older records and a survey of Oxpasture Plantation has confirmed that the population is still extant. The Jubilee Campus population is probably planted

Location	GR	Date	Recorder
Old Trent, South Clifton	SK823690	1975	RCLH
Banks Carr Drain	SK599911	1996	DCW
Oxpasture Plantation	SK832634	1998	DCW
Oxpasture Plantation	SK832632	1998	DCW
Oxpasture Plantation	SK833633	2014	JC
Snow Sewer, Misson	SK726983	1999	DCW
Snow Sewer, Misson	SK724981	2012	DCW, JC
Snow Sewer, Misson	SK727983	2006	LH, RBa
Misson Drain	SK727982	2006	LH, RBa
Darnsyke, Thorney	SK855738	2007	DCW
Darnsyke, Thorney	SK856739	2011	DCW, MW
Wigsley Wood	SK850706	2007	DCW
University of Nottingham Jubilee Campus	SK544399	2010	DCW

Carex ericetorum Pollich.

Rare Spring-sedge

National Status: Vulnerable (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Extinct

The details of this single record are extracted from the Vascular Plant Database. Surveys in the Worksop area since 1970 by local recorders have not re-found this taxon, but the area has been heavily modified since the late 1960s. It is worth noting that there are fairly close records of this taxon in Derbyshire on the Magnesian Limestone so it is feasible that populations could still be present on Magnesian Limestone habitat in Nottinghamshire.

Location	GR	Date	Recorder
Worksop	SK580790	1968	CDPi

Carex hostiana DC.

Tawny Sedge

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 2

Tawny sedge *Carex hostiana* is nowadays confined to two sites in the county, both of which are flushes on the Magnesian Limestone. It was formerly recorded at Sookholme Bath but searches have

failed to locate the population in recent years. It has been known at the Sookholme Moor site since 1907, but was not recorded since until a recent survey by Natural England in 2013, which confirmed that the species was still present. The population at Annesley Woodhouse Quarry SSSI was a relatively recent find, but historically it may have been overlooked, because it occurs with distant sedge and these two species can be difficult to separate. Both populations are located on designated sites and are being managed to promote biodiversity; as such the populations are not considered to be particularly vulnerable to extinction.

Location	GR	Date	Recorder
Sookholme Bath	SK543668	1972	JH
Sookholme Moor	SK554678	2013	RT
Annesley Woodhouse Quarry	SK489533	2008	JF, MW, DCW

Carex pulicaris L.

Flea Sedge

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Scarce

Monads: 4

Flea sedge *Carex pulicaris* had become rare by the early 1960s and Howitt & Howitt (1963) only listed the species at two sites, neither of which were extant by the 1970s. However, in recent times the species has been located at five sites, and with the exception of the Friezeland site, are all associated with the Magnesian Limestone areas of the county. It is not known if the increased number of sites represents an extension in the range of the species or whether in the past, the species was overlooked. Since 2015, a survey of Sookholme Moor (in bold) has confirmed that the population is still extant.

Location	GR	Date	Recorder
Tiversal Trail	SK491636	2001	MW
Warsop Hills and Holes	SK557678	2012	DCW, RAJ
Sookholme Moor	SK554678	2017	RAJ, DCW
Friezeland	SK476505	2005	DCW
Annesley Woodhouse Quarry	SK489533	2008	DCW, MW

Carex vesicaria L.

Bladder Sedge

National Status: Least Concern (GB), Vulnerable (Eng.)

Nottinghamshire Status: Scarce

Monads: 8

Bladder sedge *Carex vesicaria* has never been common in the VC and has generally been associated with base-rich soils where the water table is at or above the ground level for a significant part of the year. In the past, the species was most commonly found close to the Rivers Trent and Erewash, but was also associated with still-water habitats such as Moorgreen Reservoir, Holme Pit and Haughton Duck Decoy. The plant can still be seen in good quantities at many of the extant sites such as Clifton Pond and Moorgreen Reservoir. Since 2015, a survey at Holme Pit has confirmed that the population is still extant (in bold), but is being overwhelmed by common reed *Phragmites australis*.

Location	GR	Date	Recorder
Broadholme	SK87	1973	MJH
High Marnham Power Station Drain	SK812713	1977	IB
Holme Pit	SK535346	1991	DCW
Holme Pit	SK538347	1991	DCW
Holme Pit	SK537346	2017	DCW, NP
Haughton Decoy	SK681719	1972	JH
Haughton Decoy	SK68037188	2011	DCW, MW
Holme Pierrepont Gravel Pits	SK620381	2015	DCW
Lound Gravel Pit	SK713866	2003	DCW
Moorgreen Reservoir	SK481493	2005	DCW
Moorgreen Reservoir	SK483496	2011	MW

Location	GR	Date	Recorder
Spalford	SK86	1976	MJH
Spalford	SK830688	1990	DCW
Spalford	SK828688	1990	DCW
Spalford	SK829689	1999	DCW

Carex vulpina L.

True Fox-sedge

National Status: Vulnerable (GB and Eng.)

Nottinghamshire Status: Extinct

Aberystwyth University Herbarium holds a specimen of true fox-sedge *Carex vulpina* collected from a site in the Gotham area of South Nottinghamshire by D.A.J. Little. The underlying geology of the monad is Mercia Mudstones, but the wetter areas are generally associated with the floodplain of Fairham Brook on Gotham Moor to the east of Gotham. Targeted searches of ditches and the wetter areas of the remaining unimproved grasslands could be worthwhile.

Location	GR	Date	Recorder
Gotham	SK5330	1948	DAJL

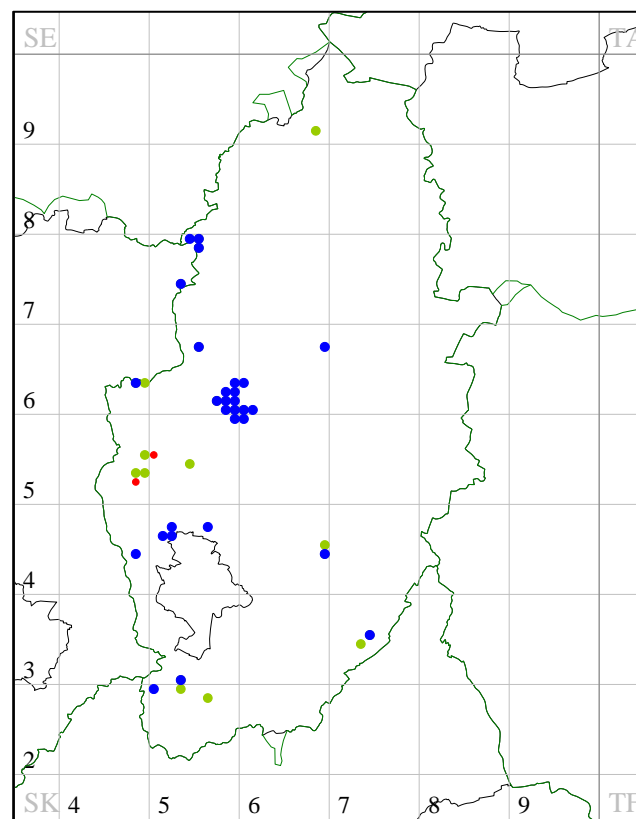
Carlina vulgaris L.

Carlina Thistle

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Uncommon

Monads: 29 (post-2000)



Before 1963 the species was widespread across the county, but habitat loss, lack of management, and weed control has been responsible for a significant decline. In semi-natural habitats, the species is generally associated with basic soils and is a typical component of grasslands on Magnesian Limestone and Lias Clays, but such grasslands have declined and in modern times the species is more often associated with man-made habitats including gypsum mines, post industrial sites containing broken concrete and forestry sites with limestone tracks.

Carum carvi L.

Caraway

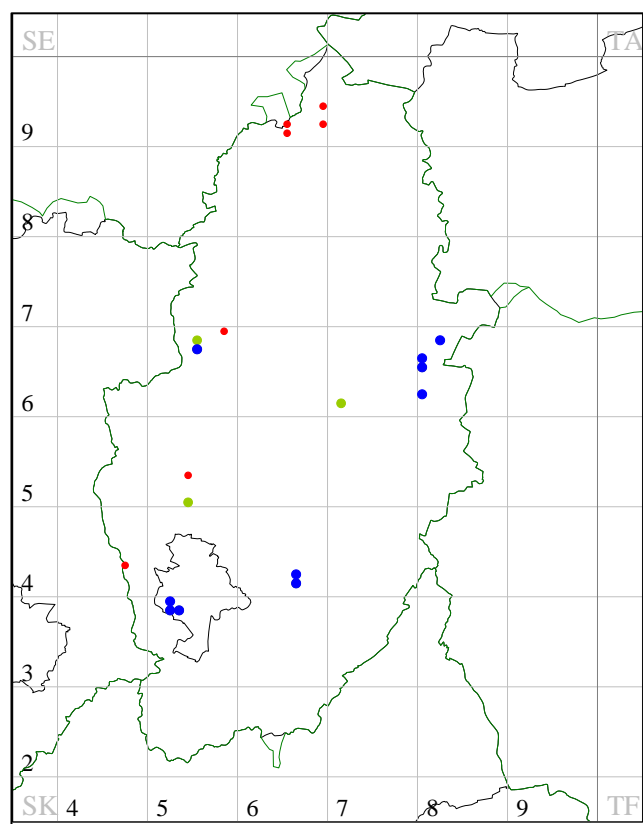
National Status: Endangered (GB), Critically Endangered (Eng.)**Nottinghamshire Status:** Rare**Monads:** 1

Caraway *Carum carvi* has always been a rare casual in the VC and before 1970 was recorded at various scattered localities throughout the county, except in the far north. Since 1970, the species has only been recorded twice in rough grassland on the bank of Rainworth Water by a sewage treatment works

Location	GR	Date	Recorder
Rainworth Water Grassland	SK596591	1993	DCW
Rainworth Water Grassland	SK598592	1994	DCW

Catabrosa aquatica. L. P. Beauv.

Whorl-grass

National Status: Least Concern (GB), Vulnerable (Eng.)**Nottinghamshire Status:** Scarce**Monads:** 20

Before 1963 the species was widespread on the margins of canals and streams, and in wetlands and was found throughout the county. Significant losses have occurred across the county reflecting national declines. The major losses have occurred in the north of the county, because of inappropriate management of drains and the loss of wetlands following the construction of the River Idle Pumps. Elsewhere in Nottinghamshire, habitat modification has been a significant factor.

Centaurea calcitrapa L.

Red Star-thistle

National Status: Critically Endangered (GB), Endangered (Eng.), Nationally Rare**Nottinghamshire Status:** Extinct

There is only one historic record from Old Basford in the early 20th Century, described by Howitt as a rare alien. Stace (2019) considers the species to be an Archaeophyte and hence the inclusion in this register. Grantham Museum contains an herbarium sheet.

Location	GR	Date	Recorder
Old Basford	SK54	1908	HF1

Centaurea cyanus L.

Cornflower

National Status: Least Concern (GB and Eng.), Nationally Rare**Nottinghamshire Status:** Uncommon (as an archaeophyte)**Monads:** 75 (13 as an archaeophyte)

As an annual weed of arable fields cornflower *Centaurea cyanus* was already rare by the early 1960s. Between 1970 and 2015 the species was only recorded at three locations as an arable weed including South Clifton, Costock and Bawtry. In recent years, the number of records has significantly increased largely because of widespread sowing as part of grassland and arable seed-mixes. However, there have been ten records associated with arable margins that do not appear to have been sown. Locations include Gringley Carr, Sutton-on-Trent, Clumber, Bolham, Flawborough and Hickling.

Location	GR	Date	Recorder
South Clifton Arable Field	SK826703	1999	PA, RAJ
Costock Arable Field	SK574255	1987	Woll.
Bawtry Field	SK64379370	2006	GC
Bawtry Field	SK64409367	2006	GC
Gringley Carr	SK707939	2019	MW
Gringley Carr	SK716927	2019	MW
Gringley Carr	SK714946	2018	RAJ, DCW
Sutton-on-Trent Drain	SK796663	2019	MW
Flawborough	SK781427	2019	DCW
Bolham	SK708824	2019	GH
Hickling	SK709293	2017	DCW, NP
Hickling	SK711292	2017	DCW, NP

Centaurea debeauxii Gren. & Godr.

Lesser Knapweed

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare**Monads:** 2

Howitt's flora suggested that the species was more common than the number of records suggested. Up to 1963 it had been recorded at six locations (five hectads). Despite searches, no further populations were located until 2016 when D.A. Broughton found a population on a roadside verge.

Location	GR	Date	Recorder
A52 Trunk Road, Radcliffe-on-Trent	SK6338	2016	DAB

Centaurea nigra L. x *Centaurea debeauxii* Gren. & Godr.

Hybrid Knapweed

National Status: Data Deficient**Nottinghamshire Status:** Rare**Monads:** 2

There are two records for this rare hybrid in the county dating back to 1952. For reasons unknown, neither record is in Howitt's 1963 Flora, which is unexpected because the Howitts obviously corresponded with E.M. Marsden-Jones to confirm the pre-1960s *Centaurea debeauxii* records for the county. The Newark Wharf record is located in the vicinity of the pre-1963 lesser knapweed records, but the Cossall record is some distance from the nearest lesser knapweed record. Given the paucity of lesser knapweed records in recent times it is very likely that the hybrid is no longer extant.

Location	GR	Date	Recorder
Newark Wharf	SK85C	1952	EMMJ
Cossall	SK44	1952	DPe

Centaureum pulchellum (Sw.) Druce Lesser Centaury

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Scarce

Monads: 9

Lesser centaury *Centaureum pulchellum* at Langold Colliery Yards



Source: S. Hammonds

Lesser centaury *Centaureum pulchellum* is usually found in dry, open grasslands and heaths, but can also be found on open disturbed ground. The species appears to be a recent arrival, because there are no historical records for the VC and at three sites artificial habitats have been colonised following closure of the coal mines. At Langold the plants are located on winter wet barish soils that cover parts of the former colliery yards. At Shireoaks the plants are found in a similar habitat, but thousands of plants also occur on the shale seepages of the colliery spoil tips. At Costhorpe Industrial estate, the substrates are mixed but essentially derive from the former colliery yards and are, therefore, of similar composition to the other two sites. Since 2015 two new locations in the southeast of the county have been found on a former gypsum quarry at Hawton and a landfill nearby at Cotham.

Location	GR	Date	Recorder
Langold Colliery Yards	SK582858	2012	DCW, MW, SH, GC
Langold Country Park	SK583863	2013	RAJ
Costhorpe Industrial Estate	SK5886	2015	RAJ, GC
Shireoaks Colliery Tip	SK563805	2012	CS, RS
Shireoaks Colliery Tip	SK564806	2012	DCW, CS, RS
Shireoaks Colliery Tip	SK559807	2015	RAJ
Shireoaks Colliery Tip	SK564806	2010	DCW
Shireoaks Colliery Tip	SK561807	2012	CS, RS
Shireoaks Colliery Tip	SK561805	2015	CS, RS
Shireoaks Colliery Tip	SK560807	2013	DCW

Location	GR	Date	Recorder
Shireoaks Colliery Tip	SK562807	2015	RAJ
Shireoaks Colliery Tip	SK559806	2010	DCW
Shireoaks Colliery Tip	SK558809	2012	GC
Shireoaks Colliery Tip	SK557810	2015	RAJ
Shireoaks Colliery Tip	SK557809	2011	DCW, MW
Parson's Wood Railway Sidings	SK536683	2013	DCW
Hawton Gypsum Quarry	SK802485	2018	DCW
Cotham Landfill	SK800483	2018	JC, RAJ
Cotham Landfill	SK801485	2018	JC, RAJ
Cotham Landfill	SK801486	2018	JC, RAJ
Cotham Landfill	SK802484	2018	JC, RAJ

Cephalanthera damasonium (Mill.) Druce White Helleborine

National Status: Vulnerable (GB and Eng.)

Nottinghamshire Status: Extinct

G Howitt last recorded white helleborine *Cephalanthera damasonium* in 1839 in "woods between Newstead and Linby". It has not been recorded since and is considered to be extinct.

Location	GR	Date	Recorder
Between Newstead and Linby	SK55	1839	GH

Cephalanthera longifolia (L.) Fritsch Narrow-leaved Helleborine

National Status: Vulnerable (GB), Endangered (Eng.), Nationally Scarce

Nottinghamshire Status: Extinct

J. Thompson last recorded narrow-leaved helleborine *Cephalanthera longifolia* before 1839 in woods near Welbeck. It has not been recorded since and is considered to be extinct.

Location	GR	Date	Recorder
Welbeck	SK56	1839	JT

Chamaemelum nobile (L.) All. Chamomile

National Status: Vulnerable (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Extinct

Howitt & Howitt (1963) described chamomile *Chamaemelum nobile* "as a rare plant of sandy fields". It is now probably extinct in the VC, because the Bramcote Landfill site, where it was last recorded as an introduction, has recently been landscaped and capped with introduced topsoil.

Location	GR	Date	Recorder
Bramcote Landfill	SK503387	2008	DCW
Bilborough	SK54	1939	JWC

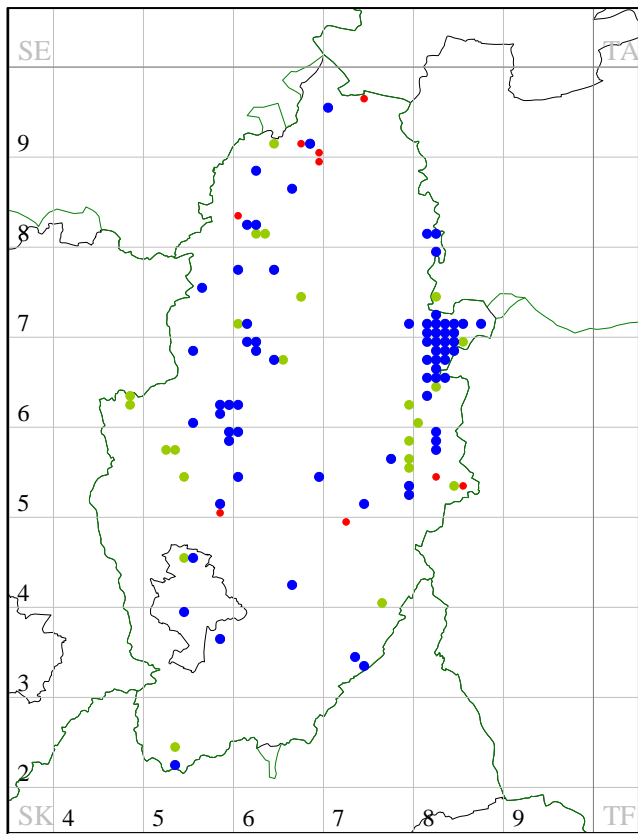
Cerastium arvense L. Field Mouse-ear

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Scarce

Monads: 92

Formerly field mouse-ear *Cerastium arvense* was common on the Bunter sandstones, but loss of habitat, improvement of grassland and natural succession has caused a significant decline. There has been a less dramatic decline on the river valleys and the blown sands in the east of the county, but many of the remaining grasslands are grazed by ponies and are in relatively poor condition because of over-grazing and poaching.



Cerastium x maureri M.
Schulze nom. Nud.

Cerastium arvense x tomentosum

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 5

Five populations have been recorded since 1993 wherever the parent populations have occurred. Snow-in-the-summer *Cerastium tomentosum* was present in the county pre-1963, but the Howitt Flora does not provide any records of the hybrid despite comments suggesting that the species was invasive. The two most recent records consist of many plants in amongst the parents and it will be interesting to track the fate of the hybrid population relative to the fate of each parent species.

Location	GR	Date	Recorder
Broomhill, Hucknall	SK545472	1997	DCW
Mansfield Racecourse	SK556606	2000	DCW
West Bridgford Dismantled Railway	SK587363	1993	DCW
West Bridgford Dismantled Railway	SK588362	2006	DCW
North Clifton Dismantled Railway	SK829715	2015	RAJ

Chenopodium hybridum (L.) Maple-leaved Goosefoot
S. Fuentes, Uotila & Borsch

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 8

The species has always been rare in the VC and before 1970 was only recorded in the Newark-on-Trent area. Between 1970 and 2015 the species was only recorded at five locations with losses at two landfill sites at Bramcote (SK503387) and Bunny (SK581286). Since 2015 a further five records have been located. Given that the species has a largely southern distribution it is feasible that climate change could enhance conditions for the taxon.

Location	GR	Date	Recorder
Lady Lee Quarry (near)	SK566797	2011	DCW
North Muskham	SK792586	2006	DCW
Hawton	SK802502	2010	DCW
Hawton	SK800502	2012	DCW, MW
Langley Mill	SK45474730	2016	BG
Wigsley Airfield	SK846698	2019	JS
University of Nottingham	SK53983828	2019	GH
Coddington Field	SK840546	2018	DCW
Beeston	SK532364	2019	GH

Chenopodium murale (L.) Nettle-leaved Goosefoot
S. Fuentes, Uotila & Borsch

National Status: Vulnerable (GB), Endangered (Eng.)
Nottinghamshire Status: Rare
Monads: 2

Although the species has always been historically scarce, it was widely distributed throughout the VC, but in recent times the species has declined and has only been recorded at three sites. Although Bramcote Landfill was landscaped and capped with topsoil a few plants were still present in 2010. At the Wilford site only one plant was recorded in 2005 and there have been no recent sightings of the population at Worksop and Martins Pond, so the species is considered to be very vulnerable to extinction in the VC. However, plants have been found recently at the University of Nottingham Highfields Campus with other goosefoots.

Location	GR	Date	Recorder
Worksop	SK592788	1972	JH
Martins Pond	SK5240	1987	JCo
Wilford	SK564367	2005	DCW
Bramcote Landfill	SK503389	2010	DCW
University of Nottingham, Highfields Campus	SK53983828	2019	GH

Chenopodium vulvaria L. Stinking Goosefoot

National Status: Endangered (GB and Eng.), Nationally Rare
Nottinghamshire Status: Extinct

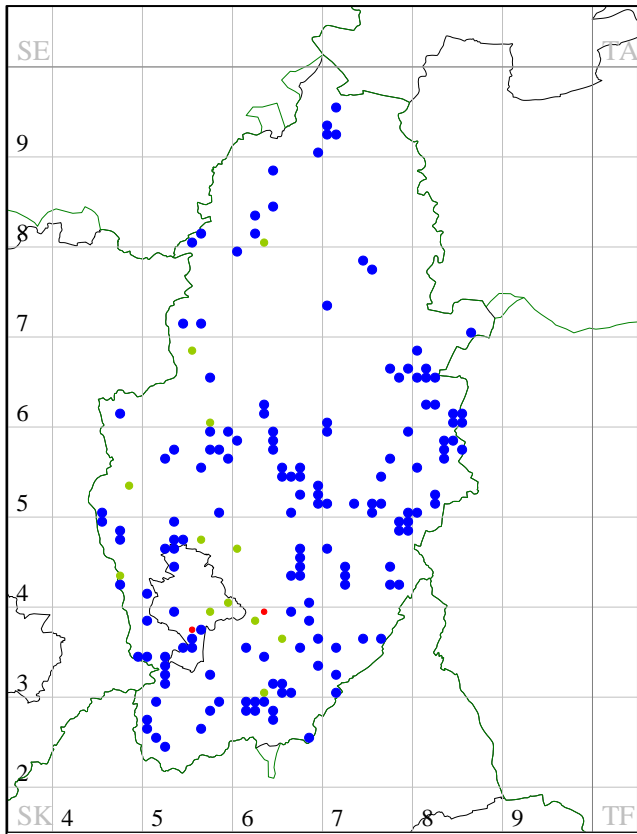
Stinking goosefoot *Chenopodium vulvaria* has always been rare in the VC and in the 19th Century was restricted to sites at Nottingham and Halam near Southwell. It was last recorded in the early 20th Century by A. R. Horwood in the south of the VC at Kingston-upon-soar.

Location	GR	Date	Recorder
Kingston-on-Soar	SK52	1916	ARH

Cichorium intybus L. Chichory

National Status: Least Concern (GB), Vulnerable (Eng.)
Nottinghamshire Status: Widespread
Monads: 150 (2000 - 2019)

Stace (2019) describes two sub-species including subsp. *silvestre* and subsp. *intybus*, the former being wild plants and the latter being the cultivated plants. The distribution of the two species in Nottinghamshire are not separated so the status of the wild plants needs further investigation. Most of the records on the map below are likely to be escapes from cultivation, primarily sown for game birds.

*Cicuta virosa* L.

Cowbane

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

Cowbane *Cicuta virosa* was extinct before the publication of G. Howitt's flora in 1839 and was only ever recorded at two locations in the VC, both in the city of Nottingham.

Location	GR	Date	Recorder
Ditches next to Nottingham Castle Rock	SK5937	1809	JB

Circaea x intermedia Ehrh.*C. alpina x lutetiana*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 2

In 2012 a single large patch and nearby, two smaller patches were recorded growing at Clifton Grove, which is mature broadleaved woodland habitat, rising above the south bank of the River Trent, in the City of Nottingham. This is the first VC record and because the woodland has been frequently surveyed in the last few decades, it is likely to be a recent arrival, possibly following flood events. It was still present in 2017. During 2013 a further colony was located at Norwood in the northwest of the county growing alongside a footpath, which suggests that it was possibly introduced.

Location	GR	Date	Recorder
Clifton Grove	SK54613542	2017	DCW
Norwood	SK477633	2013	DCW, MW

Cirsium acaule L.

Dwarf Thistle

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 9

Before 1970, dwarf thistle *Cirsium acaule* was considered to be uncommon in the county, but was widespread and used to occur on the Magnesian Limestone in the northwest of the VC as well as on the base-rich clays of the River Trent Valley and the south of the VC. However, in recent times the species has not been found on the Magnesian Limestone at Skegby (SK4960 / 4961), Teversal (SK481625) and Broxtowe (SK521429) or in the Trent Valley at Thurgarton (SK6848) and in the south has not been seen at the East Leake sites (SK5528 and SK551274). The probable reason for the losses is a lack of grazing and natural succession to tall grassland and scrub. A survey of Orston Plaster Pits in 2015 confirmed that the population is still extant. Since 2015, a further population has been found at Gotham Hill in a neighbouring monad (in bold).

Location	GR	Date	Recorder
Barnstone Quarry	SK733346	1998	DCW
Normanton-on-Soar Great Central Railway	SK538246	2011	DCW, MW
Langar Airfield	SK749334	2009	DCW
Gotham Hills	SK531307	2009	DCW
Gotham Hills	SK529307	2009	DCW
Gotham Hills	SK537312	2018	DCW
Orston Plaster pits	SK762402	2015	RAJ, JC
Hickling Standard Grassland	SK683281	2010	DCW
Barnstone Dismantled Railway	SK739358	2010	DCW
Barnstone Dismantled Railway	SK744353	1997	MW

Cirsium dissectum (L.) Hill

Meadow Thistle

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Probably Extinct

Meadow thistle *Cirsium dissectum* has always been rare in the county and by 1970 was only found at one site. Howitt & Howitt (1963) stated that the species was still common in fields near to Misson and Everton until 1950, but declined thereafter because of re-seeding. The reason for the disappearance from Misson Line Bank in 1973 is unknown, but could have been caused by a lack of management and natural succession to scrub and woodland, in addition to a general drying out of the area.

Location	GR	Date	Recorder
Everton Meadows	SK69	1963	RCLH
Misson Line Bank	SK708958	1973	RCLH

Cirsium x celakovskianum Knaf.*C. palustre x arvense*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

The hybrid has been recorded throughout the UK wherever both parents occur together, but it has not knowingly been recorded in Nottinghamshire until 2013 and Stace *et al* (2015) states "that there must be effective barriers to hybridisation as flowering plants of both species without any hybrids are often found in close proximity." Targeted searches of sites containing both parents will probably provide further records, but no hybrids have been found since 2013. At Freckland Wood, a former colliery spoil tip, the parents are growing on a flushed grassland glade that is east-facing.

Location	GR	Date	Recorder
Freckland Wood	SK528524	2013	MW

Cirsium x grandiflorum Kittel*C. eriophorum x vulgare***National Status:** Data Deficient**Nottinghamshire Status:** Rare**Monads:** 1

Stace (1991), states that the hybrid is rare in England to Southeast Yorkshire. It is partially fertile and intermediate in stem wingedness and capitulum characters. It has been recorded at only one location in the south of the VC and has persisted since 1992. Stace et al (2015) suggests that the hybrid is confined to similar habitats to woolly thistle *Cirsium eriophorum* rather than spear thistle *C. vulgare*, which would explain why the hybrid is rare in Nottinghamshire.

Location	GR	Date	Recorder
Cropwell Bishop Disused Gypsum Works	SK672355	2010	DCW

Cladium mariscus (L.) Pohl

Saw Sedge

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare**Monads:** 2

Saw sedge *Cladium mariscus* has only ever been recorded as a native at a single site in the county. Howitt & Howitt recorded a small population in a ballast pit at Misterton Soss in June 1952; the population was still present at the same location in 2009. In 2016 a planted population was located at Car Colston.

Location	GR	Date	Recorder
Car Colston	SK712423	2016	DCW
Misterton Ballast Pits	SK775951	2009	DCW

Clinopodium acinos (L.) Kuntze

Basil Thyme

National Status: Vulnerable (GB and Eng.), UKBAP**Nottinghamshire Status:** Rare**Monads:** 4

Basil thyme *Clinopodium acinos* is a UKBAP species that has always been rather rare in Nottinghamshire: For the most part it has been found on dry banks on the Magnesian Limestone, but has also been found on sandy soils in the Sherwood area and in the south of the VC on base-rich clay and alluvial soil. In recent times the species has dramatically declined, and the only site on the Magnesian Limestone is Warsop Hills and Holes. Elsewhere the species has persisted at Barrow Hills in the north and a large population has developed in a steep railway cutting at Stanford-on-Soar (SK538224 to SK537229) in the south of the VC. Since 2012 a further population has been located at North Muskham on sandy soils, in short, species-rich, rabbit-grazed grassland alongside a railway line.

Location	GR	Date	Recorder
Warsop Hills and Holes	SK558678	2012	DCW, RAJ, JC
Warsop Hills and Holes	SK554677	2012	DCW, RAJ, JC
Barrow Hills	SK683917	2003	DCW
Stanford-on-Soar Great Central Railway	SK5322	2011	DCW, MW
North Muskham Grassland	SK791587	2015	MW, DCW, MC, SP

Clinopodium ascendens (Jord.) Samp.

Common Calamint

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Scarce (as a neophyte)**Monads:** 9

As a presumed native, common calamint *Clinopodium ascendens* was last recorded near Averham Church, but it is no longer extant

at that site. It has disappeared from all of the other historic locations, but still occurs as a neophyte at scattered sites. The population at Bunny Landfill is no longer extant, because the site was recently capped and landscaped. A search at Holme Pierrepont during 2015 confirmed that the population is extant. Since 2015, the species has been found at four new locations as a neophyte.

Location	GR	Date	Recorder
Footpath nr Averham Church	SK7654	1952	RCLH
Bunny Landfill	SK576284	2005	DCW
The Park, Nottingham	SK567394	2009	PS(B)
Headon Hedgerow	SK750769	2010	DCW
Holme Pierrepont Gravel Pits	SK621387	2015	DCW
Plumtree Railway Test Track	SK604336	2011	DCW
East of Nether Langwith	SK546703	2012	KB
Langwith Mill	SK547703	2018	RAJ
Rainworth Wood	SK582594	2019	RAJ
Rushcliffe Country Park	SK572325	2016	RAJ
Tesco Supermarket, Mansfield	SK536616	2017	RAJ

Clinopodium calamintha (L.) Stace

Lesser Calamint

National Status: Vulnerable (GB), Least Concern (Eng.),

Nationally Scarce

Nottinghamshire Status: Extinct

The only record for lesser calamint *Clinopodium calamintha* in the VC originates from 1807 in fields about Coddington, near Newark.

Location	GR	Date	Recorder
Fields about Coddington	SK85	1807	TO

Coeloglossum viride (L.) Hartm.

Frog Orchid

National Status: Vulnerable (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 4

Frog orchid *Coeloglossum viride* is found in unimproved grasslands on Permian Marls and Keuper Marls and was described by Howitt & Howitt (1963) as very rare. In recent times it has been recorded in five monads, with only one site located on the Keuper Marls. Populations vary from year to year, but there has been a general decline in the numbers of spikes at most sites. Monitoring of the Teversal population since 2012 has confirmed a fluctuating population with last count at 34 flowering spikes.

Location	GR	Date	Recorder
Teversal Grassland	SK479620	1972	JH
Kirkby-in-Ashfield Hills and Holes	SK498553	1973	NCC
Newhall Reservoir	SK662546	1992	DCW
Bentinck Banks	SK494554	1993	DCW
Annesley Woodhouse Quarry	SK489534	1999	DCW, MW
Bogs Farm Quarry	SK482533	2009	DCW
Teversal Trail	SK48026248	2017	NC

Colchicum autumnale L.

Meadow Saffron

National Status: Near Threatened (GB), Least Concern (Eng.)**Nottinghamshire Status:** Rare (as a neophyte)**Monads:** 1

As a native, meadow saffron *Colchicum autumnale* is probably no longer extant in the VC. It was already uncommon and decreasing before 1970 and was last recorded as a native at Walesby Common. Since 2015 the species has been recorded at two locations at

Blidworth (SK591556 and SK603551), both are likely to be garden escapes.

Meadow saffron *Colchicum autumnale* at Walesby



Source K. Balkow

Location	GR	Date	Recorder
Walesby Common	SK6670	1997	KB

Comarum palustre L. Marsh Cinquefoil

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Scarce
Monads: 5

Before 1970 marsh cinquefoil *Potentilla palustris* was considered to be uncommon and decreasing because of the loss and/or degradation of acid bogs. Since 1970 the species has only persisted at Rainworth and Misson and has only been recorded at nine sites. Of those nine sites, populations at Idle Stop, Misson (SK718964), Bestwood Duckponds (SK5549) and Weecar Lane, Girtton (SK836678) have been lost, because of factors such as habitat destruction, drainage and eutrophication. A population in fen habitat at Martins Pond (SK526402) was described in the first management plan for the site. The plan was written soon after the site was designated as a Local Nature Reserve in the late 1970s, but searches in more recent years have not located the species.

Location	GR	Date	Recorder
Misson Line Bank	SK708958	1973	RCLH
Clifton Drain, Spalford	SK8269 / SK8268	1975	RCLH
Foulevil Brook	SK578583	1978	JH, Woll.
Gringley Carr Drain	SK707939	1980	NCC
Foulevil Brook	SK576584	2007	DCW

Convallaria majalis L. Lily-of-the-Valley

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce (as a native?)
Monads: 7 (as a native?)

Native lily-of-the valley *Convallaria majalis* is located on sandy soils in seven woodlands in the VC. Three of the woodlands including Jack O'Sherwood, Harlow Wood and Big Wood are located on the Bunter Sandstones of the Sherwood area. Road Wood, Gibbett Wood and Wigsley Wood are located in the east of the VC on blown sands and the Pleasley population is located in scrub next to a stream on the Magnesian Limestone. A recently located population at Bagthorpe Plantation (in bold) is possibly native and occurs on the Coal Measures in the west of Nottinghamshire. In addition to the native locations there are a further 35 populations scattered across the VC, which are considered to be introductions or garden escapes and are not included in the table below.

Location	GR	Date	Recorder
Big Wood*	SK563473	2010	DCW, JC
Harlow Wood*	SK547573	1993	DCW

Location	GR	Date	Recorder
Jack O'Sherwood	SK544524	1978	Woll.
Pleasley Vale*	SK524652	1988	DCW
Road Wood	SK852737	2004	RAJ
Gibbett Wood	SK8773	1975	RCLH
Wigsley Wood	SK854706	2011	DCW, MW
Wigsley Wood	SK849704	2011	DCW, MW
Bagthorpe Plantation	SK475514	2015	JC

*Possibly introduced

Crassula tillaea L.

Mossy Stonecrop

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 2

Until 2017 the species was only ever recorded on gravelly rides at Stapleford Wood and Langford Moor. Both sites are located in the east of the VC in very close proximity to the Lincolnshire border. The species has not been seen at Langford in recent times and in 2012 the population that has been recorded as scattered along a single ride at Stapleford Wood (from SK849559 to SK851556) was reduced to a single plant at SK84965590. In 2017 a population was located on the sandy verges of an unclassified road and on short grassland and bare areas of the adjacent gravel pits at Girtton.

Location	GR	Date	Recorder
Stapleford Wood	SK850557	2012	DCW, RAJ
Girtton Gravel Pits	SK824673	2017	RP
Girtton Track	SK824674	2017	RP

Crepis paludosa (L.) Moench.

Marsh Hawk's-beard

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 2

Marsh hawk's-beard *Crepis paludosa* has only ever been recorded at two sites; near Newboundmill and near Annesley Woodhouse. In recent times, the spread of Himalayan balsam *Impatiens glandulifera* is likely to be the cause of the decline at Cuttail Brook. However, the remaining population at Newboundmill is considered to be stable and is comprised of two large colonies associated with wet seepages in semi-natural woodland, just on the Nottinghamshire side of the VC56 / VC57 border.

Location	GR	Date	Recorder
Cuttail Brook	SK489530	2011	DCW
Newboundmill Wood	SK492635	2017	DCW, JC

Crocus neapolitanus (Ker Gawl.) Loisel.

Spring Crocus

National Status: Recorded as a Neophyte
Nottinghamshire Status: Scarce, Nottinghamshire LBAP
Monads: 10 (as an archaeophyte)

Spring crocus *Crocus neapolitanus* is naturalised in Nottinghamshire, having been recorded before 1500 AD, Howatt (2004). This native of the Balkan region of former Yugoslavia was formerly abundant on the Bunter Sandstones and Keuper Marls and was often found in the same places as autumn crocus. As a consequence of habitat destruction, by the early 1960s, the species suffered a similar fate to that of autumn crocus, but has fared slightly better in more modern times. Since 1970 spring crocus has been recorded at more sites than autumn crocus and several of the remaining populations are relatively large. A census of two sites at the Nottingham University Highfields Campus by the 'Friends of the University of Nottingham' group revealed a total of 11,500 flowering spikes. The species has also been recorded as a garden escape or introduction at 22 sites, but details of those records are not included in this register. Since 2015 several new populations have been found (in bold) at Lowdham, Annesley and Clifton. The population at the University of Nottingham was also recorded in 2019.

Location	GR	Date	Recorder
Moorgreen Chapel	SK485476	2001	RC
Beeston Fields	SK521376	2002	RC, DCW
Beeston Fields	SK522384	2002	DCW
Awsworth Churchyard	SK483441	2002	DCW
Radford Churchyard	SK555407	2002	RC
Nottingham General Cemetery	SK565403	2014	WH
Nottingham Arboretum	SK567407	2013	WH
Greasley Churchyard	SK489472	2002	DCW
Lenton Churchyard	SK555393	2002	RC, DCW
University of Nottingham	SK536377	2019	GH
University of Nottingham	SK533383	2015	DO'G
Babworth Churchyard	SK686808	2013	DCW, MW
Beeston Fields	SK518374	2010	DCW
Annesley Plantation	SK513517	2016	DCW
Annesley Plantation	SK517527	2016	DCW
Lowdham Roadside Verge	SK670460	2019	MW
Clifton Churchyard	SK541348	2018	DCW

Crocus nudiflorus Sm.

Autumn Crocus

National Status: Recorded as a Neophyte**Nottinghamshire Status:** Scarce, Nottinghamshire LBAP Species**Monads:** 6 (as an archaeophyte)Autumn crocus *Crocus nudiflorus* at Walesby

(Source: Ken Balkow)

Stace (2019) describes this species as the most naturalised of the crocus species in the British Isles. Howitt & Howitt (1963) described the species as being "formerly naturalised over large areas of Nottingham, Dunkirk and Wilford meadows. Howatt (2004) describes the species as naturalised, being introduced into the county well before 1500 AD. Many of the former habitats have been lost to development, mining subsidence, pit dumps, Wilford Power Station, flood prevention schemes and Nottingham City dump, but occasional plants still occur. In modern times the species has been recorded at eight sites in and around the City of Nottingham and one site at Hoveringham. Two populations at Wilford (SK565366 and SK563365) are no longer extant and the remaining populations are relatively small. Another eleven records, which are not included in the table below (including a population at Walesby), are considered to be deliberate introductions or recent garden escapes. Surveys in 2016 confirmed that the population at Hoveringham (in bold) is still extant.

Location	GR	Date	Recorder
Colwick Racecourse	SK604396	2006	DCW, RAJ
Hoveringham	SK709468	2016	RAJ
Skylarks Nature Reserve	SK617390	2008	DCW
Holme Pierrepont	SK605384	2007	SH
Nottingham General Cemetery	SK565403	2007	PA
Elm Tree Avenue, Nottingham	SK571410	2006	PA, DCW

Location	GR	Date	Recorder
Elm Tree Avenue, Nottingham	SK572410	2006	PA, DCW
The Forest Recreation Ground	SK563412	2002	PA
Walesby Forest	SK6670	2004	RAF
Wilford Churchyard	SK566378	2002	DCW

Cuscuta epithymum (L.) L.

Common Dodder

National Status: Vulnerable (GB and Eng.)**Nottinghamshire Status:** Rare (probably extinct)**Monads:** 1

Howitt & Howitt (1963) considered common dodder *Cuscuta epithymum* to be very rare or extinct, because it was not recorded in the VC after 1910. Since 1970, the species has been recorded at a single location to the east of the City of Nottingham, as a parasite on European Gorse *Ulex europaeus*. Unfortunately, the site has been destroyed.

Location	GR	Date	Recorder
Netherfield Dismantled Railway Sidings	SK631404	1994	DCW

Cuscuta europaea L.

Large Dodder

National Status: Least Concern (GB and Eng.), Nationally Scarce**Nottinghamshire Status:** Extinct

In the VC, large dodder *Cuscuta europaea* has only ever been recorded once in 1875, somewhere near to Mansfield. The presence of the species in the VC is somewhat surprising and it may have been an introduction. Nationally there are a few pre-1970 records for this species that are located to the north of the VC, but these records are mapped as alien and all modern records are located to the south of Northamptonshire, Preston *et al.* (2003).

Location	GR	Date	Recorder
Near Mansfield	SK56/66	1875	JCr

Cynoglossum officinale L.

Hound's-tongue

National Status: Near Threatened (GB and Eng.)**Nottinghamshire Status:** Declining**Monads:** 15 (since 2000)

Hound's-tongue *Cynoglossum officinale* has never been common, but before 1970 was widespread in the VC on dry grasslands or disturbed ground. In recent times the species has declined in the VC and throughout the British Isles, probably because of habitat loss and herbicide spraying. Since 2015 surveys at Scaftworth and Thoresby Park have expanded the extent of the populations (in bold).

Location	GR	Date	Recorder
Bilhaugh	SK639689	2009	DCW
Bilhaugh and Buck Gates	SK642683	2015	RAJ
Budby South Forest	SK622694	1972	JH
Cropwell Bishop Disused Gypsum Works	SK680348	2000	DCW
Old Hill, East Bridgford	SK696448	2010	DCW
Old Hill, East Bridgford	SK696449	2014	DCW
East Leake Great Central Railway Line	SK544259	2009	DCW
East Leake Great Central Railway Line	SK549267	2009	DCW
East Leake Great Central Railway Line	SK551275	2009	DCW
Normanton-on-Soar Great Central Railway Line	SK537229	2011	DCW, MW
Normanton-on-Soar Great Central Railway Line	SK536235	2011	DCW, MW

Location	GR	Date	Recorder
Normanton-on-Soar Great Central Railway Line	SK537244	2011	DCW, MW
Normanton-on-Soar Great Central Railway Line	SK540251	2009	DCW
Orston Plaster Pits	SK763402	2010	DCW
Red Hill	SK493306	1996	DCW
Red Hill Lock	SK492303	1996	DCW
Scaftworth	SK668919	2011	DCW, MW
Scaftworth	SK670917	2018	MW
Scaftworth	SK671917	2012	DCW, MW
Scaftworth	SK672917	2014	JC
Scaftworth	SK673918	2018	MW
Stanford-on-Soar Great Central Railway	SK537231	2009	DCW
Stanford-on-Soar Great Central Railway	SK536236	2009	DCW
Stanford-on-Soar Great Central Railway	SK539223	1996	DCW
Stanford-on-Soar Great Central Railway	SK542218	1996	DCW
Stanford-on-Soar Great Central Railway	SK541219	1996	DCW
Thoresby Park	SK636705	2009	DCW
Thoresby Park	SK637706	2009	DCW
Thoresby Park	SK641708	2009	DCW
Thoresby Park	SK646714	1972	JH
Thoresby Park	SK638707	2015	RAJ, JC
Thoresby Park	SK638708	2019	RAJ
Thoresby Park	SK639708	2019	RAJ
Thoresby Park	SK639709	2019	RAJ
Thoresby Park	SK640709	2018	RAJ
Willoughby-on-the-Wolds	SK621265	1987	Woll.

Cystopteris fragilis L.

Brittle Bladder-fern

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 7

For the most part, brittle bladder-fern *Cystopteris fragilis* has been recorded on walls rather than rocks and on the latter is now confined to a single population on a Magnesian Limestone outcrop at Pleasley. Elsewhere, populations at Newboundmill and Pleasley, which were recorded in 1963 (Howitt & Howitt, 1963), have subsequently declined and other populations at Linby (SK5351), Sneinton (SK592410) and Eastwood (SK461458) are no longer extant. However, new populations have appeared on walls at South Muskham and Eginton, which were not recorded before 1970. During 2019 the Eginton population was confirmed as being extant (in bold).

Location	GR	Date	Recorder
Pleasley Vale Dismantled Railway	SK518649	1997	DCW
Farm Access Bridge, Teversal Trail	SK486615	2000	DCW
River Meden Road Bridge, Newboundmill	SK496633	2001	DCW
Eginton Garden Wall	SK734687	2019	DCW, RAJ
Trent Viaduct Wall, South Muskham	SK798563	2010	DCW
Lock Wall, Beeston Canal	SK536354	2015	DCW, RAJ

Dactylorhiza incarnata subsp. *incarnata* (L.) Soó Early Marsh-orchid**National Status:** Waiting List (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 7

Howitt & Howitt (1963) considered that the only reliable VC record for early marsh orchid *Dactylorhiza incarnata* originated from Warsop Hills and Holes and on the advice of V.S. Summerhayes,

the records of J.W. Carr were probably better assigned to southern marsh orchid *Dactylorhiza praetermissa*. Since 1970, early marsh orchid has been recorded at four sites in addition to the Warsop Hills and Holes record (now referred to as Sookholme Moor). Howitt's Greasley record was not originally allocated to a subspecies, but for the sake of convenience is included below, because this is the most common of the subspecies in the VC. Checks since 2015 have confirmed the presence of the populations at Bevercotes and Hunt's Meadow (in bold). Two further relatively isolated populations have been recently located. The Widmerpool population is on a roadside verge and the Vicar Water population is in species-rich grassland on a colliery spoil tip

Location	GR	Date	Recorder
Fish Stew, Greasley	SK492469	1973	RCLH
Sookholme Moor	SK554678	2000	DCW
Kirkby-in-Ashfield	SK493549	2001	RAJ, DCW
Maplebeck Grassland	SK713617	2002	DCW
Hunt's Meadow	SK714618	2016	RAJ, NC
Bevercotes Country Park	SK710737	2018	DCW, MW, DP
Station Road, Widmerpool	SK633282	2019	AS
Vicar Water	SK59216279	2018	MS

Dactylorhiza incarnata subsp. *pulchella* (Druce) Soó Early Marsh-orchid**National Status:** Waiting List**Nottinghamshire Status:** Rare**Monads:** 1

The record for this subspecies has yet to be confirmed. It occurs in the west of the VC on Permian Marls in a sedge-rich marsh community.

Location	GR	Date	Recorder
Friezeland	SK476507	2004	DCW

Dactylorhiza maculata (E.F. Linton) Hut. & Summerhayes Heath Spotted-orchid**National Status:** Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare**Monads:** 2

Before 1970 the species was only recorded once in the south of the VC in a marshy meadow at Stanton-on-Wolds. V.S. Summerhayes verified the record in 1951. Since 1970, the species has not been recorded at Stanton-on-Wolds, but it has been recorded at two other sites in the VC. Although the two sites are a considerable distance from each other, they are both flushed grasslands on clay soils. The Askham population however, occurs in pasture grassland, whilst the Gotham population occurs on a golf course.

Location	GR	Date	Recorder
Rushcliffe Golf Course	SK546279	2007	DCW, MW
Askham Grassland	SK744751	2010	DCW

Dactylorhiza x insignis T. & T.A. Stephenson, Soó *D. praetermissa x D. purpurella***National Status:** Data Deficient**Nottinghamshire Status:** Rare**Monads:** 1

Taxonomic research by Matthew Gibbons (Nottingham Trent University) strongly suggests that the populations of marsh orchids *Dactylorhiza* spp. at Bevercotes Country Park includes several hybrid taxa. In particular, *Dactylorhiza x insignis* (southern marsh orchid *D. praetermissa* x northern marsh orchid *D. purpurella*), *D. x grandis* (common spotted orchid *D. fuchsii* x southern marsh orchid)

and possibly *D. x venusta* (common spotted orchid x northern marsh orchid). As described by Sell & Murrell (1996), the taxonomy of *D. x insignis* at Bevercotes is intermediate between the parents and statistical analysis verified that the characters were distinct from populations of both parents at the site and at other sites in Nottinghamshire and Derbyshire. Further taxonomic research is needed to confirm the presence of *D. x venusta*.

Location	GR	Date	Recorder
Bevercotes Country Park	SK739737	2014	MGi, MW
Bevercotes Country Park	SK711738	2018	MW, DCW

Daphne mezereum L.

Mezereon

National Status: Vulnerable (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 2

Since 1970 mezereon *Daphne mezereum* has been recorded at three sites where there is no evidence to suggest deliberate introduction. Although the species is native in the south of England it was not recorded in the VC before 1970 and is therefore, considered to be naturalised in the VC. At Skylarks Nature Reserve (SK619391), where it is no longer extant, and at Worksop the species is obviously naturalised, because it occurs on formerly disturbed land. However, the origin of the Broxtowe Wood bush is less obvious, because the woodland is ancient. However, given the close proximity of a housing estate the plant is considered to be a garden escape rather than native.

Location	GR	Date	Recorder
Broxtowe Wood	SK531429	2005	DCW, PA
Worksop	SK581800	2009	DCW

Dianthus armeria L.

Deptford Pink

National Status: Endangered (GB and Eng.), Schedule 8: Wildlife & Countryside Act 1981, Nationally Scarce,
Nottinghamshire Status: Rare, Nottinghamshire LBAP Species
Monads: 1

Howitt & Howitt (1963) stated that Deptford pink *Dianthus armeria* was a denizen or casual that was frequent near gardens and rubbish dumps. Between 1970 and 1992 the species was recorded as a casual at Bramcote Landfill (SK504387), where it is no longer extant. Since 1992, native populations were recorded on a dismantled railway line and a railway cutting near Widmerpool in the south of the VC. These populations are monitored on a regular basis and the last counts consisted of a smaller population of 68 plants at SK644297 and at SK649289, 420 plants in 2012 and 431 plants in 2013.

Location	GR	Date	Recorder
Widmerpool Dismantled Railway Line	SK643299	2003	DCW
Widmerpool Dismantled Railway Line	SK644297	2010	DCW
Widmerpool Dismantled Railway Line	SK649289	2013	NC, RAJ

Dianthus deltooides L.

Maiden Pink

National Status: Near Threatened (GB), Vulnerable (Eng.), Nationally Scarce
Nottinghamshire Status: Extinct (as a native)
Monads: 5 (as a neophyte)

Howitt & Howitt (1963) considered that maiden pink *Dianthus deltooides* was extinct by 1820, but as a native had previously occurred in the VC on Sandstone rocks in the City of Nottingham area. During 2003 the species was recorded at Oak Tree Heath near Mansfield and up until 2007, plants were present at Carburton Plantation on a woodland ride; at both sites, the species could have

been native. However, the status was never verified and despite searches at both sites the species has not been re-found in recent years. Records considered to be introductions or garden escapes are marked with an asterisk in the table below.

Location	GR	Date	Recorder
Oak Tree Heath	SK5660	2003	NRL
Carburton Plantation	SK61987216	2007	CS, RS
Holme Pierrepont Gravel Pits*	SK621387	1992	DCW
Warsop Vale Colliery Yards*	SK552683	2002	DCW
Winthorpe Garden Site*	SK815558	2004	DCW
Hawton Landfill*	SK803502	2010	DCW
University of Nottingham Jubilee Campus*	SK547397	2010	DCW
University of Nottingham Jubilee Campus*	SK547399	2018	JC
Netherfield Lagoons*	SK639402	2019	SM
Shirebrook Colliery	SK542669	2013	RAF

Dipsacus pilosus L.

Small Teasel

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 9

Small teasel *Dipsacus pilosus* at Epperstone Park



Source S. Hammonds

Small teasel *Dipsacus pilosus* has always been scarce in the VC and has been lost from Pleasley Forge, Beauvale Abbey, Kneeton Wood, and woods near Thurgarton and Elston. However, it is still extant in old woodlands, associated with Keuper Marl, at Epperstone, Gonalston and Flintham. In recent times the species has also been recorded in plantation woodland at Syerston, a roadside ditch at Linby, on a spoil heap at Bevercotes Colliery, in forestry woodland at Haywood Oaks, broadleaved woodland at Cutts Wood, and rough grassland at Scrooby. Primrose Plantation is close to Flintham Wood so the record is not altogether surprising.

The records at Bevercote are very odd, because they are nowhere near to any old woodland stands and many miles from the nearest populations. In addition, there are no historical records for the Bevercotes area. Since 2015, the population at Flintham has been confirmed as being extant (in bold).

Location	GR	Date	Recorder
Spital Wood	SK683484	1993	DCW
Flintham Wood	SK721478	2016	DCW
Flintham Wood	SK723482	2015	SM
Flintham Wood	SK727487	2016	DCW
Flintham Wood	SK728488	2016	DCW
Primrose Plantation	SK734488	2010	DCW
Epperstone Park	SK6349	1974	RCLH
Epperstone Park	SK634503	2010	DCW, SH
B6011 Roadside Ditch, Linby	SK533508	2011	MW
Cutt's Wood	SK647620	2017	MW
River Ryton, Scrooby	SK65049133	2018	MW
Bevercotes Colliery Spoil Mound	SK694737	2011	DCW
Haywood Oaks	SK60345443	2019	RAJ

Drabella muralis L.

Wall Whitlow-grass

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

There is no mention of wall whitlow-grass *Drabella muralis* in Howitt & Howitt (1963), but a herbarium sheet originating from Kingston Hall in the south of the VC is held by Aberyswyth University. It is not known why the Howitts were unaware of the record. Aside from its native habitat, wall whitlow-grass is also "a colonist on old walls, forest tracks and railways, and has been recorded as a garden weed where the conditions of its summer-dry, winter-moist, native habitat are mimicked²." It is therefore, possible that wall whitlow-grass could appear again, somewhere in the VC.

Location	GR	Date	Recorder
Kingston Hall	SK506279	1948	DAJL

Drosera rotundifolia L.

Round-leaved Sundew

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Extinct

Before the 20th Century round-leaved sundew *Drosera rotundifolia* was found at several sites in the VC, wherever peat deposits were present. By the start of the 20th Century virtually all the suitable habitat was destroyed or drained and subsequently the species became extinct. Reappearance is considered unlikely because of the permanent loss of wet peatlands.

Location	GR	Date	Recorder
Oxton Bogs	SK65	c.1900	JWC

Dryopteris cristata L.

Crested Buckler Fern

National Status: Critically Endangered (GB), Endangered (Eng.), Nationally Rare
Nottinghamshire Status: Extinct

Crested buckler fern *Dryopteris cristata* was last recorded in the VC at Oxton Bogs, but had become extinct early in the 20th Century. Nottingham Natural History Museum holds herbarium specimens from the late 19th and early 20th Centuries.

Location	GR	Date	Recorder
Oxton Bogs	SK65	1894	JWC
Oxton Bogs	SK65	1915	SHB

Dryopteris x complexa Rothm.

D. filix-mas x affinis

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 6

The hybrid was not recorded in the VC before 1970 and has only been recorded twice since that time. Page (1997) discusses the difficulty in separating the hybrid. This is because of the variability of both parents, the possible involvement of any of the scaly male fern *Dryopteris affinis* subspecies and the possibility of backcross hybrids to *Dryopteris filix-mas*. However, Page (1997) states that hybrids are likely to occur wherever the parents meet. As there are numerous sites throughout the VC where both species occur, the hybrid is likely to be more common than the number of records suggest. In the VC the hybrid has been recorded, to date, on damp soils in the Sherwood area. Since 2015, four more sites have been confirmed, in part, because of targeted searches (in bold).

Location	GR	Date	Recorder
Carburton Plantations	SK611728	1972	JH
Cuckney Hay Wood	SK559696	2008	DCW
Thorndale Plantation	SK62065068	2016	DCW, MW
Spitfire Hill	SK667747	2018	MW
Holme Pierrepont Gravel Pits	SK62193895	2016	DCW
Windmill Hill, Bunny	SK59942893	2016	DCW

Dryopteris x deweveri Jansen
(Jansen & Wachter)

D. carthusiana x dilatata

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 5

This hybrid is not uncommon in a wide range of slightly damp, fairly acidic plantation and semi-natural woodland habitats throughout the UK, Page (1997). In the VC the hybrid has been located in secondary fen woodland on peat deposits, in willow scrub on damp, sandy soils, secondary oak-birch woodland and in ancient woodland on clay soils. Detailed searches in the VC are likely to reveal more populations of the hybrid, because there are numerous sites where both parents occur together. Since 2015 a further population has been located in damp woodland at Patmore, with both parents.

Location	GR	Date	Recorder
Misson Carr	SK7197	2001	DCW
Daneshill Gravel Pits	SK6686	2006	DCW
Treswell Wood	SK765791	2006	DCW
Eelhole Wood	SK515478	1972	AJW
Oxton Bogs	SK6151	2011	DCW
Ash Holt, Babworth	SK687800	2013	DCW, MW
Patmore	SK675747	2018	DCW, MW

Dryopteris x uliginosa (Newm.)
Kuntze ex Druce

D. carthusiana x cristata

National Status: Data Deficient
Nottinghamshire Status: Extinct

Page (1997) states that the hybrid is a rare and local hybrid that is probably now confined to Norfolk. In the VC the hybrid has been recorded once only in 1866 at Oxton Bogs. Its reappearance is unlikely given the lack of crested buckler fern *Dryopteris cristata* in the VC.

Location	GR	Date	Recorder
Oxton Bogs	SK65	1866	EJL

² <http://www.brc.ac.uk/plantatlas/index.php?q=node/2492>

Eleocharis acicularis (L.) Roem. & Schult. Needle Spike-rush

National Status: Least Concern (GB), Near Threatened (Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 3

Nationally needle spike-rush *Eleocharis acicularis* is scattered, occurring in and next to the margins of still-water bodies and drains. In the VC, Howitt & Howitt (1963) stated that the species was rare, but occurred on the muddy margins of still waters throughout the VC. Since 1970 the species has declined and is now confined to two drains in the far north of the VC and a flooded sand pit at Scrooby, where it was only recently found. The losses at Moorgreen Reservoir and the Grantham Canal are probably caused by changes to the water quality and quantity.

Location	GR	Date	Recorder
Snow Sewer, Misson	SK724982	1972	JH
Gringley Carr Drain	SK721939	1978	Woll.
Gringley and Misterton Boundary Drain	SK723940	1978	Woll.
Snow Sewer, Misson	SK726983	1997	DCW
Snow Sewer, Misson	SK723980	1983	JOM
Scrooby Sand Pit	SK654904	2012	DCW, JC, MW

Eleocharis multicaulis (Sm.) Sm. Multi-stemmed Spike-rush

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Extinct

Howitt & Howitt (1963) described multi-stemmed spike-rush *Eleocharis multicaulis* as very rare, but it was probably extinct long before they published their flora, because there are no records after 1927. It was presumably lost because of drainage as many of the pools and wet areas associated with Birklands have dried out or have become seasonally rather than permanently wet.

Location	GR	Date	Recorder
Birklands Pool, Edwinstowe	SK66	1927	JWH

Eleocharis palustris subsp. *palustris* Sell & Murrell Common Spike-rush

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Extinct

Sell & Murrell (1996) describes subspecies *palustris* as being much rarer than the subspecies *vulgaris*, and includes Nottinghamshire in the list of counties where it has been found. Presumably they are referring to R. C. L. Howitt's single record from Thoresby Park, dated 1958, which was confirmed by S.M. Walters. Unfortunately, in more recent times the subspecies has not been refound and it is, therefore, probably extinct in the VC.

Location	GR	Date	Recorder
Thoresby Park	SK67	1966	RCLH

Eleocharis quinqueflora (Hartmann) Schwarz Few-flowered Spike-rush

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 1

Few-flowered spike-rush *Eleocharis quinqueflora* was not recorded in the VC until 1953 and has always been rare, being recorded at only two sites. Although the species has not been recorded at Rempstone Old Church Yard in recent years, several patches are still extant at Sookholme Moor in a peaty flush. In 2017 NBGR confirmed that the population at Sookholme Moor is still extant.

Location	GR	Date	Recorder
Sookholme Moor	SK554678	2017	NBGR

Few-flowered spike rush *Eleocharis quinqueflora* at Warsop Hills and Holes



Source S. Hammonds

Eleogiton fluitans (L.) Link. Floating Club-rush

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 10

Floating club-rush *Eleogiton fluitans* has only ever been recorded in drains and pools on the Carrs in the north of the VC. Howitt & Howitt (1963) considered the species to be rare, but more recent survey work has indicated that the species is still localised, but is now scarce, having been recorded in ten monads. Since 2015, the population in the Mother Drain at Gringley Carr has been confirmed and may have extended as it was recorded in a neighbouring monad.

Location	GR	Date	Recorder
Everton Carr Drain	SK694944	1978	Woll., JH
Delve Drain, Everton Carr	SK690942	1978	Woll., JH
Gringley and Misterton Boundary Drain	SK723940	1980	NCC
Gringley Carr Drain	SK721939	1978	Woll.
Mother Drain, Gringley Carr	SK717954	2011	DCW, MW
Mother Drain, Gringley Carr	SK717955	2012	DCW
Mother Drain, Gringley Carr	SK715953	2011	DCW, MW
Mother Drain, Gringley Carr	SK705943	1978	Woll.
Mother Drain, Gringley Carr	SK722962	2018	RAJ, DCW
Mother Drain, Gringley Carr	SK713951	2018	RAJ, DCW

Location	GR	Date	Recorder
Mother Drain, Gringley Carr	SK714953	2018	RAJ, DCW
Mother Drain, Gringley Carr	SK716954	2018	RAJ, DCW
Mother Drain, Gringley Carr	SK717956	2018	RAJ, DCW
Misson Carr Drain	SK717974	1994	DCW, RAJ, PA
Misson Carr Drain	SK714975	1994	DCW, RAJ, PA
Misson Carr Drain	SK713975	2010	DCW, MW
Misson Carr Drain	SK718976	1994	DCW, RAJ, PA
Misson Carr Drain	SK713978	2010	DCW, MW
Misson Carr Drain	SK7197	2014	MC
Misson Drain	SK724982	1978	RCLH, JH
Mother Drain, Misterton	SK723964	2002	DCW

Elymus athericus (Link) Kerguelén. Sea Couch

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Extinct

An unusual record, determined by T.G. Tutin and all the more so given that it was collected from Nottingham Meadows, where it persisted for many years. There are no recent records for this species, but it could be present on the verge of one of the regularly salted roads in the county.

Location	GR	Date	Recorder
Nottingham Meadows	SK53	1951	RCLH

Empetrum nigrum L. Strawberry

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Extinct

In the 19th and early 20th Centuries strawberry *Empetrum nigrum* was found at several sites in the Sherwood area. It was last recorded in 1920 at Oxton Bogs before it was destroyed by gravel workings. In 1894 J.W. Carr submitted an herbarium specimen from Oxton Bogs to the Nottingham Natural History Museum.

Location	GR	Date	Recorder
Oxton Bogs	SK65	1920	JWC

Epilobium lanceolatum L. Spear-leaved Willowherb

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 5

Spear-leaved willowherb *Epilobium lanceolatum* must have been unfamiliar to earlier recorders in the VC and therefore overlooked, because there are no pre-1970 records. Although it is predominantly a species of dry habitats in the southwest of Britain it has been frequently found elsewhere as a garden weed, which readily spreads to new habitats. In recent times, the species has been found in a variety of habitats in the south and east of the VC. A search for Collingham Churchyard population in 2012 failed to locate any plants.

Location	GR	Date	Recorder
A1133 Layby, Spalford	SK832692	1988	EMP
Collingham Churchyard	SK827613	1999	EMP
East Leake Great Central Railway	SK556291	2009	DCW
Derby Road Church, Nottingham	SK556397	2010	DCW
Stanton-on-the-Wolds Dismantled Railway	SK643298	2000	DCW
Gedling Churchyard	SK6142	2012	JSh

Epilobium x brevopilum Hausskn. *E. hirsutum x tetragonum*

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 4

This sterile hybrid is scattered in England, mostly in central and southern localities on waste and arable land, quarries and sand works, Sell & Murrell (2009). There are no pre-1970 records for the VC and in recent times, single plants have been recorded at three locations including arable fields and a disused gravel pit. A further single plant has been recently recorded on a new pond bank with both parents.

Location	GR	Date	Recorder
Holme Pierrepont Gravel Pits	SK617387	1997	DCW
Holme Pierrepont Gravel Pits	SK622384	1997	DCW
Upton Field	SK739535	2006	DCW
Clifton Field	SK566345	2007	DCW
Langold Colliery Yards	SK584861	2012	DCW, GC, MW, SH, AB
Chilwell Pond	SK503360	2015	DCW

Epilobium x dacicum Borbás *E. parviflorum x obscurum*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

This widespread hybrid has been found in a variety of habitats in the UK, Stace *et al* (2015). At Holme Pierrepont Gravel Pits it has been found at three locations where both parents occur together. It has not, however, been recorded in the VC before 2015.

Location	GR	Date	Recorder
Holme Pierrepont Gravel Pits	SK616388	2015	DCW
Holme Pierrepont Gravel Pits	SK619387	2015	DCW
Barton-in-Fabis Field	SK539337	2017	DCW

Epilobium x erroneum Hausskn. *E. hirsutum x montanum*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 2

This partially sterile hybrid is scattered in England, Wales and southern Scotland, Sell & Murrell (2009). There are no pre-1970 records for the hybrid and since 1970 single plants have been recorded at only four sites. Two sites are the verges of dismantled railway lines and the third site is a colliery tip. The fourth site is Bunny Landfill (SK578287), which has been recently modified by landscaping and capping with imported topsoil and consequently, the population is unlikely to be extant.

Location	GR	Date	Recorder
Cotgrave Colliery Yards	SK647365	1999	DCW
Ravensdale Dismantled Railway	SK560614	2001	DCW
Newstead Colliery Tip	SK519535	2011	DCW

Epilobium x fossicola Smejkal*E. ciliatum x palustre*

National Status: Scattered
Nottinghamshire Status: Rare
Monads: 1

This is the first record of what is a widely scattered neo-native hybrid in the UK, its distribution reflecting the spread of the neophyte American willowherb *Epilobium ciliatum*, Stace *et al* (2015). It occurs in damp, disturbed habitats and in the Nottinghamshire site it was locally abundant with both parents in damp, tall-herb fen.

Location	GR	Date	Recorder
The County Estate, Huthwaite	SK46325806	2015	DCW, MW

Epilobium x haussknechtianum
Borbás*E. montanum x tetragonum*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

This partially sterile hybrid has been recorded in central and southern England in quarries, gardens and shrubberies, Sell & Murrell (2009). In the VC, a single plant has been recorded once on a dismantled railway siding at Cotgrave Colliery.

Location	GR	Date	Recorder
Cotgrave Colliery Yards	SK647365	1999	DCW

Epilobium x mentiens Smejkal*E. ciliatum x tetragonum*

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 7

This partially sterile hybrid is scattered throughout England and Wales. There are six post-1970 records for the VC that include a nature reserve, barish soil in a University Campus, a landfill site, abandoned arable land, a gravel pit, a sand pit and a colliery tip. Bramcote landfill (SK504387) has recently been capped and landscaped, so it is probable that the single plant is no longer extant. Since 2015 the taxon has been recorded at one further site (in bold).

Location	GR	Date	Recorder
Bramcote Landfill	SK504387	2007	DCW
Nottingham Trent University Clifton Campus	SK551354	1996	DCW
Wilwell Cutting	SK567350	1994	DCW
Misson Parish	SE713003	2012	DCW, MW
Rufford Colliery Tip	SK601608	2012	DCW
Holme Pierrepont Gravel Pits	SK617389	2012	DCW
Top Road, Misson	SK701955	2012	DCW
Holme Pierrepont Gravel Pits	SK615385	2016	DCW

Epilobium x novae-civitat
Smejkal*E. ciliatum x hirsutum*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

This hybrid is scattered in Britain and is generally found on disturbed ground. It has only been recorded once in the VC. A single plant was recorded in a disused gravel pit close to the River Trent.

Location	GR	Date	Recorder
Holme Pierrepont Gravel Pits	SK616386	1997	DCW

Epilobium x palatinum F.W.
Schultz*E. parviflorum x tetragonum*

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 8

This native hybrid is scattered in southern and central England on disturbed ground. The records for the VC are all post-1970 and habitats include flushed soils on a colliery tip, barish spoil in a quarry, arable set-aside fields with clay soils and damper soils in a disused gravel and sand pits. Since 2012, the species has been recorded at one further location (in bold) with both parents.

Location	GR	Date	Recorder
Bentnck Void	SK483543	2006	DCW
Newstead Colliery Tip	SK524542	2011	DCW
Brinsley Field	SK454494	2009	DCW
Lound Gravel Pits	SK6986	2003	DCW, MW
Lound Gravel Pits	SK6985	2003	MW, DCW
Tollerton Field	SK607364	2007	DCW
Nether Langwith Quarry	SK542694	2012	DCW
Top Road, Misson	SK701955	2012	DCW
Shireoaks	SK563806	2015	RAJ

Epilobium x semiobscurum
Borbás*E. tetragonum x obscurum*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

This semi-fertile hybrid is found in disturbed sites, damp woods and wood banks across the UK, wherever the parents occur together, Stace *et al* (2015). It has only been recorded once in Nottinghamshire as a single plant with both parents at Holme Pierrepont Gravel Pits.

Location	GR	Date	Recorder
Holme Pierrepont Gravel Pits	SK615385	2015	DCW

Epilobium x subhirsutum Gennari*E. hirsutum x parviflorum*

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 6

This native partially fertile hybrid is scattered throughout Britain on riverbanks, marshes, waste or disturbed ground, gravel pits and quarries. There are no pre-1970 records for the VC and all post 1970 records consist of single plants. The plants are found in arable fields, a car park, a colliery spoil tip and on disturbed soils. Since 2015 the species has been recorded at one further site in an arable field corner (in bold).

Location	GR	Date	Recorder
Dukes Wood	SK679602	1997	DCW
West Leake Hills	SK533283	2001	DCW
High Marnham Field	SK813702	2003	DCW
Huthwaite Disused Workings	SK464578	2003	DCW
Gedling Colliery Tip	SK611438	2010	DCW
Hockerton Field	SK712577	2018	GH

Epilobium x vicinum Smejkal*E. ciliatum x obscurum*

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 8

This neo-native hybrid is partially fertile and is widespread in Britain. However, it was not recorded before 1970 and before 2012 was only

recorded four times in scattered locations in the VC. Since 2015, the hybrid has been recorded at two further locations (in bold).

Location	GR	Date	Recorder
Nottingham Trent University Clifton Campus	SK549354	1996	DCW
Kidney Clump	SK609772	1998	DCW
Colwick Country Park	SK613397	2006	DCW
Beauvale Brook Marsh	SK473476	2011	DCW
Clipstone	SK596625	2013	DCW
Holme Pierrepont	SK619387	2015	DCW
Brinsley Footpath	SK459488	2016	DCW, NP
Upper Broughton Grassland	SK681258	2016	DCW, NP

Epipactis palustris (L.)
Crantz

Marsh Helleborine

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Extinct

Before 1970, Howitt & Howitt (1963) described marsh helleborine *Epipactis palustris* as being very rare or extinct. It was last recorded during 1908 in a marshy area near Newboundmill. Although the species has not been re-found at Newboundmill in recent times, it was last recorded in 1984 some distance to the north in the Idle Valley at a former sandpit area. Unfortunately, the sandpit was destroyed soon after 1980 and the species has not been since, so it is assumed to be extinct.

Location	GR	Date	Recorder
Newboundmill Stream	SK46	1908	JWC
Wetlands Waterfowl Reserve, Sutton-cum-Lound	SK695855	1984	NRL, PP

Epipactis phyllanthos G.E. Sm.

Green-flowered
Helleborine

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 1

This species has only ever been recorded at a single location in the VC. In 1995 the population consisted of approximately 50 plants growing in open scrub on fly-ash substrate. It is not known whether the population was being specifically managed for biodiversity and the current status is unknown, because the last known check was carried out in 2004 when only four plants (three flowering spikes) were located.

Location	GR	Date	Recorder
West Burton Power Station	SK804869	2004	RP

Equisetum hyemale L.

Dutch Rush

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Extinct

Dutch rush *Equisetum hyemale* is much more common on heavy damp to wet soils in the north and west of Britain, with a few outliers in East Anglia and the Midlands. In the VC it was last recorded in the 19th Century and was probably lost from the 'moors' between Edingley and Kirklington, because of drainage and agricultural intensification.

Location	GR	Date	Recorder
Moors between Edingley and Kirklington	SK65	1839	GH

Equisetum x litorale Rupr.

Shore Horsetail

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 2

Shore horsetail *Equisetum x litorale* is the most frequent of the horsetail hybrids and it is found in a wide range of habitats, sometimes in the absence of one or more of the parents. The hybrid was not recorded in the VC before 1970 and since then has only been found at three locations. At Dob Park, a very large population is located in a tall-herb fen next to a stream and has been spreading into neighbouring plantation woodland. In the east of the VC, the species is located in a ditch in mature conifer plantation woodland on peaty soils. The most recent find is a substantial population in a balancing drain for the Beeston Canal.

Location	GR	Date	Recorder
Stapleford Wood	SK849558	2018	RAJ
Dob Park	SK523503	2015	MW
Tinker's Leen	SK566392	2017	RAJ

Equisetum variegatum F. Weber & D. Mohr

Variegated Rush

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

Before 1970 variegated rush *Equisetum variegatum* had not been recorded in the VC, but in 1989 a population covering an area of 3.6m x 2.4m was found by D. C. Wood in the marly soils at the base of a disused gravel pit at Holme Pierrepont. Unfortunately, the site was only kept dry whilst active gravel extraction took place and upon completion of the work, the pumps were due to be turned off, to allow the land to flood. In order to try and save the population, plants were translocated to Wilwell Cutting SSSI at Ruddington. The translocated population survived for nine years, but has not been seen at Wilwell Cutting since 1998 and the species is now considered to be extinct in the VC.

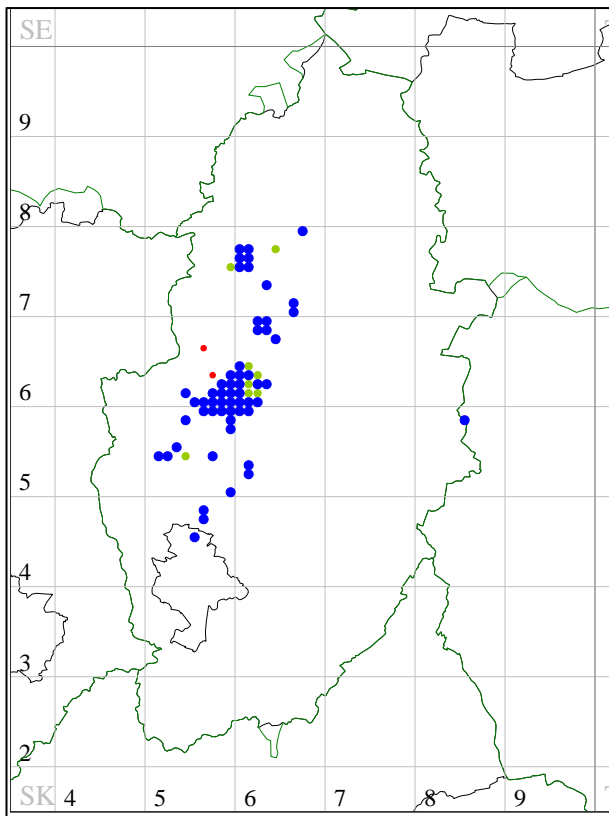
Location	GR	Date	Recorder
Holme Pierrepont Gravel Pits	SK611382	1989	DCW
Wilwell Cutting	SK567352	1998	DCW

Erica cinerea L.

Bell Heather

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Locally Frequent
Monads: 57 (since 2000)

Until the 1990s the distribution of bell heather *Erica cinerea* and the condition of extant populations reflected the decline in heathlands across the county. During the 1990s targeted action by conservation organisations along with Local Authorities, private estates, the Forestry Commission and UK Coal Ltd started to reverse the trends. The existing distribution is still a fraction of the historical distribution, but the declines have been halted and the condition of existing populations is much improved. Typically, the species is located on the sandy soils of Sherwood Forest, but is also found on colliery spoil tips and there is an outlier population associated with the blown sands in the east of the county.

*Erica tetralix* L.

Cross-leaved Heath

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Scarce
Monads: 9

Howitt & Howitt (1963) stated that cross-leaved heath *Erica tetralix* was always the least common of the heather species in the VC and by the 1960s it was declining in the Sherwood area, because of a falling water table. Since 1970 the species has completely disappeared from sites on the clays at Bothamsall and Gamston. More recently, the species has not been seen at Stapleford Wood (SK853552, SK853560 and SK853559), Thieves Wood (SK545569) and the Manton, A57 Road Cutting at SK603778. It is no longer abundant at any of the six remaining sites in the Sherwood area, even those sites that are managed for biodiversity such as Rainworth Heath and Budby South Forest and without action further declines are anticipated. The population at Clipstone Heath was confirmed as extant in 2013, but it is now rare. Since 2015, populations at Rainworth Heath and Budby South Forest have been confirmed as extant (in bold).

Location	GR	Date	Recorder
Rainworth Marsh	SK583579	1972	JH
Walesby Forest	SK666706	1992	DCW
Rainworth Heath	SK591592	2012	DCW, MW, RAJ
Rainworth Heath	SK590591	2017	NBGR
Rainworth Heath	SK591590	2017	NBGR
Rainworth Heath	SK591591	2017	NBGR
Rainworth Heath	SK590591	2017	NBGR
Rainworth Heath	SK591593	2017	NBGR
Clipstone Heath	SK595626	2013	DCW
Clipstone Forest	SK613603	2009	DCW
Budby South Forest	SK607693	2017	CR

Eriogon x huelsenii (Vatke)*Eriogon acris x canadensis*

National Status: Scattered
Nottinghamshire Status: Rare
Monads: 2

Nationally, this sterile hybrid is of sporadic occurrence wherever the parents occur together, Stace (2019). It is generally associated with disturbed habitats, is intermediate in hairiness and capitulum size and has mauve ligules. At Lound, several plants were recorded growing on barish sandy/gravelly overburden. At Fernwood, three plants were recorded. In both cases, the parents are growing in close proximity and it is probably worthwhile searching for the hybrid, wherever the parents grow together.

Location	GR	Date	Recorder
Lound Gravel Pits	SK701871	2004	DCW
Grange Lane, Fernwood	SK806491	2015	DCW, NP

Eriophorum angustifolium Honck.

Common Cotton-grass

National Status: Least Concern (GB), Vulnerable (Eng.)
Nottinghamshire Status: Uncommon
Monads: 12

By 1963 the species was becoming rare because of habitat destruction and drainage, but was still widely distributed on peat bogs in the VC. The species is now scattered and at many sites the populations are small, often restricted by the area of remaining habitat that is suitable. In recent times, populations at High Marnham Power Station (SK811711), Holme Pierrepont Gravel Pits (SK612380, SK611380 and SK612381), Wilwell Cutting (SK567351) and Scrooby Sand Pit (SK655903) have disappeared, because of habitat loss or degradation. There are, however, recent records for colliery spoil tips at Newstead and Bentinck Void and at Lound Gravel Pits in Area 4 (in bold). Since 2015, the species has been recorded at three sites. It is believed to have been planted at Arnold, confirmed extent at Rainworth Heath and a new population on spoil at the former Hawton Gypsum Quarry.

Location	GR	Date	Recorder
Arnold Pond	SK59654665	2016	MW
Hawton Gypsum Quarry	SK803497	2018	DCW
Mattersey	SK670883	1990	DCW
Mattersey	SK672884	1990	DCW
Torworth Gravel Pit	SK670865	1997	DCW
Misson Line Bank	SK716962	2001	DCW
Well Hill, Bircotes	SK624916	2003	DCW
Mattersey	SK672874	2005	DCW
Bestwood Country Park	SK556469	2006	DCW
Sandhill Lake	SK579796	2007	DCW
Bentinck Void	SK477540	2008	DCW
Bentinck Void	SK482539	2013	DCW
Manton Colliery	SK61027758	2014	RAJ
Rainworth Heath	SK591592	2012	DCW, RAJ
Rainworth Heath	SK591592	2017	NBGR
Newstead Colliery	SK52005371	2013	MW
Lound Gravel Pits	SK703871	2012	JS

Eriophorum latifolium Hoppe.

Broadleaved Cotton-grass

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Extinct

Broadleaved cotton-grass *Eriophorum latifolium* was last recorded in the VC at Newboundmill in peaty meadows, but had become extinct before the middle of the 20th Century. Agricultural improvement and/or habitat conversion are the likely factors that were responsible for the extinction at Newboundmill. Elsewhere, the species was only ever recorded at two other sites in the VC including Stapleford Moor and a site between Newstead and Linby. Both of the records originate from the 19th Century.

Location	GR	Date	Recorder
Newboundmill Meadows	SK46	1939	JWC

Eriophorum vaginatum L. Hare's-tail Cotton-grass

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare, probably extinct
Monads: 4

The species has always been very rare in the VC, being restricted to base-rich peat bogs. Following the demise of the Annesley population (SK495524) due to habitat destruction, the species has steadily declined at the other three sites and is probably now extinct in the county.

Location	GR	Date	Recorder
Fountain Dale	SK573573	1986	DCW, JH
Foulevil Brook	SK578583	1991	DCW
Davis's Bottom	SK495524	1994	DCW
Rainworth Heath	SK591592	2001	DCW

Erodium maritimum (L.), L'Hér. Sea Stork's-bill

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare, probably extinct
Monads: 1

Away from the coast, there are only a handful of inland records, which are mapped by Preston *et al.* (2002) as an introduction. The population at Rainworth is located on a dismantled railway line that in past times was linked to ports and towns on the east coast. This may explain its presence approximately 70 miles inland. In recent years the population has declined and is probably now extinct. The reasons for the decline are unknown, because the overall botanical community in which the species occurs, has undergone little noticeable change.

Location	GR	Date	Recorder
Rainworth Dismantled Railway	SK591595	2005	DCW

Erodium moschatum (L.), L'Hér. Sea Stork's-bill

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 9

The species is considered to be an archaeophyte in rough ground by the sea and a casual elsewhere. Although it is widespread in central and southern Britain until recently it was very rare in Nottinghamshire. It was only recorded once as a casual before publication of the first edition of this register and between 2012 and 2015 it was recorded at a single location. In the past five years it has, however, been recorded at a further eight monads including sites outside of the City of Nottingham.

Location	GR	Date	Recorder
Hawton Landfill	SK803502	2009	DCW
Greythorne Recreation Ground, West Bridgford	SK576362	2015	SM
A453 Trunk Road, Clifton	SK547348	2019	GH
A612 Trunk Road, Netherfield	SK621406	2019	SM
Clayworth Field	SK725879	2019	GH
Clipston	SK635341	2016	SM
Epperstone	SK652490	2019	RAJ
Hartley Road, Radford	SK556407	2019	PA
St Peter's Way, Radford	SK550401	2019	PA, RAJ
Stanholme Drive, West Bridgford	SK57633619	2018	DCW

Location	GR	Date	Recorder
Stanholme Drive, West Bridgford	SK57643618	2019	DCW
Stanholme Drive, West Bridgford	SK57643622	2019	SM, DCW
Stanholme Drive, West Bridgford	SK57653622	2019	DCW
Stanholme Drive, West Bridgford	SK57663622	2018	DCW
Stowe Avenue, West Bridgford	SK57663621	2019	DCW

Erophila majascula Jordan Hairy Whitlowgrass

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 1

This annual species can be difficult to segregate from common whitlowgrass *Erophila verna* and it could be under-recorded. More awareness has significantly increased the number of glabrous whitlow-grass *Erophila glabrescens* in recent years, but only one additional record of hairy whitlow-grass *Erophila majascula* has been found on sandy soils at Barrow Hills, since 1999. The Hardwick record has not been refound.

Location	GR	Date	Recorder
Hardwick	SK644773	1999	SB, JH
Barrow Hills	SK683917	2018	LC

Erysimum chieri (L.) Crantz Wallflower

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce (as an archaeophyte)
Monads: 7 (as an archaeophyte)

Wallflower *Erysimum chieri* falls into two categories in the VC. It has been recorded as a naturalised introduction at eight locations (seven monads) in the VC and has persisted at several of those locations such as Castle Rock, the walls of Nottingham Castle, Newark-on-Trent Castle and Newark-on-Trent Friary for hundreds of years. There are also 22 records for the species as a casual, which are not listed in the table below. Since 2012, checks of the Newark-on-Trent Friary and Nottingham Castle Rock (in bold) have confirmed that both populations are extant.

Location	GR	Date	Recorder
Staunton-in-the-Vale Wall	SK805433	1987	DCW
Worksop Priory	SK590789	1987	NRL, DCW
Cresswell Craggs	SK534741	1997	DCW
Hungerhill Grdns, Nottingham	SK583414	2001	DCW
Newark-on-Trent Friary	SK802541	2012	RAJ
Newark-on-Trent Friary	SK802542	2014	RAJ
Nottingham Castle Rock	SK569394	2014	DCW, RAJ
The Park, Nottingham	SK567394	2009	PS(b)
Newcastle Terrace, Nottingham	SK569400	2010	WM
Newark-on-Trent Castle	SK796540	2012	DCW, RAJ

Euphorbia amygdaloides L. subsp. *amygdaloides* Wood Spurge

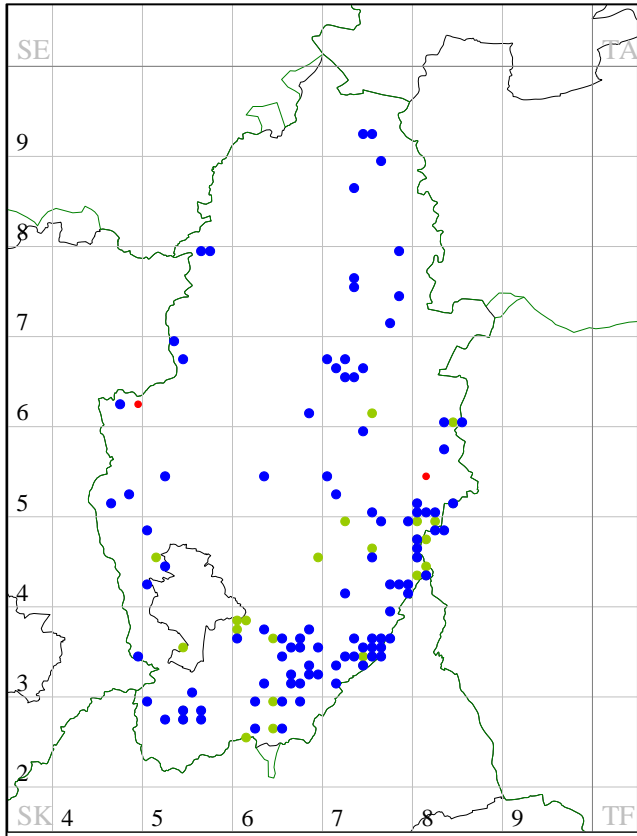
National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Extinct

Wood spurge *Euphorbia amygdaloides* subsp. *amygdaloides* is now extinct in the VC and has only been recorded once at Colwick Wood (in the City of Nottingham) in the 18th Century. The national distribution map, Preston, *et al.* (2002), indicates that Nottinghamshire is beyond the northern edge of its natural range.

Location	GR	Date	Recorder
Colwick Wood	SK5939	1738	CD

Euphorbia exigua L.

Dwarf Spurge

National Status: Near Threatened (GB), Vulnerable (Eng.)**Nottinghamshire Status:** Locally Frequent**Monads:** 91 (since 2000)Dwarf Spurge *Euphorbia exigua* at Toton Sidings

Source S. Hammonds

In the 1960s this archaeophyte was locally frequent and recorded throughout the VC on basic and clay soils. Since 1970, the species has declined, because of agricultural intensification and repeated herbicide applications. In the VC, the species does not appear to have declined to the same extent as elsewhere in the south and east of Britain and it is still frequent on the Lias clays in the southeast of the VC. The reasons for this resistance to decline are not clearly understood, but the species is capable of colonising artificial substrates (as shown in the photograph above) and to some extent, this has off-set losses from arable habitats. Since 2015 the species

has been recorded a further 46 times but most of the records are in monads where it is already present or in adjacent monads.

Euphorbia platyphyllos L.

Broadleaved Spurge

National Status: Least Concern (GB and Eng.), Nationally Scarce**Nottinghamshire Status:** Extinct

This archaeophyte species was recorded once during the early 20th Century in cornfields in the south of the VC.

Location	GR	Date	Recorder
West Leake Cornfields	SK52	1905	JWC

Euphrasia arctica Lange ex Rostrup subsp. Arctic Eyebright
borealis (F. Towns) Yeo

National Status: Data Deficient**Nottinghamshire Status:** Extinct

The only record for the VC originates from 1904. J.W. Carr described Arctic Eyebright *Euphrasia arctica* subsp. *borealis* (mistakenly recorded as *E. brevipila* or *E. stricta*) as being "common about Annesley", but it is not known whether the population was associated with Permian Marls or Coal Measures or Bunter Sandstones. There are no other records for the species and it is considered to be extinct in the VC.

Location	GR	Date	Recorder
Annesley	SK45	1904	JWC

Euphrasia officinalis subsp. *anglica* English Eyebright
(Pugsley) Silverside

National Status: Endangered (GB and Eng.), UK Biodiversity Action Plan**Nottinghamshire Status:** Scarce**Monads:** 10

This endemic species is largely confined to the south of England on damp acidic substrates. Before 1970, Howitt & Howitt (1963) stated that the species had only been recorded twice in the VC. During 1907 J.W. Carr recorded the species at Rufford Park and Thorseby Park. The modern populations are fairly robust at each site, being locally frequent or locally abundant, but the species is still restricted to a small number of sites in the VC, mostly on the Bunter Sandstone. Since 2015 the species has been recorded at five locations across Clumber Park (in bold), one is a re-find and the remainder are new locations, but in monads where it is known to be present.

Location	GR	Date	Recorder
Carburton Plantations	SK611724	2001	DCW
Clumber Park	SK607758	1998	DCW
Apleyhead Verges, Clumber Park	SK644773	2014	DCW, RAJ
Apleyhead Verges, Clumber Park	SK645773	2017	MW
Clumber Park	SK618735	2004	DCW
Clumber Park	SK619744	2004	DCW
Clumber Lane Verges, Clumber Park	SK609757	2011	RAJ
Clumber Lane Verges, Clumber Park	SK611756	2011	RAJ
Clumber Park	SK610756	2019	GH
Clumber Park	SK615753	2019	GH
Clumber Park	SK616751	2019	GH
Woodcockhill Plantation	SK616749	2019	GH
Swinecotte Dale	SK548544	1996	DCW
Worksop	SK577753	2001	DCW
Rufford Colliery Tip	SK592601	2012	MW
Carburton Plantations	SK613721	2012	DCW, MW

Euphrasia pseudokernerii Pugsley Chalk Eyebright

National Status: Endangered (GB), Vulnerable (Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 1

Chalk eyebright *Euphrasia pseudokernerii* is a species associated with the southeast of England on base-rich soils. The species has always been rare in the VC and before 1970 was supposedly recorded twice. However, J.W. Carr (1905/6) and R. Bulley (1930) both found what they called *Euphrasia kernerii*, rather than *E. pseudokernerii*. W.H. Pearsall determined Bulley's specimen to be *E. nemorosa*, Carr's specimen was probably the same. If so D.C. Wood's 1994 (West Leake) find would be the first VC record. It was recorded in a disused Gypsum Mine, where it was found to be frequent. This record could be the most northern extant record in the British Isles.

Location	GR	Date	Recorder
West Leake Hills	SK524286	1994	DCW

Festuca longifolia Thuill. Blue Fescue

National Status: Least Concern (GB and Eng.), Nationally Rare, UK Biodiversity Action Plan
Nottinghamshire Status: Rare
Monads: 1

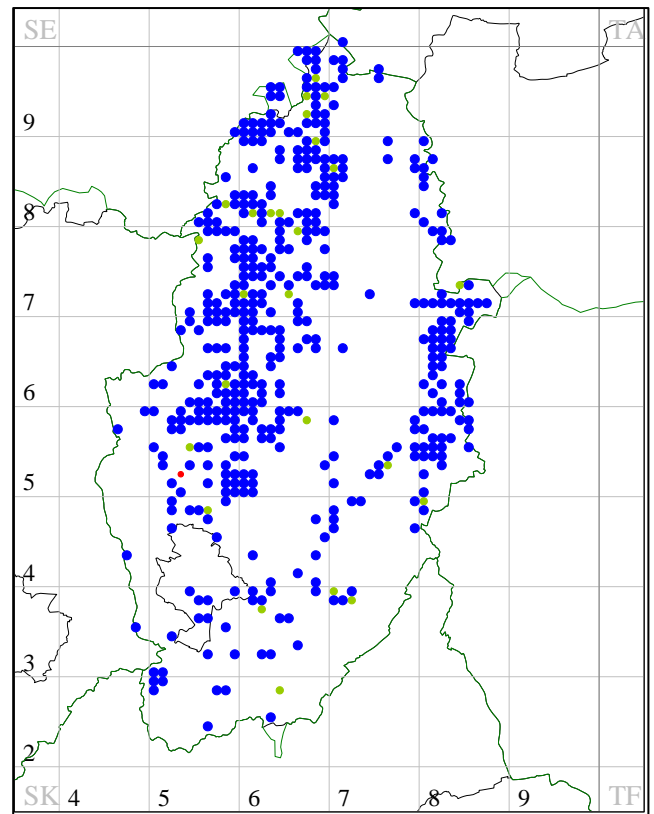
This species is associated with very dry acid heaths and in the VC is located on the blown sands along the Nottinghamshire and Lincolnshire border. Pre-1970, Howitt & Howitt (1963) recorded the species as *Festuca ovina* ssp. *eu-ovina* var. *glauca* Hack. and described its occurrence in gravelly meadows at South Collingham and Spalford Warren. In addition, Howitt & Howitt considered that the 16th and 19th Century records from Nottingham of a blue fescue recorded as *F. glauca* var. *caesia* Sm. could have also been *F. ovina* ssp. *eu-ovina* var. *glauca*. However, blue fescue has not been recorded in the Nottingham area since the 19th century. Recent searches suggest that blue fescue is no longer present at Spalford Road (SK8469/8468), Mill Farm (SK8468), A1133 Trunk Road Verge at Spalford (SK831691) and Sand Lane, Spalford (SK832692). However, the relatively small population at Spalford Warren SSSI is still extant. Although the species is located in a nature reserve, the population is heavily grazed by rabbits and is restricted to a small area on the boundary of the site, including the roadside verge. Recent searches during 2014 and 2015 have identified the presence of many plants on the roadside verge at Spalford next to the nature reserve and a search in 2016 confirmed that the population is extant.

Location	GR	Date	Recorder
Spalford Warren	SK830678	2012	DCW, MW, RAJ
New Lane, Spalford	SK829678	2016	DCW

Filago germanica L. Common Cudweed

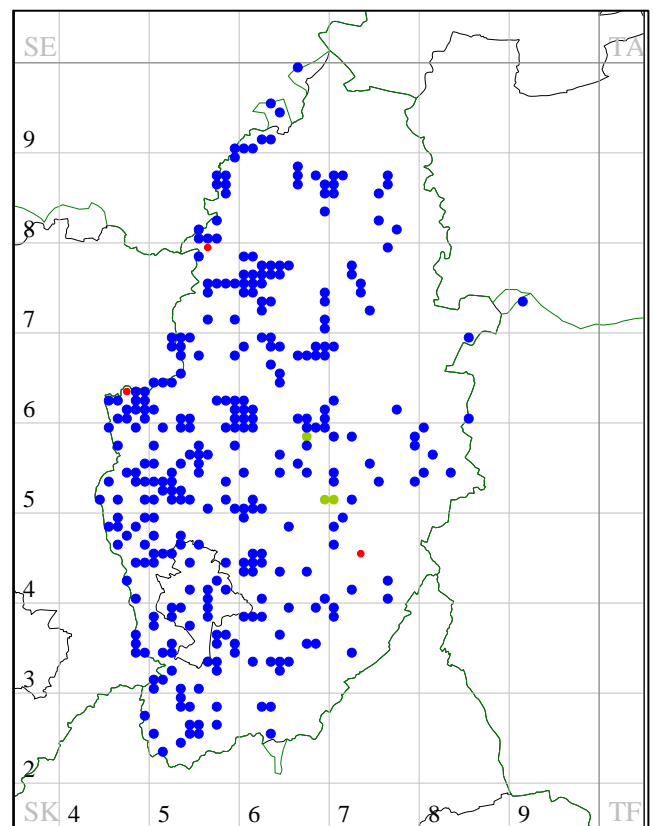
National Status: Near Threatened (GB and Eng.)
Nottinghamshire Status: Locally Common
Monads: 460

Despite national declines brought about by agricultural intensification and habitat loss, the distribution of common cudweed *Filago germanica* in the VC has remained fairly stable since 1970. Wherever suitable soils are present the species is locally common. It is most abundant on the Bunter Sandstone, blown sands, river valley gravels, and alluvial soils, but it is also found on artificial substrates such as colliery spoil tips and post-industrial land. Since 2012, there has been a substantial increase in the number of records and monads, nearly doubling the number of monads. However, the overall distribution and extent has not substantially changed and most new monad records occur in the same vicinity as monads where the plant has already been recorded.



Fragaria vesca L. Wild Strawberry

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Widespread
Monads: 347



Pre-1963 wild strawberry *Fragaria vesca* was once common, but less so on the Bunter Sandstone. The above map does not necessarily indicate that the species is any less common on the Sherwood Sandstone, but nowadays it is often found in association with railway lines and limestone tracks in Forestry Plantations. Elsewhere habitat loss has caused declines, but the availability of post-industrial sites has provided suitable replacement habitat. The map also indicates that there is less suitable habitat available towards the east of the county on the clays and blown sands.

Fumaria capreolata L. White Ramping-Fumitory

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 1

A remarkable record with no other historical or nearby records. The plants were found on a former housing estate that was left untouched for several years after demolition and had subsequently formed a species-rich assemblage of ruderals and relicts of cultivation. The site has been subsequently re-developed and the population is no longer extant.

Location	GR	Date	Recorder
Pleasleyhill	SK5063	2013	KB

Gagea lutea (L.) Ker Gawl. Yellow Star-of-Bethlehem

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Scarce
Monads: 6

Historically the species was located in a range of habitats including ancient woodland and parkland on the Magnesian Limestone, on the banks of the River Erewash and in ancient woodland at Flintham. Post 1970, the largest population is still located in Flintham Woods and it is still present at Pleasley in Northfield Plantation. In addition, the species has also been recorded on Magnesian Limestone at two other sites; in ancient woodland at Bulwell and also on the verge of an ancient lane, to the north of Mansfield. Since 2015 surveys of Flintham Wood, Sellar's Wood and Blue Barn Lane have confirmed extant populations (in bold).

Location	GR	Date	Recorder
Flintham Wood	SK730489	1986	DCW
Flintham Wood	SK726485	2007	DCW
Flintham Wood	SK721479	2016	DCW
Blue Barn Lane, Nether Langwith	SK540714	2016	DaS
Northfield Plantation	SK529652	2007	Woll., DCW, JH
Northfield Plantation	SK530652	2014	RAJ
Sellar's Wood	SK52534572	2017	DCW
Sellar's Wood	SK525456	2012	VH, DCW, MW

Yellow star-of-bethlehem *Gagea lutea* at Nether Langwith



Source K. Balkow

Galeopsis angustifolia Ehrh. Red Hemp-nettle

National Status: Critically Endangered (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare (probably extinct)
Monads: 0

Before 1963 the species was recorded at scattered locations in arable fields on clay and peat, but was in decline and becoming rare. The decline in the VC reflected national declines that were brought about by the shift from spring-sown to winter-sown crops and cleaner crop husbandry. Since 1970 the species has declined to a single site at Teveral (on limestone 'scree' on a steep dismantled railway embankment) and it is probably extinct, because the last sighting of a single plant was more than a decade ago.

Location	GR	Date	Recorder
Teveral Trail	SK490635	1997	Woll., DCW

Galeopsis segetum Neck. Downy Hemp-nettle

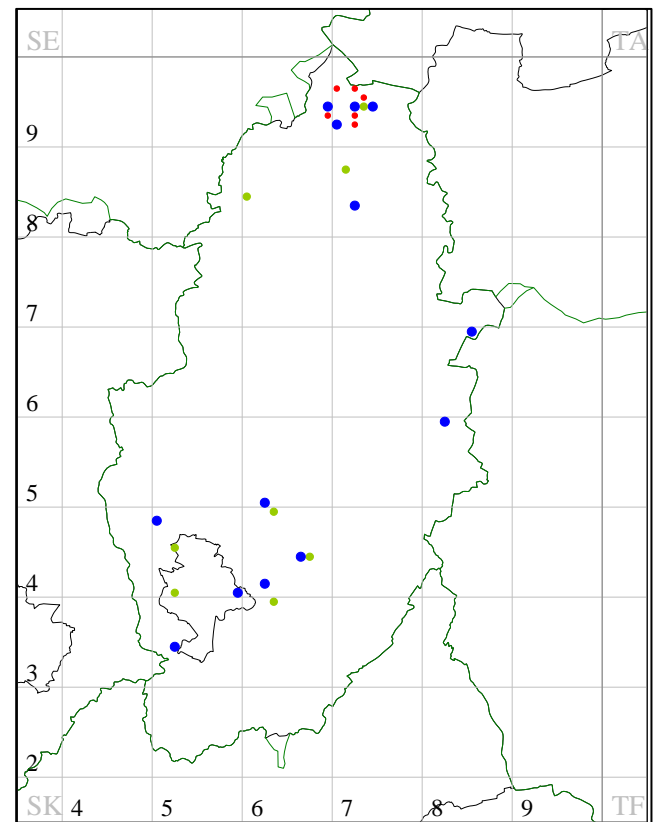
National Status: Extinct
Nottinghamshire Status: Extinct

Mrs Sandwith was the last to record the species (as *Galeopsis dubia*) in a sandy cornfield in the north of the VC in 1918. An herbarium specimen is located at Nottingham Natural History Museum.

Location	GR	Date	Recorder
Everton Carr Arable field	SK69	1918	Sa

Galeopsis speciosa Mill. Large Hemp-nettle

National Status: Vulnerable (GB and Eng.)
Nottinghamshire Status: Locally Frequent
Monads: 28



Large hemp-nettle *Galeopsis speciosa* was formerly widespread, but had started to decline in the VC and nationally before the 1960s, because of modern farming practises and control of weeds. By 1963

the species was restricted to arable fields on the peatlands in the north of VC. Most of the post-1970 records are also located in the north of the VC, for the most part, associated with root crops. Since 2015 the species has been recorded at on disturbed land at Colwick (SK629414), on a drain bank at Misterton (SK724941) and re-found at Oxtan (SK62465012).

Galium constrictum Chaub. Slender Marsh-bedstraw

National Status: Least Concern (GB and Eng.), Nationally Rare
Nottinghamshire Status: Extinct

The record of slender marsh-bedstraw *Galium constrictum* from Attenborough Gravel Pits NNR is considered to be an introduction, because it is so far outside of its native range. How it arrived and established on the margin of a pond is an unresolved mystery. However, the species has not been seen since the 1990s and it is no longer extant. This is because the habitat has become overgrown and less suitable for the species.

Location	GR	Date	Recorder
Attenborough Gravel Pits	SK520338	1995	SAi

Galium parisiense L. Wall Bedstraw

National Status: Vulnerable (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 2

Until 2015, wall bedstraw *Galium parisiense* had only appeared as a casual in the VC. At Nottingham Trent University, two plants were recorded in a shrubbery and at Holme Pierrepont a single plant was recorded growing in newly sown grassland. Both populations are unlikely to be extant. Surveys at the High Marnham Power Station former railway sidings located a 4m x 2m patch consisting of lots of plants on ballast / clinker growing in a sparse botanical community. In 2019 a search of the former storage yards at High Marnham Power Station located hundreds of plants on a substrate of compacted railway ballast and coal fines.

Location	GR	Date	Recorder
Holme Pierrepont Gravel Pits	SK629397	1990	DCW
Nottingham Trent University Clifton Campus	SK549355	1996	DCW
High Marnham Power Station	SK80497132	2015	MW, DCW
High Marnham Power Station	SK81117154	2019	MW

Galium tricorutum. Corn Cleavers

National Status: Critically Endangered (GB and Eng.), Nationally Rare
Nottinghamshire Status: Extinct

Nationally the species had already undergone substantial declines by the 1930s and outside of the southeast area was always a rare casual. The species was last recorded in Nottinghamshire at the start of the 20th Century in cornfields in the south of the county. Nottinghamshire Natural History Museum was provided with herbarium specimens from the two locations in the table below.

Location	GR	Date	Recorder
Kinoulton - Owthorpe	SK63	1900	JWC
Crow Wood Hill	SK5427	1906	JWC

Galium uliginosum L.

Fen Bedstraw

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Scarce

Monads: 10

Fen bedstraw *Galium uliginosum* was in decline before the early 1960s, probably because of habitat loss and drainage, particularly in the coal mining areas in the west of the VC. Since the 1960s the species has persisted at Thorney, Rempstone and Sookholme Moor, but has been lost from other sites such as Maplebeck and Coddington Moor. The pre-2012 spread of the species from Annesley Woodhouse Quarry SSSI into the neighbouring Bentinck Void, a post-industrial site, confirms that the species is capable of colonising new sites, if conditions are suitable. Now that coal mining has all but ceased in the VC, in the west of the VC the water table is recovering to pre-mining levels and this may create new opportunities for the species to spread. Since 2015 the species has been re-found at Bentinck Void and Rempstone Old Churchyard (in bold).

Location	GR	Date	Recorder
River Meden, Warsop	SK571687	1972	JH
Warsop Bottoms	SK577691	1972	JH
Greasley Marsh	SK503477	1994	DCW
Thoresby Park	SK637706	1996	DCW
Nab's Ashes Marsh	SK583824	2009	RAJ
Darnsyke, Thorney	SK855738	2011	DCW, MW
Sookholme Moor	SK554678	2011	DCW
Sookholme Moor	SK554676	2008	DCW
Annesley Woodhouse Quarry	SK488533	2009	DCW
Bentinck Void	SK488534	2013	DCW, SH
Bentinck Void	SK48775334	2018	NBGR
Bentinck Void	SK478539	2013	DCW
Rempstone Old Churchyard	SK566251	2018	DCW
Rempstone Old Churchyard	SK565251	2010	DCW
Misson Carr	SK7197	Undated	DCW

Genista anglica L.

Petty Whin

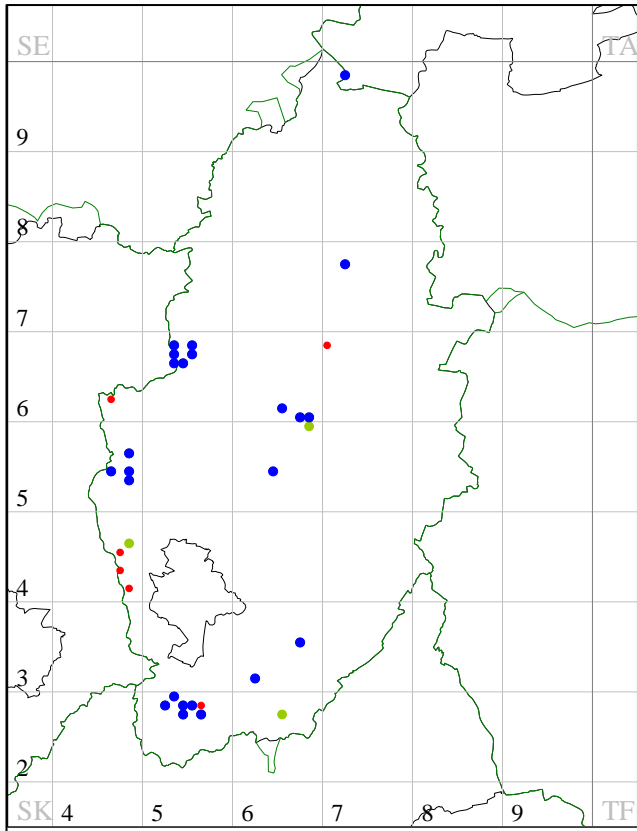
National Status: Near Threatened (GB), Vulnerable (Eng.)

Nottinghamshire Status: Scarce

Monads: 8

Most of the historic records for petty whin *Genista anglica* originate from boggy places in the west of the VC, but it was also found in a few scattered localities on the clays and the Trent Valley. By 1963 the species was in serious decline and since 1970 the species has remained scarce, with a recent loss of the Harlow Wood (SK552564) population. With the exception of the West Drayton site, the species is nowadays only found in the Sherwood area of the VC and most of the populations are very small. At the present time, only the Ollerton sites support populations that consist of more than a few plants, but the introduced population at Hucknall is increasing, because of protection from grazing. Therefore, with targeted conservation management it could be possible to expand the existing populations to more sustainable levels. There have been no targeted searches since 2015.

Location	GR	Date	Recorder
Clipstone Heath	SK595623	1997	DCW
Clipstone Heath	SK593624	1997	DCW
Clipstone Colliery	SK595630	2001	DCW
Rainworth Dismantled Railway	SK596619	2001	DCW
Sherwood Heath	SK648675	2007	DCW
Leen Pastures	SK551488	2015	DCW
West Drayton	SK705741	2009	DCW
Ollerton Assarts	SK628688	2012	DCW, RAJ, JC
Ollerton Assarts	SK626688	2015	RAJ, JC
Clumber Park	SK635741	2013	DCW

Genista tinctoria subsp. *tinctoria* L. Dyer's Greenweed**National Status:** Least Concern (GB), Vulnerable (Eng.)**Nottinghamshire Status:** Uncommon**Monads:** 30

Howitt & Howitt, 1963 described dyer's greenweed *Genista tinctoria* as locally frequent across the county on banks and hillsides wherever basic soils are present. The species is still associated with basic clays usually on unimproved grasslands and woodland rides with clusters occurring wherever there is a concentration of semi-natural habitats. The losses since the 1970s have been caused by habitat loss and lack of management.

Gentiana pneumonanthe L. Marsh Gentian**National Status:** Least Concern (GB), Near Threatened (Eng.), Nationally Scarce**Nottinghamshire Status:** Extinct

Spring gentian *Gentiana pneumonanthe* became extinct in the VC at some stage in the 19th Century. The species also persisted at Langford and Stapleford Moor until much later in the 19th Century, but the populations were located on the Lincolnshire side of the county boundary.

Location	GR	Date	Recorder
Houghton Park	SK77	c.1820	TJ
Langford Moor	SK85	<1900	JWC

Gentianella amarella L. Autumn Gentian**National Status:** Least Concern (GB), Near Threatened (Eng.)**Nottinghamshire Status:** Scarce**Monads:** 10

Autumn gentian *Gentianella amarella* is associated with dry calcareous grasslands in the VC. The species was already in decline before the 1960s, but was present on the Magnesian Limestone in the west of the VC, the Lias Clays in the south and

Keuper Marls in the central area. More recently, further losses have occurred at Rough Hill Bunny (SK569285), Gotham Grassland (SK533292), Rushcliffe Golf Course (SK5427) and Eaton Wood Road Verges (SK7277) and with the exception of one site on the Lias Clays, the species is now restricted to nine other monads in old quarries and disused railway lines on the Magnesian Limestone. There have been no targeted searches since 2015.

Location	GR	Date	Recorder
Warsop Hills and Holes	SK5567	1971	RCLH
Pleasley Vale Dismantled Railway	SK5164	1972	RCLH
Linby Trail	SK5251/ SK5351	1990	Woll.
Kirkby-in-Ashfield Hills and Holes	SK499553	1992	DCW
Bentinck Banks	SK498555	1992	DCW
Holbeck	SK5373	1997	DCW
Teversal Trail	SK491636	2000	DCW
Kirkby Bentinck	SK498557	2002	MW
Kirkby Bentinck	SK489547	2002	DCW
Kirkby Bentinck	SK495551	2007	DCW
Teversal Trail	SK485631	2007	DCW
Cuckoo Bush	SK534292	2012	DCW
Holbeck	SK5374	2012	DCW

Gentianella campestris (L.) Börner Field Gentian**National Status:** Vulnerable (GB), Endangered (Eng.)**Nottinghamshire Status:** Extinct

In the VC the species has only been recorded once. J.W. Carr recorded field gentian *Gentianella campestris* (as *G. baltica*) in 1904 at Annesley on a dry limestone bank.

Location	GR	Date	Recorder
Annesley	SK55/45	1904	JWC

Gentianella campestris agg. L. Field Gentian**National Status:** Vulnerable (GB), Endangered (Eng.)**Nottinghamshire Status:** Extinct

The aggregate of field gentian *Gentianella* (as *Gentiana*) *campestris* was considered by Howitt & Howitt (1963) to be very rare in the VC, being recorded at only three sites. In the Sherwood area the species was recorded at a site near Newstead and on the Lime Avenue at Clumber Park. The species was also recorded in the early 19th Century on the Keuper Marls between Markham Moor and Great Markham, near Tuxford.

Location	GR	Date	Recorder
Lime Avenue, Clumber Park	SK67	c.1900	JR

Geranium columbinum L. Long-stalked Crane's-bill**National Status:** Least Concern (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 7

Long-stalked crane's-bill *Geranium columbinum* is scattered in the VC and is found on a variety of base-rich soils in seven monads. It has always been scarce in the VC and is now largely confined to disused railway lines and abandoned quarries. In recent times, former stations such as green lanes have become overgrown and fields have been ploughed or agriculturally improved. Recent surveys have confirmed that the populations at Warsop Hills and Holes, and Warsop Vale Dismantled Railway are still extant (in bold).

Location	GR	Date	Recorder
Widmerpool Dismantled Railway	SK645296	2000	DCW, RAJ

Location	GR	Date	Recorder
Steeley Dismantled Railway	SK558793	2006	DCW
Warsop Vale Dismantled Railway	SK540680	2011	DCW, RAJ
Warsop Vale Dismantled Railway	SK541680	2018	RAJ
Widmerpool Dismantled Railway	SK648291	2007	DCW
Warsop Vale Dismantled Railway	SK549677	2008	DCW
Bingham Linear Park	SK706390	2010	DCW
Bingham Linear Park	SK705391	2012	DCW
Cotgrave Forest	SK647329	2010	DCW
Warsop Hills and Holes	SK549677	2011	DCW
Warsop Hills and Holes	SK555678	2017	NBGRC
Warsop Hills and Holes	SK547678	2011	DCW
Warsop Hills and Holes	SK558681	2017	NBGRC

Long-stalked Crane's-bill *Geranium columbinum* at Warsop Hills and Holes



Source S. Hammonds

Geranium purpureum L.

Little Robin

National Status: Least Concern (GB and Eng.), Nationally Rare
Nottinghamshire Status: Rare
Monads: 1

John Hodgson recorded little robin *Geranium purpureum* on the 9th June 2004 at Worksop Station in the north of the VC and reported the find in BSBI News No 99, p22. The record, which was verified by P. F. Yeo, is remarkable, because the site is 150 miles away from other known English localities and 50 miles inland from the nearest piece of coastline. Whilst other maritime species have been introduced into the VC along roads and railway lines that are connected to the east coast, this route of introduction seems less likely because Worksop is located on an east-west branch line and is not linked to southern populations by way of direct railway routes. Since 2004 there has been no further confirmation that the Worksop population is still extant, but two further populations have been found (in bold). Both populations are isolated from the coast and their origin is not obvious. The South Leverton population is on a similar habitat to the Worksop population, but is much more extensive, occupying hundreds of metres of a disused railway.

Location	GR	Date	Recorder
Worksop Railway Station	SK8469	2004	JH
South Leverton Railway	SK8080	2019	DCW
Rempstone	SK589255	2019	DCW

Geranium sanguineum L.

Bloody Crane's-bill

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Extinct (as a native)
Monads: 51 (since 2000 as a neophyte)

Bloody crane's-bill *Geranium sanguineum* is a popular garden plant, which can persist as a garden throw-out on base-rich soils and all of the existing records for the VC are considered to be introductions. As a native, the species has only been recorded once in the VC and has not been seen in the 20th Century. In the 19th Century, G. Howitt was informed by B. Eddison of its occurrence on Magnesian Limestone rocks at Creswell Crags on the Nottinghamshire – Derbyshire border.

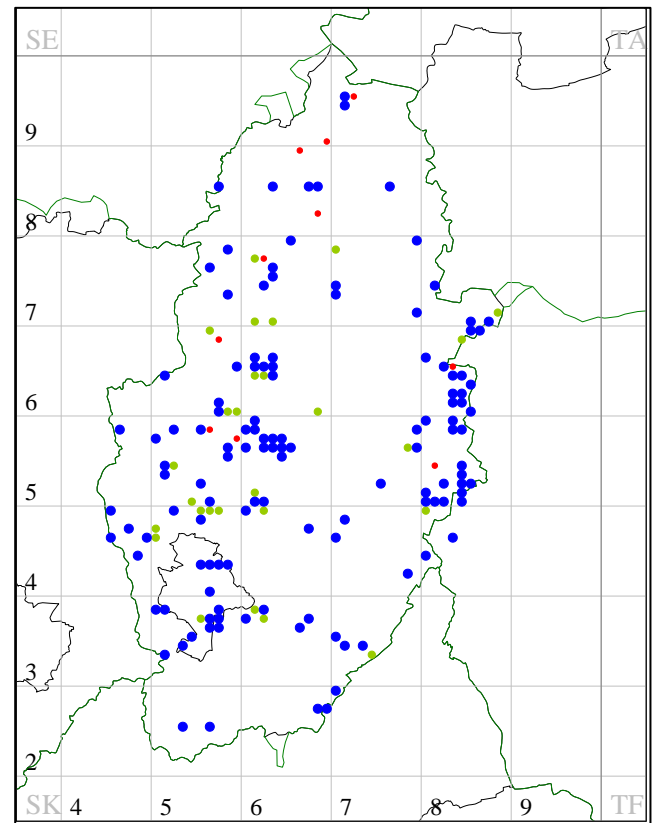
Location	GR	Date	Recorder
Creswell Crags	SK5374	1839	GH

Glebionis segetum (L.) Fourr.

Corn Marigold

National Status: Vulnerable (GB and Eng.)
Nottinghamshire Status: Locally Frequent
Monads: 123 (since 2000)

Although corn marigold *Glebionis segetum* has undergone national declines, because of herbicide applications and seed cleaning, the species is still fairly widespread on lighter soils in the VC. It is frequent in the Sherwood area and on blown sands in the east. It is also present on the sands and gravels of the river valleys. Occasionally, it is planted for conservation purposes.



Glyceria x pedicillata F. Towns.

Hybrid Sweet-grass

National Status: Widespread
Nottinghamshire Status: Scarce
Monads: 9

The hybrid was recorded once before 1970 somewhere in Wollaton, close to Nottingham. The specimen was determined by C.E. Hubbard and was probably recorded in the 1950s or 1960s, but Howitt & Howitt (1963) does not provide any further information.

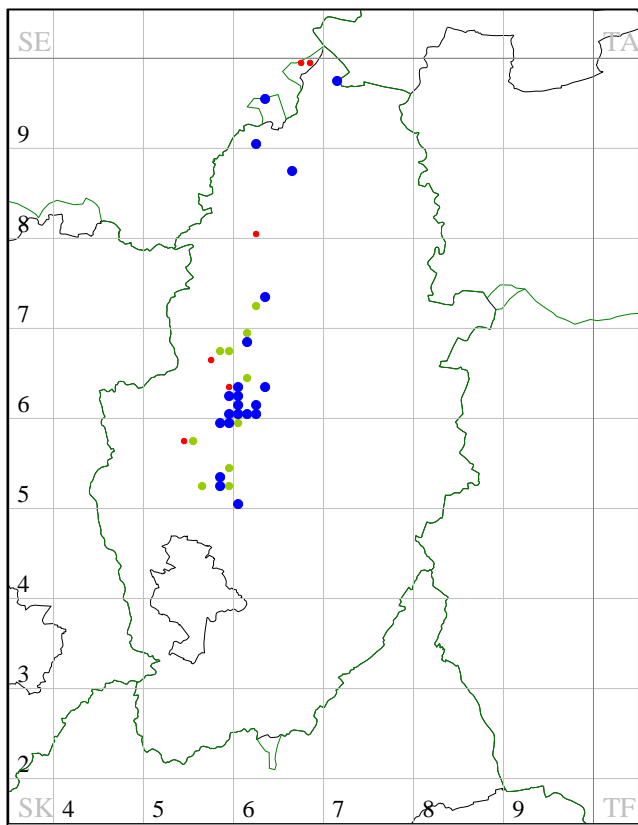
Since 1970 the hybrid has been recorded at nine scattered locations in the VC, not always with the parents and does not appear to be associated with any particular soil type. There have been no new records since 2015.

Location	GR	Date	Recorder
Welbeck Colliery Village	SK583697	1972	JH
The Fleet, South Collingham	SK8261	1975	EMP
Greasley Marsh	SK503478	1990	Woll.
South Holme Dyke, Sutton-on-Trent	SK806664	1994	DCW
Toton Marsh	SK484351	1995	DCW
Huthwaite Grassland	SK456598	1995	DCW
Oldcotes Grassland	SK587885	2009	DCW, RAJ, CC
South Holme Dyke, Sutton-on-Trent	SK805655	1994	DCW
Greasley	SK4946	2012	JSh
Newstead Colliery Tip	SK5253	2004	MW

Gnaphalium sylvaticum L.

Heath Cudweed

National Status: Endangered (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Local
Monads: 21



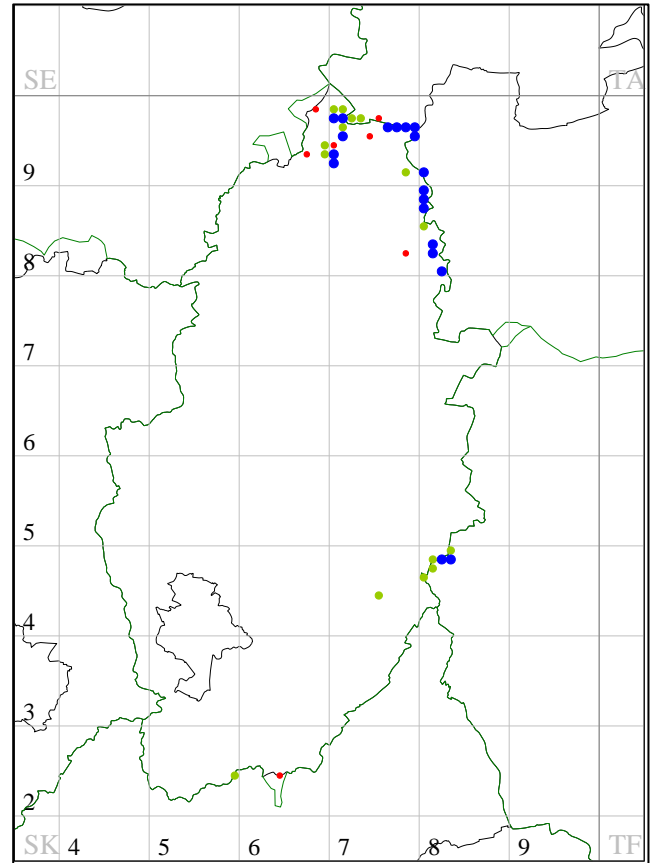
Since the 1960s this nationally endangered perennial species has declined in the VC, because of habitat destruction and afforestation. Before 1970 the species was common on heaths and woods of the Bunter Sandstone. Elsewhere in the VC, it was also found at scattered localities on light sandy and gravelly soils. Since 2000 the species has been recorded in 21 monads and continues to be found on the heaths and woods of the Bunter Sandstone, but it also persists on post-industrial sites such as disused colliery yards and railway sidings when the vegetation remains open.

Groenlandia densa (L.) Fourr.

Opposite-leaved Pondweed

National Status: Vulnerable (GB and Eng.)
Nottinghamshire Status: Local
Monads: 19 (Since 2000)

Before 1970 opposite-leaved pondweed *Groenlandia densa* was recorded throughout the VC in drains, streams and ponds, mostly on peaty substrates. Since 1970, the records for the species originate for the most part from peaty drains in the north of the VC and a few drains on the east side of the VC. Losses are attributed, to drainage and eutrophication. Comparison of pre- and post 2000 records suggests that the overall distribution has not significantly changed, but at a local level there has been much variation in terms of losses and gains.



Gymnadenia conopsea (L.) R. Br.

A Fragrant Orchid

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 3

Howitt & Howitt (1963) considered that fragrant orchid *Gymnadenia conopsea* was very rare and confined to calcareous meadows on the Magnesian Limestone and Keuper Marls. Howitt & Howitt (1963) did not separate the species to subspecies level and the first edition of the rare plant register did not fully separate the two species. For this edition, populations confirmed as being *G. densiflora* are separated and remaining populations are treated as *G. conopsea* sensu lato until they have been re-examined and identified by use of the most recent keys. Since 2015 there has been one new record of *G. conopsea* sensu lato at Saxilby in modern Lincolnshire, but at the time of writing the record is unconfirmed.

Location	GR	Date	Recorder
Teversal (North of)	SK4863	2014	KB
Teversal Dismantled Railway	SK494635	2009	DCW
Quarry Banks	SK534521	1991	GL

Gymnadenia densiflora (Wahlenb.) Marsh fragrant Orchid
A. Diet.

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 5

Fragrant marsh orchid *Gymnadenia densiflora* at Wilford Claypit



Source S. Hammonds

It is very likely that all fragrant orchid populations in Nottinghamshire will be *G. densiflora*. With the exception of the Wilford Clay Pit populations all other pre-1970 records for sites on the Keuper Marls are no longer extant. Losses that have occurred since 1970 include Holme Pierrepont (SK611383), Sookholme Moor (SK554677 and SK554678) and Rushcliffe Golf Course (SK5427). A new population was recorded in a base-rich flush on colliery spoil at Bentinck Void, Annesley Woodhouse and a population at Portland Park first recorded in 1978 has been recorded again in 2009 and again 2013. Since 2015 populations at Wilford Claypit, Portland Park and Warsop Hills and Holes have been recorded.

Location	GR	Date	Recorder
Teversal Trail	SK491636	2013	KB
Teversal Trail	SK494635	2011	DCW
Warsop Hills and Holes	SK5567	2014	SHo
Warsop Hills and Holes	SK557679	2017	RAJ
Portland Park	SK495551	2017	RAJ
Wilford Claypit	SK569356	2017	DCW
Wilford Claypit	SK570357	2017	DCW
Wilford Claypit	SK571355	2017	DCW
Bentinck Void	SK48725376	2013	SH, DCW

Gymnocarpium robertianum (Hoffm.) Limestone Fern
Newman

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Scarce
Monads: 4

There are no historic records for this species in the VC, but since 1970 it has been recorded at four very different locations, two being very recent finds. There are now two City of Nottingham populations including two small clumps growing out of the mortar on a brick wall surrounding a Methodist Church and a population on a Public House wall, most of which has recently been 'weeded out'. The relatively large Linby population is located in quite tall vegetation at the base of an outcrop of Magnesian Limestone on a disused railway line. The fourth find is a single clump at a Tollerton Churchyard on a northeast facing wall.

Location	GR	Date	Recorder
Linby Trail	SK529516	2013	DCW, MW
Lenton Methodist Church	SK556397	2019	PA
Tollerton Churchyard	SK615348	2017	NP
New Carrington Inn	SK569420	2019	PA

Helianthemum nummularium (L.) Mill. Common Rock-rose

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Scarce
Monads: 8

Most historic and modern records of common rock-rose *Helianthemum nummularium* are associated with sites on the Magnesian Limestone, but in the 18th Century Deering recorded the species on the Bunter Sandstones of Nottingham Castle Rock, and in the 19th Century Ordoyno and Miller recorded the species on the Keuper Marls at Oxtou and Hayton respectively. Eaton (Howitt & Howitt, 1963) and Gamston (Carr, 1939) were the only other sites on the Keuper Marl where the species was recorded and to this day it is still extant on the Eaton Wood Road Verge SSSI. Although the number of stations on the Magnesian Limestone declined before the 1960s, it is still locally abundant at four of the five sites where it still occurs. Updated information since 2015 is highlighted in bold.

Location	GR	Date	Recorder
Annesley Woodhouse Scarp Grassland	SK491507	2011	DCW
Annesley Woodhouse Quarry	SK489533	2018	NBGR
Annesley Woodhouse Quarry	SK490533	2011	DCW
Annesley Woodhouse Quarry	SK489532	2018	NBGR
Bulwell Hall Park	SK536469	2016	RAJ
Eaton Wood Roadside Verge	SK726772	2002	DCW
Eaton Wood Roadside Verge	SK726773	2003	MW
Warsop Hills and Holes (Rhein O' Thorns)	SK553682	2018	RAJ
Warsop Hills and Holes	SK554677	2012	DCW, RAJ, JC
Warsop Hills and Holes	SK556678	2018	RAJ
Warsop Hills and Holes	SK555681	2012	DCW, RAJ, JC
Warsop Hills and Holes	SK557681	2014	SHo
Warsop Hills and Holes	SK557678	2017	RAJ
Warsop Hills and Holes	SK557676	2012	DCW, RAJ, JC
Warsop Hills and Holes	SK558679	2017	RAJ
Kirkby-in-Ashfield Hills and Holes	SK499554	2017	RAJ

Helleborus viridis L. Green Hellebore

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 3

The Rev. H. Friend first recorded green hellebore *Helleborus viridis* in ancient woodland at Wallingwells during 1887. In the 20th Century Howitt & Howitt (1963) recorded the same population and recently three distinct patches have been recorded. The species was also recorded in the 19th Century as a native in woodland at Kirkby-in-Ashfield and in the mid-20th Century as a relic of cultivation in the north of the county at Misterton and naturalised on an ancient earthwork (1193AD) at Kingshaugh, Darlton. The species is no longer extant at Misterton, but is still present at Castle Garden and two clumps were found at Darlton during 2019. However, a further population has been found at Langar during 2015 (in bold) at the former cement works, but details regarding population size and habitat have yet to be obtained.

Location	GR	Date	Recorder
Castle Garden	SK57048449	2019	JC
Castle Garden	SK57048453	2011	DCW
Kingshaugh, Darlton	SK765735	2012	JC
Langar	SK731345	2015	AC

Helosciadium inundatum W.D.J. Koch Lesser Marshwort

National Status: Least Concern (GB), Vulnerable (Eng.)

Nottinghamshire Status: Scarce

Monads: 4

Lesser marshwort *Helosciadium inundatum* has always had a restricted distribution in the county, being chiefly confined to pools and drains in the Trent Valley and the Carrs in the north of the VC. In recent times the decline of the species in the VC has reflected the national situation with losses caused by destruction, land drainage and eutrophication. Two of the remaining four sites where the species is found are gravel pits, which are a typical habitat for the species, but the site at Stanton-on-the-Wolds is untypical because the soils are predominantly clay-based in that area. Surveys since 2015 have confirmed the Misson Line Bank population to be extant.

Location	GR	Date	Recorder
Sutton-cum-Lound Gravel Pits*	SK690842	1972	JH
Collingham Pond	SK836612	1978	NRL, KLJ, CGC
Stanton-on-the-Wolds Pond	SK650307	2010	DCW
Misson Line Bank	SK711959	2012	DCW, JC
Misson Line Bank	SK715960	2018	DCW, MW, KW
Misson Line Bank	SK714959	2018	DCW, MW, KW

*Site destroyed

Heracleum mantegazzianum Sommier & Levier x *Heracleum sphondylium* L. Hybrid Hogweed

National Status: Data Deficient

Nottinghamshire Status: Rare

Monads: 3

There are no pre-1970 records for giant hogweed *Heracleum mantegazzianum* and consequently there are no records for the hybrid. This is surprising given the length of time that giant hogweed has been known in this country and the number of post-1970 records. To some extent the rarity of the hybrid nowadays is likely to be the result of efficient control of giant hogweed by organisations such as the Environment Agency. The Dunham Bridge population has been treated and no sign of the hybrid or giant hogweed was observed in 2015. Two new populations have been found since 2015, both in close proximity to the parents.

Location	GR	Date	Recorder
Toton	SK494357	2001	DCW
Ruddington	SK577341	2002	DCW

Location	GR	Date	Recorder
Dunham Bridge	SK817746	2013	DCW, MW
Flintham Park	SK733458	2016	DCW
Tollerton	SK61093661	2019	DCW

Herniaria glabra L. Smooth Rupturewort

National Status: Least Concern (GB and Eng.), Nationally Rare

Nottinghamshire Status: Extinct (as a native)

Monads: 2 (as an introduction)

As a native, T. Ordoyno last recorded smooth rupturewort *Herniaria glabra* in the VC during the early 19th Century. It was recorded on damp, gravelly ground at sites in or close to Newark-on-Trent. In modern times the species has been recorded as a neophyte at three locations. It is no longer extant at the Bramote Landfill site (SK503387), because of landscaping and capping with topsoil and is unlikely to be extant at the other two locations.

Location	GR	Date	Recorder
Sconce Close, Newark-on-Trent	SK75	1807	TO
Kilton Road, Worksop	SK590793	1996	LC
Woodthorpe Grange	SK583343	2011	WM

Hippocrepis comosa L. Horseshoe Vetch

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Extinct

C. Deering was the only person to record horseshoe vetch *Hippocrepis comosa* in the VC at Nottingham Park. Howitt & Howitt (1963) stated that 19th Century botanists could not find the plant, but the record was considered to be trustworthy, because other calcicole species such as Nottingham catchfly *Silene nutans* and common rockrose *Helianthemum nummularium* grew in the park, despite the underlying Bunter Sandstone geology.

Location	GR	Date	Recorder
Nottingham Park	SK53	1738	CD

Hordelymus europaeus (Jess.) Jess. Ex Wood Barley Harz

National Status: Least Concern (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Scarce

Monads: 9

Wood barley *Hordelymus europaeus* has always been scarce in the VC and before 1970 was recorded at only two locations on Magnesian Limestone at Pleasley Park and in woods near Felley Mill. In modern times the species has been recorded at six ancient woodland sites. The three populations that are located in woods on Magnesian Limestone are small and in past times, could have easily been overlooked by botanists given that most woodlands are surveyed earlier in the summer. The Epperstone Dumble, Bevercotes Park, Castle Hill Wood and Swindell Wood populations are located on Keuper Marl and the populations in Beauvale Wood and Lord Stubbin's Wood are located on Permian Marls, but Magnesian Limestone formations also occur in both sites. The Epperstone population is relatively large and the Swindell Wood population is widespread, so it is a puzzle as to why it was not previously recorded at either site. The record from Welbeck Colliery is curious and the type of habitat in which the plants were found is not known. Since 2012, archival research has unearthed records from Pleasley Vale and recent searches have re-found that population and a population at Bevercotes Park.

Location	GR	Date	Recorder
Bevercotes Park	SK701708	1977	CGC
Bevercotes Park	SK70067082	2013	DCW
Welbeck Colliery	SK584706	1977	JH
Swindell Spring Wood	SK734803	1980	CGC
Swindell Spring Wood	SK735806	1980	CGC

Location	GR	Date	Recorder
Castle Hill Wood	SK740804	1980	CGC
Swindell Spring Wood	SK733805	2012	DCW
Beauvale Wood	SK499489	1998	DCW
Dovedale Wood	SK467631	1999	DCW
Dovedale Wood	SK466629	1978	Woll.
Dovedale Wood	SK467629	1978	Woll.
Dovedale Wood	SK465633	2012	DCW
Dovedale Wood	SK466630	2012	DCW
Boon Hills Wood	SK533695	2012	DCW
Epperstone Dumble	SK655512	2012	DCW
Lord Stubbin's Wood	SK537685	2012	DCW
Lord Stubbin's Wood	SK536689	2012	DCW
Pleasley Vale	SK508647	2014	DCW

Hottonia palustris L.

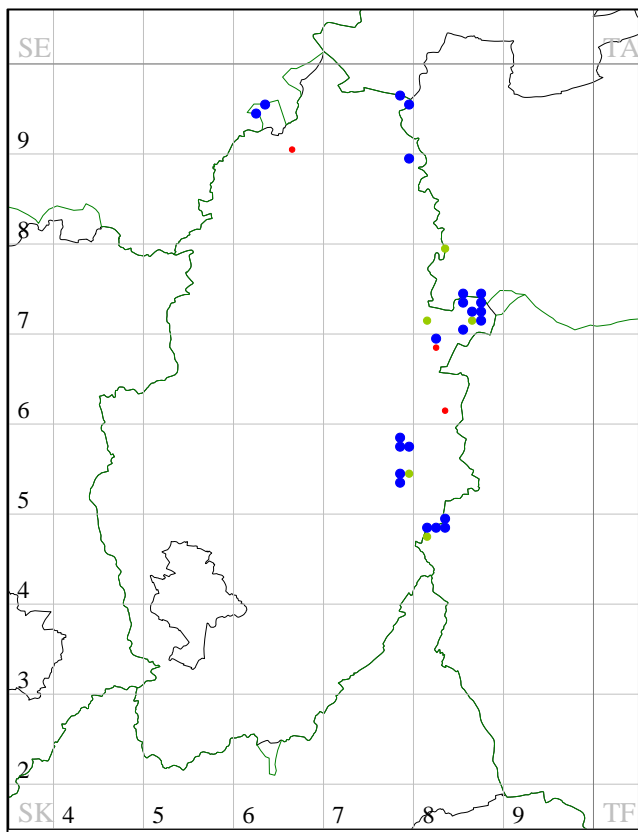
Water Violet

National Status: Least Concern (GB), Vulnerable (Eng.)

Nottinghamshire Status: Local

Monads: 22 (since 2000)

Apart from losses in the vicinity of Nottingham the overall distribution of this taxon has not significantly changed since the 19th Century and most of the northern stations are extant. However, more losses have occurred in the east of the county because of the degradation of drains and declines in water quality. The taxon is mostly found in drains in the the north and east on light soils and peat.



Huperzia selago (L.) Bernh. ex Schrank & Mart.

Fir Clubmoss

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Extinct

G. Howitt was the only person to record the species in the VC, c.1839. The plant was recorded on heathland to the south of Mansfield in Mansfield Forest, near to a gate that led to Blidworth.

Location	GR	Date	Recorder
Mansfield Forest	SK55	1839	GH

Hydrocharis morsus-ranae L.

Frogbit

National Status: Vulnerable (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Rare

Monads: 2

Before 1970, frogbit *Hydrochaeris morsus-ranae* was uncommon in the VC, but still widespread in pools and ditches on the Bunter Sandstone and Keuper Marl. Between 1970 and 2001 the species became extinct as a native and was reduced to a single introduced population. After the major floods of 2001, the species was recorded for the first time at Skylarks Nature Reserve and Holme Pit SSSI. Both of these sites occur on the Trent Valley and were completely inundated during the flood. Whilst the provenance of the new arrivals is not known, the species appears to have arrived and become established without assistance and is therefore, classified as native at both sites. Archival research identified two locations (South Clifton Drain: SK818704 and Spalford Water Meadow: SK828694), but the dates and the name of the recorders has not been determined. Since 2015, the populations at Holme Pit and Grantham Canal have been visited and confirmed as extant

Location	GR	Date	Recorder
Skylarks Nature Reserve	SK619391	2005	DCW
Holme Pit, Clifton	SK537345	2013	DCW
Holme Pit, Clifton	SK537344	2017	DCW
Grantham Canal, Hickling	SK714294	2013	DCW
Grantham Canal, Hickling	SK711292	2017	DCW

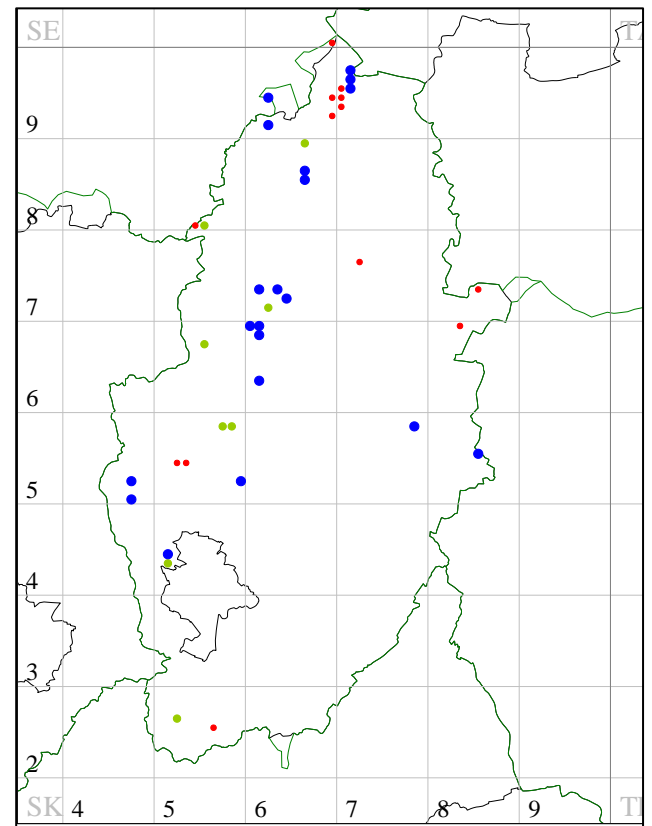
Hydrocotyle vulgaris L.

Marsh Pennywort

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Scarce

Monads: 20 (since 2000)



Howitt's 1963 Flora describes the taxon as still common but decreasing in peaty bogs and drainsides. Declines have continued up to the present day because of habitat destruction, natural succession and changes in the water table. The remaining populations are further threatened by eutrophication and inappropriate management of drains such as dredging in summer.

Further declines may be inevitable, because the remaining populations are scattered.

Hyoscyamus niger L.

Henbane

National Status: Vulnerable (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Scarce

Monads: 11 (since 2000)

Henbane *Hyoscyamus niger* at Scofton



Source K. Balkow

Henbane *Hyoscyamus niger* was formerly common throughout the VC on waste ground and rough clay slopes, but declined in the 20th century to such an extent that it was considered to be rare by the 1960s, Howitt & Howitt (1963). Since 1970 the species has been recorded in 11 monads, mostly on disturbed soils. Populations at West Bridgford (SK583380), The Meadows (SK576385 and SK575383) and Holme Pierrepont Landfill (SK6339) are, however, no longer extant and elsewhere at Holme Pierrepont (SK611379) and Besthorpe (SK814643), the species is considered to be a casual. Without further disturbance, all other populations, with the exception of the South Clifton population, are small and vulnerable to extinction. The South Clifton population is locally abundant and is the largest in the VC, being first recorded by Howitt & Howitt, 1963. Since 2015 two new sites have been found (in bold) on arable land and a roadside verge.

Location	GR	Date	Recorder
East Bridgford	SK693438	2008	DCW
Fiskerton	SK739515	2008	DCW
Fiskerton	SK73455072	2010	RAJ
Fiskerton Mill	SK74115164	2019	RAJ
Gotham Hills	SK532309	2014	DCW
Osberton Park	SK628806	1996	KB
South Clifton	SK821696	2012	DCW
King's Clipstone	SK6064	2011	TG, DCW
Cotgrave Wolds	SK650334	1982	DCW
Langford	SK822583	2017	DCW

Hypericum androsaemum L.

Tutsan

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Extinct (as a native)

Monads: 216 (since 2000)

G Howitt last recorded the species as a native at Nottingham Castle in 1835. Nowadays, tutsan *Hypericum androsaemum* is a popular garden plant and all of the modern records are considered to originate from gardens. The fruits are readily dispersed by birds and this is likely to be one of the reasons for the large number of records and widespread distribution.

Hypericum montanum Crantz

Pale St. John's-wort

National Status: Near Threatened (GB), Least Concern (Eng.), Nationally Scarce

Nottinghamshire Status: Rare

Monads: 1

The only population of pale St. John's-wort *Hypericum montanum* in the VC is locally frequent, being distributed along a 200m length of a steep east-facing slope on a dismantled railway line, which cuts through Magnesian Limestone. Historically, the species has always been rare in the VC and confined to sites overlying Magnesian Limestone. J. W. Carr recorded the species in 1927 in a wood near Skegby, which is the nearest site to the modern population. In modern times, J. Hodgson recorded the species on the Teversal Trail (SK487631) during 1977. A visit during 2014 confirmed that the population is still extant on the Teversal Trail.

Location	GR	Date	Recorder
Teversal Trail	SK487633	2016	DS

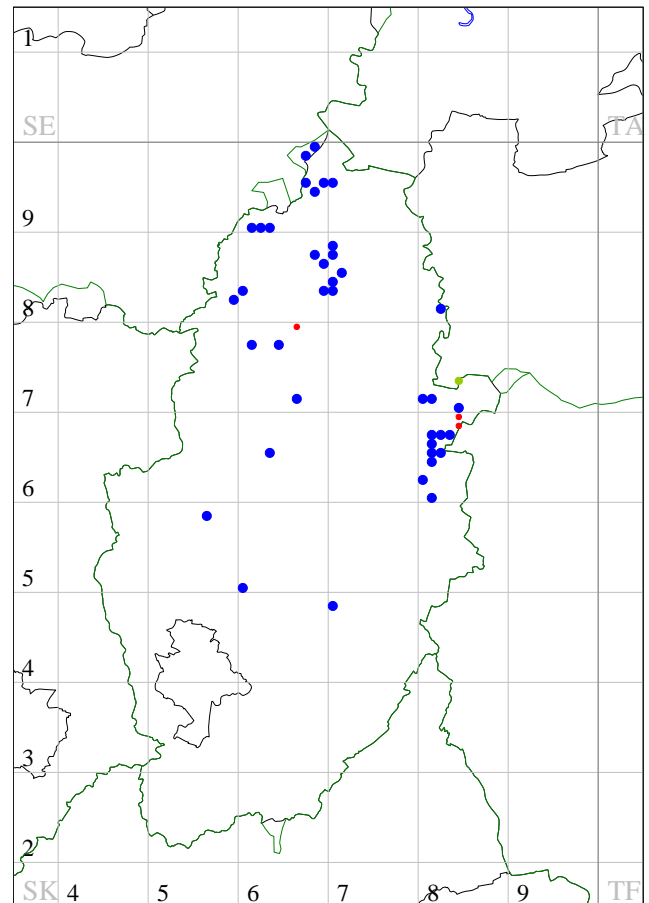
Hypochaeris glabra L.

Smooth Cat's-ear

National Status: Vulnerable (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Scattered

Monads: 39



Smooth cat's-ear *Hypochaeris glabra* has always been uncommon in the VC, but has been recorded across a wide geographic area, on light, sandy soils. In the east of the VC, the species is located alongside the River Trent and on the blown sands. Elsewhere the species is associated with the Bunter Sandstones in the Sherwood area and in gravel pits alongside the River Idle in the north of the VC. Howitt & Howitt (1963) stated that the species occurred in grassland and arable habitats, but there are no recent records associated with arable sites, probably because of modern farming techniques. To some extent the loss of the species from arable habitat is likely to have been offset by the availability of artificial

habitats such as sand and gravel pits, which the species has readily colonised. Since 2015, more populations have been found and a further nine monads have been added to the distribution map. All of the monads are located within the parts of the county where the species has been historically recorded.

Hypochaeris x intermedia Richt.

Hybrid Cat's-ear

National Status: Data Deficient

Nottinghamshire Status: Rare

Monads: 1

First record for the county was found in 2016 at Spalford Warren SSSI, an inland sand dune system. Several plants were found with the parents on sparsely vegetated acid grassland.

Location	GR	Date	Recorder
Spalford Warren	SK832679	2016	DCW

Hypopitys monotropa Crantz

Yellow Bird's-nest

National Status: Endangered (GB and Eng.), UK Biodiversity Action Plan

Nottinghamshire Status: Scarce

Monads: 4

Historically, Howitt & Howitt (1963) listed four woodlands on sandy soils in the north of the VC where the species was found. The historical sites included a wood near Everton, two locations in Thoresby Park, several sites in Clumber Park and a site in Birklands. With regards to the two modern records, a small population has been recorded in mixed plantation woodland in the north of the VC at Osberton, whilst the other similarly small population has been recorded in woodland that surrounds disused gravel pits in the River Trent valley. A search during 2012 failed to locate the population at Osberton, but in 2011 monitoring by a local conservation group reported the presence of 2 plants at the Bleasby site. Since 2015 archival research has located a 2010 record from Snow Sewer, Misson, which has not been found since, despite surveys of the drain. Field surveys at Lound Gravel Pits has found a large population located in two monads on sandy willow scrub.

Location	GR	Date	Recorder
Great Whin Covert	SK643780	2000	DCW
Bleasby Jubilee Ponds	SK714492	2003	DCW, RAJ
Lound Gravel Pits	SK6979886342	2017	BF, JM
Lound Gravel Pits	SK6980086324	2017	BF, JM
Lound Gravel Pits	SK6980386323	2017	BF, JM
Lound Gravel Pits	SK698186247	2017	BF, JM
Snow Sewer	SK7298	2010	NCC

Iberis amara L.

Wild Candytuft

National Status: Vulnerable (GB and Eng.)

Nottinghamshire Status: Extinct

In modern times this species has only been recorded once, on a landfill as a casual. Historically, the plant was recorded between 1916 and 1927 at three sites on the Welbeck Estate on sandy, acid soils. Although it was probably a casual at all three sites, at two sites it persisted for five years.

Location	GR	Date	Recorder
Ganna Bridge, Welbeck	SK57M	1916	RG
West Park, Welbeck	SK57M	1922	RG
Old Brick Pit, South Carr	SK5762	1920	RG
Bramcote Landfill	SK504387	2004	DCW

Illecebrum verticillatum L.

Coral Necklace

National Status: Endangered (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Extinct

In the VC, coral necklace *Illecebrum verticillatum* has only been recorded once on a dismantled railway line at Eastwood. R.C.L. Howitt considered it to be an introduction. There are no further records for the species and the habitat is no longer extant.

Location	GR	Date	Recorder
Eastwood Dismantled Railway Line	SK455476	1972	RCLH

Inula helenium L.

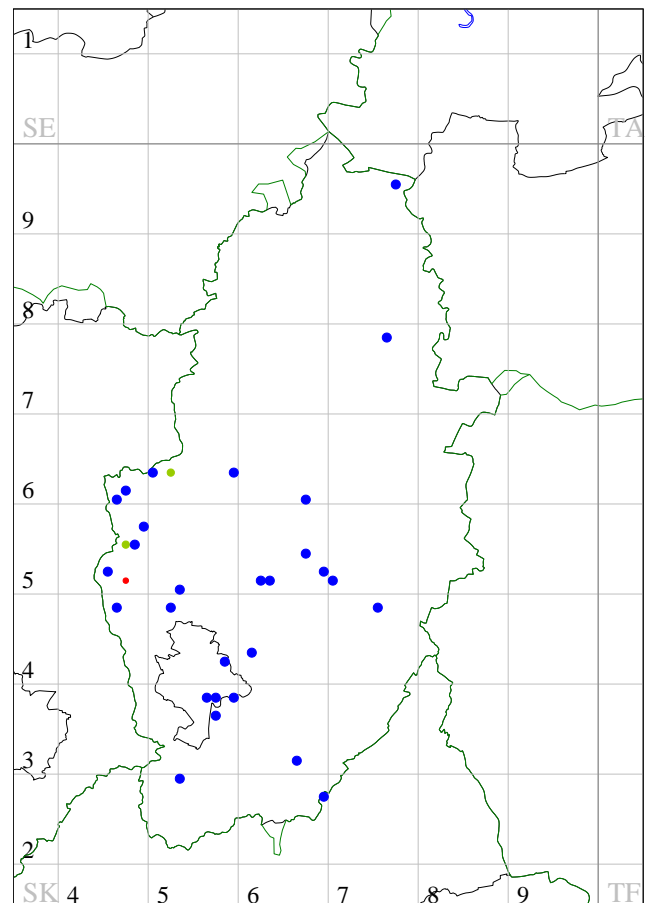
Elecampane

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Scattered

Monads: 28

Howitt and Howitt (1963) considered that the species was extinct in the VC and provided only two records; at Walkeringham and Walkerrith Ferry. According to Stace (2010), the species is becoming less common nationally, because it is grown less. Since 1970 the species has been recorded in 32 monads, scattered throughout the county in various habitat types including semi-natural and artificial habitats, often some distance from the nearest habitation. In recent years, four populations have been lost. Since 2015 there have been six more scattered records (five new monads) and the reason for the continuing expansion is not known.



Jacobaea x ostenfeldii Druce*J. vulgaris x aquaticus*

National Status: Scattered
Nottinghamshire Status: Rare
Monads: 3

The distribution map in Stace *et al* (2015) shows this hybrid to be much more common in the west of the UK where it is usually found in moist habitats similar to those preferred by marsh ragwort *Jacobaea aquatica*. Although it can occur in drier sites, the three sites in Nottinghamshire are seasonally wet grasslands in the west of the county.

Location	GR	Date	Recorder
Moorbridge Lane Grassland	SK484385	1997	DCW
Moorbridge Lane Grassland	SK484386	2011	DCW
Moorbridge Lane Grassland	SK485381	2001	DCW
Moorbridge Lane Grassland	SK486385	1995	DCW
Attenborough Gravel Pits	SK523345	2002	DCW
Warsop Hills and Holes	SK556679	2017	RAJ
Warsop Hills and Holes	SK557679	2017	RAJ
Warsop Hills and Holes	SK555678	2017	NBGR

Jasione montana L.

Sheep's-bit

National Status: Least Concern (GB), Vulnerable (Eng.)
Nottinghamshire Status: Scarce
Monads: 4 (since 2000)

Sheep's-bit *Jasione montana* has a distribution that is restricted to sandy, often disturbed soils on the Bunter Sandstones of the Sherwood area and the Blown Sands in the east of the VC. Modern records are mostly associated with woodland rides, railway lines and roadside verges, with only one site being located in sandy grassland. Preston *et al.* (2003) state that the species has declined in Central and South England because of eutrophication and loss of rabbit grazing. In the VC the losses from heathlands and acid grasslands are to some extent offset by the creation of new habitats on sandy soils, which are often disturbed and kept open by human activities such as forestry work and recreation, but only four populations have been recorded since 2000.

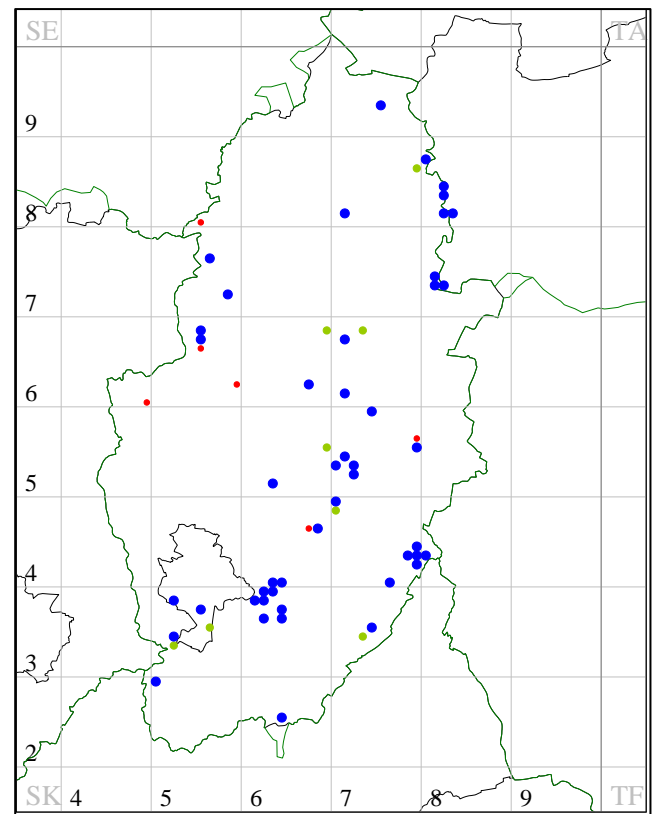
Location	GR	Date	Recorder
Blackcliffe Hill	SK6671	1970's	RCLH
Babworth Railway	SK658792	1972	JH
Babworth Railway	SK656792	1972	JH
Bilsthorpe Dismantled Railway	SK643612	1972	JH
Bilsthorpe Dismantled Railway	SK646612	1972	JH
Babworth Track (by the railway)	SK653791	1999	DCW
Rufford Dismantled Railway	SK639612	2012	DCW
Haywood Oaks Plantation	SK596548	2001	DCW, MW
Manton Wood	SK627785	1972	JH
Gibbet Hill	SK647916	1985	Woll.
Everton to Mattersey Roadside Verge	SK690899	1994	DCW
Girton Roadside Verge	SK827676	2001	DCW
Girton Grassland	SK828673	2003	DCW, RAJ
A1133 Roadside Verge	SK8266	2012	DCW, MW
Blidworth Bottoms	SK59685448	2019	RAJ
Blidworth Plantation	SK588539	2000	DCW
Blidworth Plantation	SK589539	2000	DCW

Juncus compressus Jacq.

Round-fruited Rush

National Status: Near Threatened (GB), Vulnerable (Eng.)
Nottinghamshire Status: Occasional and Scattered
Monads: 47 (since 2000)

This native species is scattered throughout the county in a variety of semi-natural and artificial wetland habitats. The distribution map does however confirm that the species is more widespread in the River Trent valley. Howitt & Howitt (1963) recorded the species in a variety of habitats throughout the county and thought that it was probably increasing. In more recent times the species is thought to be decreasing across the country, because of drainage and the loss of permanent pasture, Preston *et al.* (2002), but as in other counties, the species has readily colonised new habitats, which may to some extent, compensate for losses elsewhere. Since 2015 there have been a further three records at sites where the species has not been recorded since 1963.

*Juncus x diffusus* Hoppe*J. effusus x inflexus*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 3

Sell & Murrell (1996) describes the hybrid as densely tufted with an inflorescence that resembles hard rush *Juncus inflexus*, but with intermediate floral characters and continuous pith. They describe the distribution of the hybrid as widespread. In the VC there are no historic records and there are only two modern records, which suggest that the hybrid is either rare or overlooked. At Eakring, the population is locally abundant and occurs with both parents. At Lound, a single plant was found in association with both parents. In 2015 a further population of three plants was found in Nottingham with both parents.

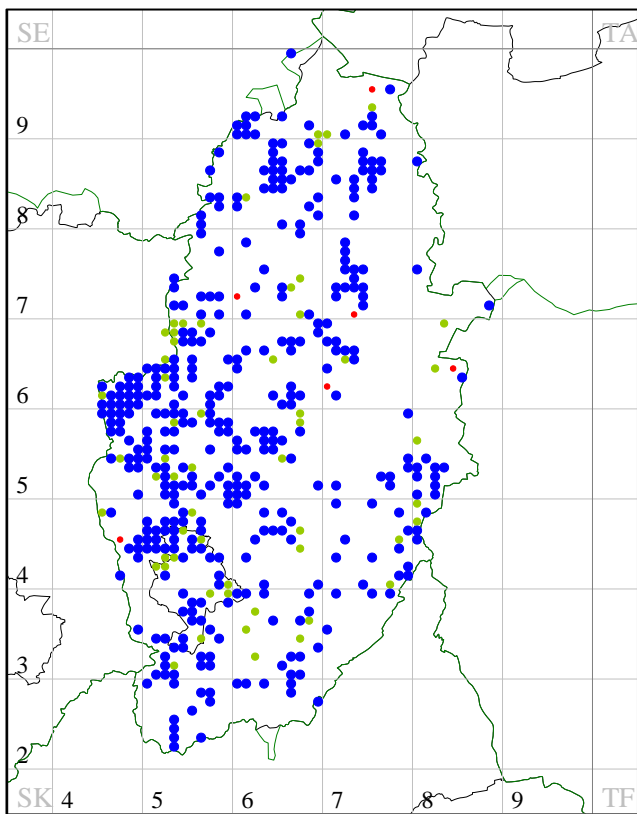
Location	GR	Date	Recorder
Eakring Flash	SK675629	2002	DCW
Lound Gravel Pits	SK705865	2003	DCW
University Boulevard, Nottingham	SK547379	2015	DCW

Knautia arvensis (L.) Coult.

Field Scabious

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Occasional
Monads: 370 (since 2000)

This is the first appearance of this once common species, which was described by Howitt & Howitt, 1963 as being associated with roadside verges and the edges of arable fields. Nowadays, it is uncommon on arable fields and is more often found on roadside verges, unimproved and semi-improved grassland fields and brownfield sites containing substrates of low fertility. Populations tend to be small, but robust and appear to be able to compete with vigorous grasses and tall herbs. Given the number of monads and the widespread distribution it would appear that the species is not at immediate threat, but many of the tetrads in which the species still occurs have declining populations.

*Juniperus communis* L.

Juniper

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Extinct

In the early 19th Century T. Ordoyno recorded Juniper *Juniperus communis* on heaths and commons, but noted that it was not frequent. The only attributed record is for "many pretty large trees in Mr Muster's Wilderness by Colwick Hall", Deering (1738). There is also the intriguing occurrence of three bushes in scrub at a former sand quarry at Ranskill (SK662883), these being still extant, but of unknown origin.

Location	GR	Date	Recorder
Near Colwick Hall	SK53	1807	TO

Laphangium luteoalbum (L.) Tzvelev

Jersey Cudweed

National Status: Nationally Rare
Nottinghamshire Status: Rare (Casual)
Monads: 4

As a native Jersey cudweed *Laphangium luteoalbum* is restricted to the Channel Islands, Norfolk and Kent; elsewhere, it occurs in a few scattered localities as a casual. In Nottinghamshire there are no known historical records, but in 2012 a single plant was recorded in Worksop at the base of the external face of a garden wall. The species was cut prematurely at the worksop site, but it reappeared in 2013. Since 2012, more casual records have been found following archival research and a single plant was found in 2015. It is still considered to be rare, because the plants at Cotgrave and Nottingham have not been found again.

Location	GR	Date	Recorder
Cotgrave Forest	SK645334	1990	CJ
Victoria Centre, Nottingham	SK573405	2008	RAJ, PA
Hartland Road, Worksop	SK582784	2013	GC
Colwick Country Park	SK612398	2015	DCW

Lathyrus aphaca L.

Yellow Vetchling

National Status: Vulnerable (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 1

The only historic records of yellow vetchling *Lathyrus aphaca* originate from the early 20th Century. J.W. Carr recorded the species at Newark Malt Kilns and somewhere in the Welbeck area, but no further information is provided. In recent times the species has been recorded once in a rough grassland on the Magnesian Limestone at Annesley Woodhouse. Given the location of previous records in the VC and the national distribution of native populations it is considered that the Annesley Woodhouse population is probably part of a seed mix.

Location	GR	Date	Recorder
Annesley Woodhouse Grassland	SK50105345	2015	RAJ, POI, AC

Lathyrus palustris L.

Marsh Pea

National Status: Near Threatened (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

Howitt & Howitt (1963) described marsh pea *Lathyrus palustris* as being very rare "among rough grass, hedges and drain sides on fen peat" in several places in Misson parish both towards Newington and Idle Stop. During the 1960s Howitt & Howitt personally recorded the species near Misson in a 'fenny' field and also on the edge of a drain at Misson. Despite a search of the drain and other suitable sites, the species was not refound during 1973 and has not been recorded since that time. The whole area is now arable land, enabled by a pump drainage scheme, which was initiated in the 1970's.

Location	GR	Date	Recorder
Misson Drain	SK705951	1960s	RCLH

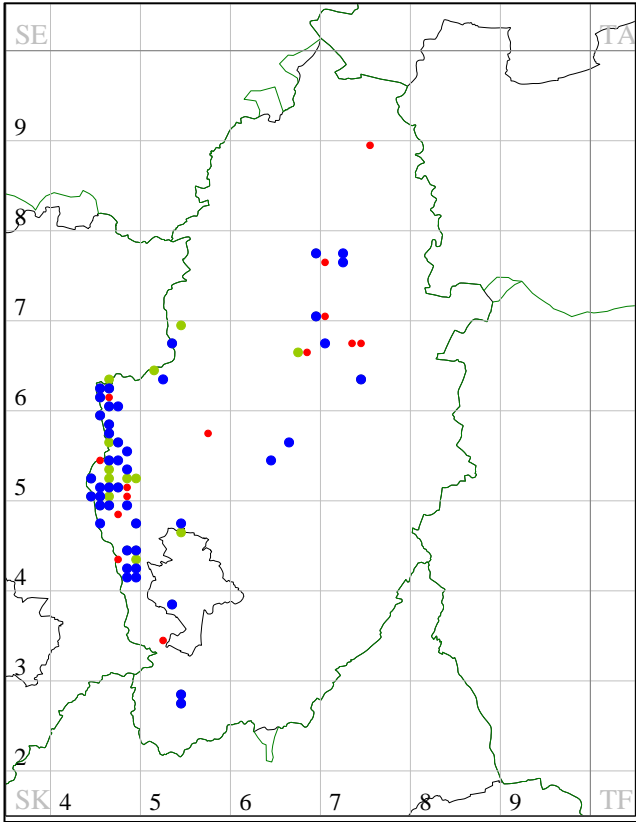
Lathyrus linifolius Bässler

Bitter Vetch

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Locally Frequent
Monads: 43 (since 2000)

A species that was formerly locally common, particularly on the Coal Measures grasslands, roadside verges and railway banks, but was also widespread in ancient woodlands on the heavy clays of mid-Nottinghamshire. Since 2000, populations previously recorded in 30

monads have not been recorded again and this appears to reflect declines in England. Populations associated with grasslands are particularly vulnerable, because many of the grasslands are small, and often poached and over-grazed by horses rather than being part of the local agricultural systems.



Legousia hybrida (L.) Delarbre Venus's-looking-glass

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 2

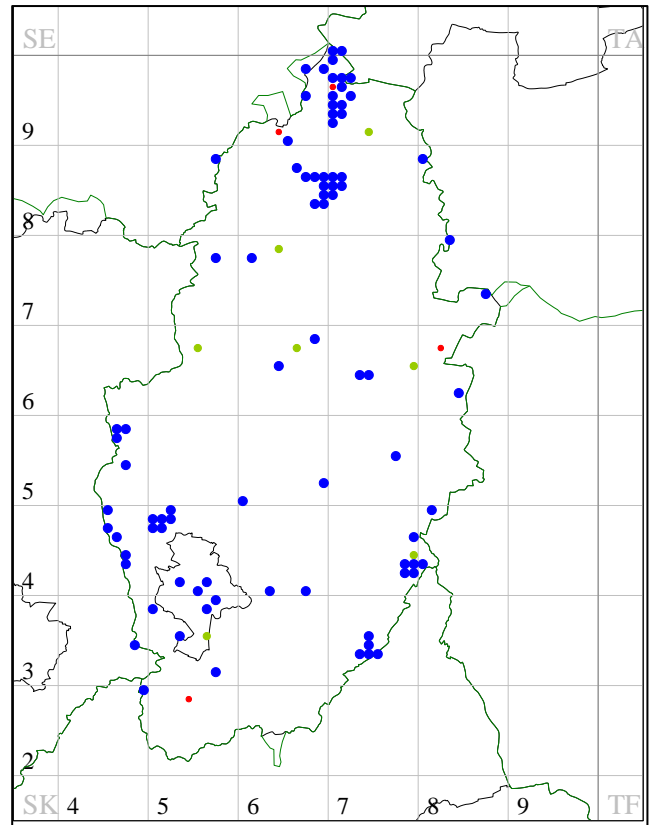
The species has always been rare in the VC and there are only five historical records, which are all associated with cornfields on calcareous soils. In recent times however, the species has been located at Holme Pierrepont Gravel Pits in the River Trent valley and also in 2007 and 2018 on Bunter Sandstone at Carlton-in-Lindrick in the north of the VC.

Location	GR	Date	Recorder
Holme Pierrepont Gravel Pits	SK620387	2004	DCW
Holme Pierrepont Gravel Pits	SK621386	2004	DCW
Holme Pierrepont Gravel Pits	SK619387	2004	DCW
Osberton Estate	SK620819	2018	MW

Lepidium campestre (L.) W.T. Aiton Field Pepperwort

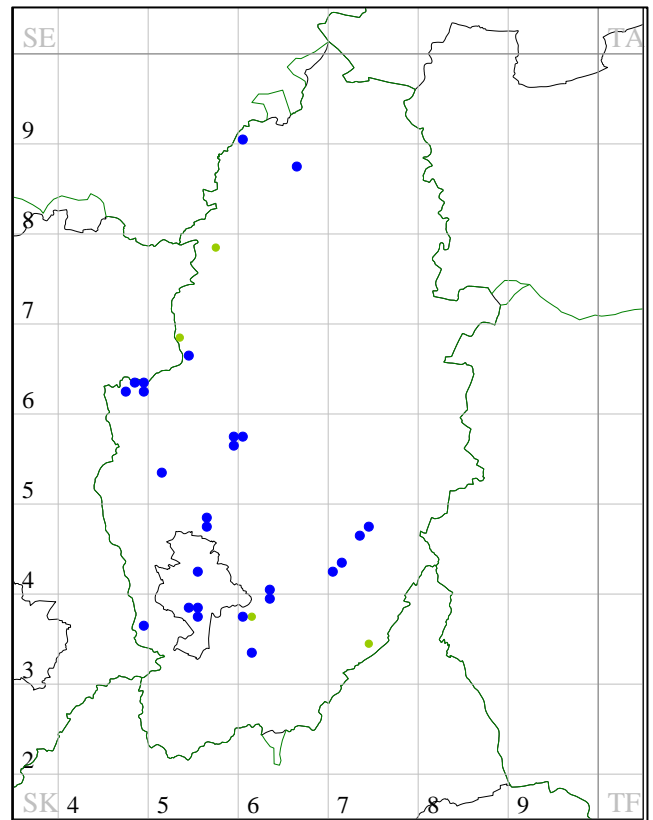
National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Locally Frequent
Monads: 82 (since 2000)

This archaeophyte was historically associated with arable fields on light soils throughout the county but was not common. Stace (2019) states that the taxon is also associated with open grassland, walls and wayside. The list of sites on the rare plant register includes many former mineral sites including disused gravel pits, gypsum quarries and opencast coal mines.



Lepidium latifolium L. Dittander

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Uncommon
Monads: 26



Dittander *Lepidium latifolium* at Netherfield Sidings

Source: S. Hammonds

Dittander *Lepidium latifolium* is native on the coasts of the British Isles, but inland it is introduced and probably, a relatively recent introduction in the VC that remains scarce. Several of the extant records are on disused railway lines and the species is likely to have first colonised the county when those railway lines that connected the east coast with the VC were still in use. Observational evidence suggests that once established the species is capable of persisting and slowly spreading. Since 2015 six new sites including East Bridgford, Flintham, Holme Pierrepont, Nottingham, Stapleford and Tollerton have been confirmed. All of the new sites are roadside verges.

Limosella aquatica L.

Mudwort

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Scarce
Monads: 11

Before 1970, T. Ordoyno recorded mudwort *Limosella aquatica* at gravel pits near Kirklington Mill during 1807. Howitt & Howitt (1963) located no other historical records and consequently they considered the species to be extinct in the VC. Since 1970 the species has been recorded at several sites in the River Trent valley and it is likely that the records represent recent colonisations. This is because most of the records are associated with disturbed and open habitats such as gravel pits and seasonal pools, which are of fairly recent origin. Since 2015 (highlighted in bold), two of the populations have been re-visited and are still extant.

Location	GR	Date	Recorder
Besthorpe Gravel Pits	SK81163	>1970	NRL
Dunham-on-Trent Lagoon	SK818740	1992	DCW
Meering	SK820649	1994	DCW
Mons Pool	SK813639	2013	DCW
Mons Pool	SK815640	2013	JC
Mons Pool	SK813640	2013	DCW
Girton Gravel Pits	SK819675	2003	DCW
Girton Gravel Pits	SK818669	2006	DCW, RAJ
Girton Gravel Pits	SK816680	2016	DCW
Girton Gravel Pits	SK816681	2016	DCW
River Trent, Girton	SK816682	2013	DCW, MW
River Trent, South Clifton	SK818698	2013	DCW, MW

Location	GR	Date	Recorder
Meering	SK815651	2009	DCW
Meering	SK815650	2016	DCW
Meering	SK815649	2018	DCW
Meering	SK814651	2013	DCW, RAJ
Meering	SK814650	2018	NBGR
Meering	SK816651	2013	DCW, RAJ
North Lagoon, Cottam Power Station	SK82807964	2009	NC
Shelford Carr	SK66734334	2010	DCW

Linaria vulgaris Mill. x *L. purpurea* (L.) Mill.

Toadflax hybrid

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

This hybrid has been reported from one other site in the UK, but has not been confirmed, Stace *et al* (2015). In Nottinghamshire, the hybrid occurs with both parents on rough grassland at a brownfield site near the centre of Nottingham. An herbarium specimen has been collected by D.C. Wood.

Location	GR	Date	Recorder
Nottingham Island	SK579395	2014	DCW

Linaria x dominii Druce*Linaria purpurea x repens*

National Status: Scattered and increasing
Nottinghamshire Status: Rare
Monads: 2

In the VC there are no pre-1970 records of this hybrid, but it was first recorded in the wild in 1950 and records have steadily increased across Britain as the neophyte purple toadflax *Linaria purpurea* has spread into the range of the archaeophyte pale toadflax *L. repens*, Stace *et al* (2015). In Nottinghamshire, the hybrid has been found at two locations, but the first record was mistakenly overlooked in the first edition of the RPR. There are possibly two patches at Forest Recreation Ground as it was recorded twice at two different grid references. There are also two patches at Toton Sidings with the parents in close proximity.

Location	GR	Date	Recorder
Forest Recreation Ground	SK567414	2009	PA, PS
Forest Recreation Ground	SK569417	2009	PA, PS
Toton Sidings	SK492347	2015	DCW
Toton Sidings	SK490349	2015	DVW

Linaria x sepium G.J. Sepium*L. vulgaris x repens*

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 6

In the VC there are no pre-1970 records of this hybrid and all of the locations where the species has been recorded were active industrial sites before 1970. The location of the hybrid on dismantled railway lines and ex-coliery yards is not surprising as these are the most likely sites in the VC where the parents are likely to be found growing in close proximity to each other. Since 2012 a new population has been found at Toton Sidings (in bold).

Location	GR	Date	Recorder
Warsop Vale Colliery Yards	SK538682	1972	JH
Cotgrave Colliery Yards	SK648364	1995	DCW
Huthwaite Dismantled Railway Line	SK464577	2001	DCW
Warsop Vale Colliery Yards	SK543681	2004	DCW
Beeston Sidings	SK547377	2005	DCW
Toton Sidings	SK491348	2010	DCW

Location	GR	Date	Recorder
Toton Sidings	SK489349	2010	DCW
Toton Sidings	SK490350	2010	DCW
Toton Sidings	SK492346	2011	DCW
Toton Sidings	SK492347	2015	DCW

Linum bienne Mill.

Pale Flax

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare**Monads:** 3

Nottinghamshire is considered to be at the northern edge of the native range of pale flax *Linum bienne*, Stace (2010). Before 1970 the species had not been recorded in the VC, so it is probably a recent colonist. The species is considered to be a casual at the Nottingham site where it consists of one plant on a wall and also at the Holme Pierrepont site, which consists of two plants on a tip. At Sutton-cum-Lound the population occupies an extensive area of rough sandy grassland and is slowly increasing. Since 2015 a large population has been found at a site in Mansfield on light soils overtopping a former colliery spoil tip.

Location	GR	Date	Recorder
Sutton-cum-Lound	SK6884	2018	DCW
Sutton-cum-Lound	SK6883	2012	DCW
Sutton-cum-Lound	SK6984	2018	MW
Sutton-cum-Lound	SK6985	2018	MW
Sandfield Road, Nottingham	SK556396	2009	PSm
Holme Pierrepont Gravel Pits	SK621388	1992	DCW
Mansfield Golf Course	SK572603	2019	MW
Mansfield Golf Course	SK574605	2017	MW

Lithospermum arvense L.

Field Gromwell

National Status: Endangered (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 1 (since 2000)

In Nottinghamshire this archaeophyte used to be locally frequent in "arable fields, especially in beans, on clay or basic soils", Howitt & Howitt (1963). In recent times however, the species has substantially declined because of agricultural intensification. Recent checks at Colston Basset (SK685329), Cotham (SK796467), East Stoke (SK765488) and Flawborough (SK781418) indicate that populations are no longer extant. Further checks are required to fully determine the exact status of the species; two of the Staunton-in-the-vale sites were checked in 2012 and the species was not found. The remaining sites have not been checked for more than 20 years, but survey work for the Atlas since 2012 has not encountered the taxa in the southeast of the VC where it was formerly recorded. In 2019 a single plant was found on a pile of imported soil at a recreation ground in Nottingham. The plant is unlikely to persist given the circumstances.

Location	GR	Date	Recorder
South Scaffold Lane, Collingham	SK8460	1984	EMP
Balderton Field	SK816486	1988	DCW
Cotham Field	SK796467	1998	DCW
Staunton-in-the-vale Field	SK808437	1988	DCW
Staunton-in-the-vale Field	SK819438	1988	DCW
Staunton-in-the-vale Field	SK817439	1988	DCW
Cropwell Bishop	SK680356	1987	RGS
Forest Recreation Ground	SK568413	2019	PA

Lithospermum officinale L.

Common Gromwell

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 5

The species has always been rare, but widespread in the VC on neutral to base-rich soils and has been recorded on the edge of woodlands and hedgerows. In modern times, of all of the populations described by Howitt & Howitt (1963) only the Scratta Wood population survived, but a 2012 search failed to find the species. All of the extant populations are found on sites where the species was not previously recorded before 1970. The species is, however, still found on a variety of substrates in the VC including Magnesian Limestone (Linby), Keuper Marl (Kirton), Bunter Sandstone (Clipstone) and the Lias Clays (Cotgrave). Since 2015 surveys have confirmed that the population at Clipstone Forest has expanded and a further population at Bawtry, outside of modern Nottinghamshire has also been found (in bold).

Location	GR	Date	Recorder
Clipstone Forest	SK612619	2015	RAJ, JC
Clipstone Forest	SK611619	2015	RAJ, JC
Clipstone Forest	SK610619	2015	RAJ, JC
Clipstone Forest	SK594605	2000	MW
Clipstone Forest	SK60166182	2019	RAJ
Clipstone Forest	SK610625	2019	RAJ
Clipstone Forest	SK611609	2018	RAJ
Clipstone Forest	SK612627	2018	RAJ
Bawtry Forest	SK64139593	2019	LHi
Blackberry Hill, Cotgrave Forest	SK639331	2010	DCW
Blackberry Hill, Cotgrave Forest	SK641330	2015	DCW, NP
Kirton Wood	SK707682	2009	DCW
Scratta Wood	SK544802	1981	CS, RS
Crossley Hills Lane, Carlton-in-Lindrick	SK6083	1984	CS, RS
Joe's Wood	SK523514	1996	Woll.
Quarry Banks	SK535521	1991	GL

Littorella uniflora (L.) Aschers.

Shoreweed

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Extinct

Shoreweed *Littorella uniflora* has only ever been recorded at two sites in the VC including Oxtan Bogs and Moorgreen Reservoir. Howitt & Howitt (1963) indicated that the species was no longer extant at Oxtan Bogs, but was still present at Moorgreen Reservoir. Shoreweed disappeared before 1973 following the modification of the reservoir dam, which increased water depth and made conditions less suitable for the species. Since 2012 archival research has revealed an anonymous record from Oxtan Bogs where the species was recorded in the 19th Century, but it has not been recorded during more recent surveys.

Location	GR	Date	Recorder
Moorgreen Reservoir	SK481491	<1973	RCLH

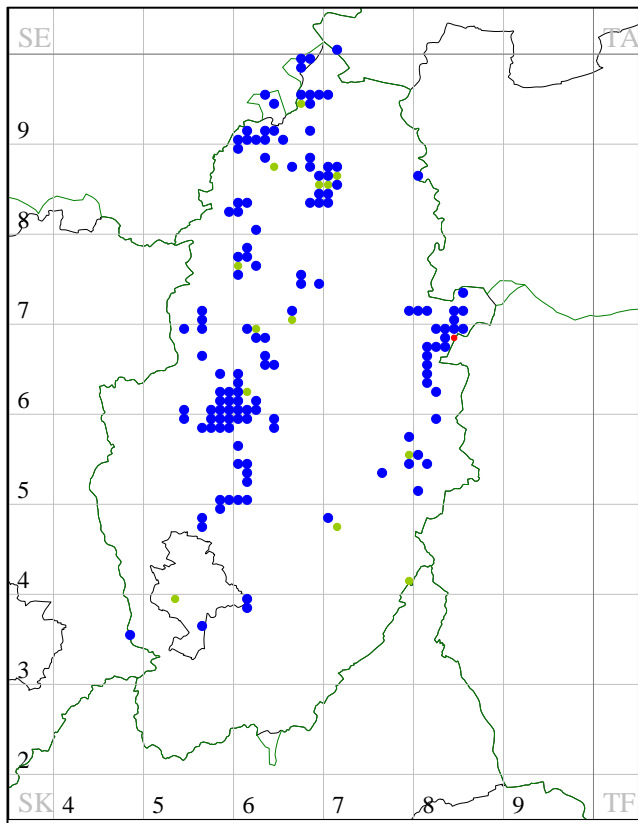
Logfia minima (Sm.) Dumort.

Small Cudweed

National Status: Least Concern (GB), Near Threatened (Eng.)**Nottinghamshire Status:** Extinct**Monads:** 133 (since 2000)

This is the first appearance of small cudweed in the register. It has always been less common than common cudweed *Filago germanica*, largely because it is associated with less fertile soils, but typically it is associated with the Bunter Sandstones and blown sands. In the past the species was associated with heathland, open grassland and arable habitats, but as with common cudweed, industrial sites have provided an additional habitat. Since 2000 there have been losses across the county, but given the magnitude,

estimated to be 10%, the species does not appear to have declined to the same extent as elsewhere in the British Isles.



Lolium temulentum L.

Darnel

National Status: Critically Endangered (GB and Eng.)
Nottinghamshire Status: Extinct (probably)

This taxon was already rare by the mid 19th Century and only three 20th Century records are on the Vascular Plant Database. The most recent being a casual record from the Pharmacy garden at the University of Nottingham, considered to be a contaminant of introduced seeds. There have been no confirmed sightings since the 1990s despite surveys of the University Campus grounds and the taxon is probably no longer extant.

Location	GR	Date	Recorder
University of Nottingham Highfields Campus	SK481491	1994	JMHS, BK

Luzula sylvatica (Huds.) Gaud.

Great Wood-rush

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 7

Most of the records of this species are associated with ancient woodland or mature woodland stands. The species has disappeared from Felley Mill, Roselle Wood at Oxtun, woods between Annesley and Greaseley and possibly Treswell Wood, but has persisted at High Park Wood. At other sites including Hagley's Plantation, Harlow Wood and woodland at Elkesley the populations consist of small numbers of plants, which could be new colonists or relicts of once larger populations that were not found during earlier site surveys. Since 2015 three of the populations have been confirmed as extant (in bold).

Location	GR	Date	Recorder
Park Farm Dumble	SK6450 - 6451	1974	RCLH
Bulwell Wood	SK517462	2018	DCW

Location	GR	Date	Recorder
Treswell Wood	SK761793	1993	DCW
High Park Wood	SK484494	2011	DCW, MW
High Park Wood	SK483494	2018	MW
Elkesley Woodland	SK649744	2018	MW
Hagley's Plantation	SK693691	2011	DCW
Harlow Wood	SK549573	2011	MW
Middle Arches	SK652714	2010	DCW, MW

Lycopodiella inundata L.

Marsh Club-moss

National Status: Endangered (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

Marsh club-moss *Lycopodium inundatum* was last recorded during the 19th Century on acid bogs near Rainworth Water. After 1839 the acid bogs surrounding Rainworth Water were lost because of drainage and habitat modification.

Location	GR	Date	Recorder
Rainworth Water	SK55	1839	GH

Lycopodium clavatum L.

Stag's-horn Club-moss

National Status: Least Concern (GB), Vulnerable (Eng.)
Nottinghamshire Status: Scarce
Monads: 5

In the 19th Century Stag's-horn club-moss *Lycopodium clavatum* was frequent on the heaths of the Sherwood Bunter Sandstone. By the 1960s habitat destruction had contributed to the decline of the species and Howitt & Howitt (1963) described the species as being very rare. Since 1970 the species has been recorded at only five sites, all of which are on the Bunter Sandstone. In modern times, the species is found in habitats other than heaths including a sand quarry and conifer plantations established on former heathland.

Location	GR	Date	Recorder
Clipstone Heath	SK593624	1995	DCW
Clipstone Heath	SK594625	1991	DCW
Ellis Plantation	SK685881	2004	DCW, RAJ
Sherwood Forest Golf Course	SK587617	1987	NCC
Sherwood Heath	SK650675	2005	DCW
Sherwood Heath	SK648675	2003	DCW
Clipstone Forest	SK607635	1989	DCW

Lysimachia arvensis U. Manns & Anderb. forma *azurea* Hylander

Scarlet Pimpernel (azure form)

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 3

The blue form of scarlet pimpernel *Anagalis arvensis* forma *azurea* is much rarer than the red form and is often confused with blue pimpernel *Lysimachia arvensis* subsp. *foemina*, which has not been recorded in the VC since 1962. The three records are widely dispersed across the county and in different habitat types including an arable field, an allotment and disturbed soils on a disused railway siding. The Newstead record has not been re-found since 2008 and is probably no longer extant.

Location	GR	Date	Recorder
Cropwell Bishop Field	SK671354	1992	DCW
Southwell Allotments	SK708533	2007	RAJ
Newstead Dismantled Railway Sidings	SK523526	2008	MW

Lysimachia arvensis U. Manns & Anderb. forma *carnea* Hylander

Scarlet Pimpernel
(pale form)

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 3

The pale form of scarlet pimpernel *Lysimachia* forma *carnea* is a casual and is much rarer than the red form. There are only three modern records that are widely dispersed across the county on a roadside verge, on a sandy forestry ride and an allotment.

Location	GR	Date	Recorder
Clipstone Forest	SK614595	2012	RAJ
Newark Southern Link Road	SK817508	2017	RAJ
Southwell Allotments	SK708533	2019	RAJ

Lysimachia foemina

Blue Pimpernel

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

Stace (2019) considers this taxon as a species and an archaeophyte, but Sell & Murrell (2014) consider the taxon to be an introduction in the south of England. There have been two modern records in the county, the first being 1962 in an arable field and is no longer extant. The 2014 record is a casual on a nature reserve footpath and has not been seen more recently.

Location	GR	Date	Recorder
Owthorpe Field	SK63R	1962	RCLH, BMH
Idle Valley Nature Reserve	SK47068569	2014	KW

Lysimachia tenella L.

Bog Pimpernel

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 8

By the early 1960s, this perennial species of peaty, wet soils was considered by Howitt and Howitt (1963) to be rare and decreasing in the VC. Since that time bog pimpernel *Lysimachia tenella* has continued to decline, reflecting the overall situation in the south and east of England. Bog pimpernel is presently found in only eight monads in the VC and the populations at many sites are very small, being constrained by a limited availability of suitable habitat and continue to be vulnerable to further decline because of eutrophication of surface and ground waters. Recent losses include Sookholme Bath (SK543668), Idle Marshes at Scrooby (SK659898) and Everton Carr (SK690935). Since 2015 surveys have confirmed the presence of bog pimpernel at Teversal and Selston Common (in bold).

Location	GR	Date	Recorder
The Dumbles, Annesley	SK497508	2015	DCW
Coxmoor Golf Course	SK524574	2009	DCW
Newstead Sports Ground	SK518524	1999	DCW
Newstead Park, Newstead	SK543538	2004	DCW
Selston Common	SK473527	2017	RAJ, JC
Sookholme Moor	SK554678	2007	DCW
Teversal Grassland	SK490636	2017	RAJ
Darnsyeke, Thorney	SK855738	2001	DCW

Lythrum hyssopifolia L.

Grass Poly

National Status: Endangered (GB and Eng.), Schedule 8: Wildlife & Countryside Act 1981, Nationally Rare
Nottinghamshire Status: Rare
Monads: 2

Before 1970 there was only one record for the county, originating from Deering's Catalogus stirpium, 1738, which states that grass poly *Lythrum hyssopifolium* "grows in places where sometimes water stagnates, a little below Wilford Boat." The species was not seen in the 19th or for most of the 20th Century and was considered by Howitt & Howitt (1963) to be extinct. In 2007, however, D.C. Wood counted approximately 30 plants in two temporary pools, surrounded by short, fairly species-poor, goose-grazed, ruderal grassland at Colwick Park, which were still present in 2015. A recent survey of Sherwood Forest Golf Course, which is designated as an SSSI for its heathland communities has found a population of grass poly in a damp area on an unused part of the golf course.

Grass-poly *Lythrum hyssopifolia* at Colwick Country Park



Source S. Hammonds

Location	GR	Date	Recorder
Colwick Country Park	SK612398	2016	DCW, RAJ, JC
Sherwood Forest Golf Course	SK576613	2015	JC

Marrubium vulgare L.

White Horehound

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

Howitt & Howitt (1963) described white horehound *Marrubium vulgare* as a possible native that was found near houses and on roadsides. They considered it to be very rare and possibly extinct with the last confirmed record originating from a site near Farnsfield in 1839. Following the publication of the flora B. Howitt discovered an historical record (1917 to 1920) from Welbeck. In 1987 British

Waterways Board recorded the species on an island (The Nabbs) in the River Trent and sent the details to S. Alton at Nottinghamshire Wildlife Trust, but the record is best considered as unconfirmed. Despite more recent searches the species has not been refound at The Nabbs. The latest record was a casual at Colwick Hall near Nottingham. Imported soil banks produced an extraordinary assemblage of garden escapes, arable weeds and casuals including white horehound. The plant was last seen in 2003 and the earthbanks were removed and the soil spread on neighbouring roadside verges. It is now considered to be extinct in the VC.

Location	GR	Date	Recorder
Farnsfield	SK65	1839	GH
The Nabbs, Bleasby	SK730493	1987	BWB
Colwick Hall	SK602391	2003	DCW, RAJ, PA
Corunna Plantation	SK5872	1916	RWG

Medicago polymorpha L.

Toothed Medick

National Status: Least Concern (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Scarce

Monads: 4

Preston *et al.* (2002) describe inland populations of toothed medick *Medicago polymorpha* as casual, which have become increasingly scarce in recent times. Howitt & Howitt (1963) considered the species to be very rare in the VC, being recorded at only two sites: Barrow Hills and on land near Blyth. In modern times the species has been recorded at five sites, two of which are located next to the River Trent and two other sites being at the edge of arable fields at Collingham and Barnby Moor. The most recent record is associated with short grass on a roadside verge next to the Queens Medical Centre in Nottingham.

Location	GR	Date	Recorder
Beeston Weir	SK53523513	2009	DCW
Beeston Weir	SK536351	2012	DCW
River Trent, Newark-on-Trent	SK799544	2005	DCW
Barnby Moor	SK630828	2002	DCW
Collingham	SK8261	Undated	EMP(?)
Queen's Medical Centre	SK54833857	2019	DCW

Medicago sativa nothosubsp. *varia* (Martyn) Arcang.

Sand Lucerne

National Status: Nationally Scarce

Nottinghamshire Status: Rare

Monads: 1

Stace (2010) described this subspecies as a scattered native in Britain, being established or casual in sandy or rough ground, arising *in situ* or introduced as hybrid seed: a somewhat indeterminate statement that indicates the uncertainty about the origin of the parents and the present distribution. Howitt & Howitt (1963) provided three records from Newark Wharfs (1953), Toton sidings and Nottingham Dump (1961), which were all considered to be casual. The latter site is no longer extant and Newark Wharfs has been heavily modified in modern times, but suitable habitat is still present at Toton. The only modern record consists of a single large plant growing in rough grassland on a former colliery spoil tip with both parents nearby.

Location	GR	Date	Recorder
Phoenix Park	SK5312043831	2011	PS(b)

Medicago sativa subsp. *falcata* (L.) Arcang.

Sickle Medick

National Status: Nationally Scarce

Nottinghamshire Status: Scarce

Monads: 6

Away from the coast sickle medick *Medicago sativa* subsp. *falcata* is considered to be an introduced species, which has always been

rare in the VC. Of the six modern records, three populations have persisted in grasslands next to the Rivers Trent and Leen. A single plant is present at Phoenix Park (a former colliery spoil tip) growing in rough grassland with *M. sativa* nothosubsp. *varia*. Another small population has persisted on a roadside at Dunkirk, Nottingham and a single plant, believed to be casual has been found on a landfill site at Bestwood on the north edge of Nottingham.

Location	GR	Date	Recorder
Bestwood Landfill	SK564478	1999	DCW
River Leen, Basford	SK553424	2012	JSh, DCW
Phoenix Park	SK531438	2011	PS(b)
Dunkirk Roadside Verge	SK557384	2007	DCW, PA
West Bridgford Grassland	SK570379	2008	DCW
Birdcage Walk, Dunkirk	SK560385	2012	WM

Melampyrum cristatum L.

Crested Cow-wheat

National Status: Vulnerable (GB), Endangered (Eng.), Nationally Scarce

Nottinghamshire Status: Extinct

The species was shown to J.W. Carr at the edge of Eaton Wood in 1906 by E. Lidster, but was found earlier, in 1905 by Rev J. Roffey and determined by A. Bennett. Howitt & Howitt (1963) stated that the site had been destroyed by roadworks, but considered that further searches could be worthwhile. Nowadays the road verges alongside Eaton Wood are classified as an SSSI, but despite protection and suitable management, surveys have failed to re-find the species.

Location	GR	Date	Recorder
Eaton Wood	SK7277	1905	JR

Melampyrum pratense L.

Common Cow-wheat

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Rare

Monads: 1

By the early 1960s common cow-wheat *Melampyrum pratense* was already rare and declining and in recent years it has only been recorded at a single site in the east of the VC. The population at Thorney consists of two large patches on light, sandy soils in open, oak-birch woodland. The population is probably the same one that was recorded by J.W. Carr in the early 20th Century. Some of the sites that historically supported the species have been destroyed, but suitable habitat is still present at sites that historically supported the species such as Wigsley Wood, Wellow Park, Harlow Wood and Combs Wood. Detailed surveys of extant sites may yet reveal small populations of the species.

Location	GR	Date	Recorder
The Ring, Thorney	SK871733	2011	DCW, MW

Melica nutans L.

Mountain Melick

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Extinct

Reverend Stonehouse was the first to record mountain melick *Melica nutans* in the VC between Pleasley and Mansfield, some time around 1650. G. Howitt also recorded the species at Pleasley Wood in the 19th Century. J. Brown was the last person to record the species in the VC, some time between 1942 and 1946. The parts of Scratta Wood, Shireoaks where the species was last seen are no longer extant and searches of Limestone Woodland in the Pleasley area have failed to find the species, although there is much suitable habitat.

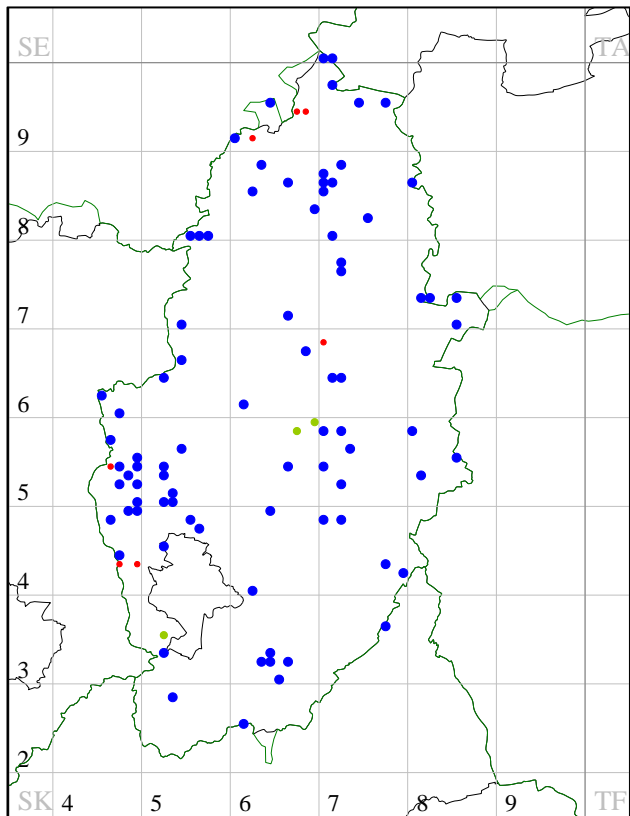
Location	GR	Date	Recorder
Scratta Wood	SK58	1942-1946	JBn

Mentha arvensis L.

Corn Mint

National Status: Least Concern (GB), Near Threatened (Eng.)**Nottinghamshire Status:** Occasional**Monads:** 80 (since 2000)

Once common throughout the county, the declines since the 1960s reflect the national trend and this is another species that appears for the first time in this register because of its inclusion in the red list for England. Howitt's 1963 Flora states that the species was associated with arable fields and waysides, but nowadays it is most likely to be found in what remains of the unimproved grasslands and brownfield sites in Nottinghamshire. The declines in the county are, therefore, most likely to be caused by agricultural intensification and habitat loss.

*Mentha pulegium* L.

Pennyroyal

National Status: Endangered (GB), Critically Endangered (Eng.)
Schedule 8: Wildlife & Countryside Act 1981, Nationally Rare**Nottinghamshire Status:** Scarce**Monads:** 5 (as a possible native)

Howitt & Howitt (1963) considered that pennyroyal *Mentha pulegium* was probably extinct in the VC, being last recorded in 1888 by H. Friend somewhere in the Sherwood Forest area. In modern times, the prostrate form of pennyroyal has been recorded at Rushcliffe Country Park and Lound Gravel Pits where it is possibly native. The species has also been recorded at 13 other sites in the VC, where it is upright and considered to be non-native, either introduced or a garden escape. It is no longer extant at Bunny Landfill (SK5728), because the site has been capped and landscaped. Since 2015 the Bevercotes Colliery population has expanded and new populations have been found at Lound, Calverton, Oakham and Marnham (in bold).

Location	GR	Date	Recorder
Lound Gravel Pits	SK701868	2005	DCW
Lound Gravel Pits	SK707866	2008	DCW
Lound Gravel Pits	SK703871	2012	JS
Lound Gravel Pits	SK712873	2012	JS
Lound Gravel Pits	SK697868	2016	JC

Location	GR	Date	Recorder
Lound Gravel Pits	SK703855	2019	GH
Marnham Power Station*	SK811715	2019	MW
Rushcliffe Country Park*	SK576321	2010	MT
Bevercotes Colliery Yards*	SK6974	2019	RAJ, JC
Hoveringham Gravel Pits*	SK717475	2011	RAJ, MW
Calverton Colliery*	SK609515	2019	DaS
North Muskham*	SK799595	2011	RAJ
Linghurst Lakes *	SK698867	2011	JC
Harcotes Colliery Tip*	SK616902	2011	DCW, MW
Nottingham Road Cemetery*	SK542589	2004	RAJ
Broomhill (Former dumped materials)*	SK542475	2005	DCW
Sherwood Rise, New Basford*	SK565421	2006	DCW
Rhodesia Industrial Estate*	SK569798	2013	RAJ
Winthorpe Industrial Estate*	SK816558	2013	RAJ
Oakham Business Park*	SK524594	2019	RAJ

*Non-native populations

Menyanthes trifoliata L.

Bogbean

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare (as a native)**Monads:** 5 (1 as a native)

Drainage and eutrophication have contributed to the rapid decline of native populations of bogbean *Menyanthes trifoliata* in the VC. Historically the species was a common component of bogs and pools and was widespread across the VC. As a native the species is now reduced to one site in the VC. The Nuthall population has been known for many years, being recorded by Howitt & Howitt (1963) and is still relatively abundant. The Gunthorpe population was first recorded in 1992 and consists of several marginal populations that are located in angling pools. Since 2015 an introduced population at Portland Park has been added to the register and a new population at Bleasby has been found. The origin of the Bleasby population is unknown but given its location on the Trent floodplain it could easily have arrived during a flood.

Location	GR	Date	Recorder
Temple Lake	SK514442	2013	DCW
Temple Lake	SK513440	1996	DCW, RCLH
Gunthorpe Gravel Pits*	SK680439	2015	RAJ
Gunthorpe Gravel Pits*	SK679439	2015	RAJ
Martins Pond*	SK526401	2011	DCW
Vicar Water*	SK592628	2010	MW
Burntstump Country Park*	SK579506	2008	DCW
Bleasby Jubilee Ponds	SK717492	2018	RAJ
Portland Park*	SK499551	2018	DaS

*Non-native populations

Microthlaspi perfoliata (L) F.K. Mey.

Perfoliate Penny-cress

National Status: Vulnerable (GB and Eng.)**Nottinghamshire Status:** Extinct

Away from south and southwest midlands perfoliate penny-cress *Microthlaspi perfoliata* is rarely naturalised or is a casual, Stace (2019). In Nottinghamshire, the species has only been recorded once at Welbeck. The species appeared during a period when a very large number of army horses were stabled at West Park. Records from that time show an abundance of rare or 'one-off' casuals that soon disappeared and have not been recorded since. The species including perfoliate penny-cress were probably imported in the horse fodder.

Location	GR	Date	Recorder
West Park, Welbeck	SK57M	1918	RG

Minuartia hybrida (Vill.) Schischk. Fine-leaved Sandwort

National Status: Endangered (GB and Eng.), Nationally Scarce, UK Biodiversity Action Plan

Nottinghamshire Status: Extinct

Upon completion of a new cycleway, which disturbed parts of a dismantled railway line, several small colonies of fine-leaved sandwort *Minuartia hybrida* were recorded on the track verge in 1987. This was the first VC record for the species and it was still present when visited in 2004. Regular visits since 2012 have failed to find the species and it is probably extinct.

Location	GR	Date	Recorder
Hawton Dismantled Railway Line	SK804503	2004	DCW

Misopates orientum (L.) Raf. Weasel's-snout

National Status: Vulnerable (GB and Eng.)

Nottinghamshire Status: Extinct

In the VC, this rare archaeophyte has only been recorded once during 2007. Four plants, which were probably casual, were recorded on dumped spoil / rubble. The plants have not been re-found in subsequent years and the species is probably extinct in the VC. Further targeted surveys are planned.

Location	GR	Date	Recorder
Kirkby Bentinck	SK484551	2007	DCW

Moenchia erecta (L.) P. Gaertn., B. Mey. & Scherb. Upright Chickweed

National Status: Least Concern (GB), Vulnerable (Eng.), Nationally Scarce

Nottinghamshire Status: Extinct

Howitt & Howitt (1963) stated that they were unable to find the species (as *Cerastium quaternellum*) despite the availability of suitable habitat within the VC. All of the many historical records originate from the 19th Century.

Location	GR	Date	Recorder
Nottingham area	SK54	1839	GH

Myosotis secunda Murr. Creeping Forget-me-not

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 3

The only confirmed historical records originate from the 19th Century in turf bogs at Pleasley, Rainworth and Oxton. The species is no longer extant at any of those sites and up to 2015 was known from only one location within a wet, acidic valley mire community at Felley Mill Plantation. Since 2015 two new populations have been found. The Bawtry Forest population is outside of the modern Nottinghamshire county boundary. The Cave Pond population is associated with alder carr and consists of several large patches growing with opposite-leaved golden saxifrage *Chrysosplenium oppositifolium*.

Location	GR	Date	Recorder
Felley Mill Plantation	SK480510	2008	DCW
Bawtry Forest	SK6446695735	2019	LHi
Cave Pond Wood	SK572572	2018	RAJ

Myosotis x suzae Domin

M. laxa x scorpioides

National Status: Data Deficient

Nottinghamshire Status: Rare

Monads: 2

The hybrid is represented by two large populations, which are confined to a single drain in Stapleford Wood close to the Lincolnshire border. The mature conifer plantation is located on peaty soils, which in places is overlaid by blown sands. Since 2015 the population at Stapleford Wood has been found in a neighbouring monad and this probably represents a genuine expansion, because it is unlikely to have been overlooked in this section of the drain during previous surveys.

Location	GR	Date	Recorder
Stapleford Wood	SK851556	2012	RAJ, DCW
Stapleford Wood	SK84985586	2018	RAJ

Myosurus minimus L.

Mousetail

National Status: Vulnerable (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Rare

Monads: 1

Mousetail *Myosurus minimus* has always been very rare in the VC, historically located in meadows and arable fields on gravel soils. Before the most recent find at Sutton-on-Trent, it was last seen in 1950 at a meadow at Rolleston. The Sutton-on-Trent population is located in barish cattle pens at the edge of Trent Valley floodplain grasslands and in 2007 consisted of thousands of plants. A visit in 2018 by R. Johnson confirmed that the population was extant and possibly spreading.

Location	GR	Date	Recorder
Sutton-on-Trent Cattle Pens	SK80216588	2018	RAJ

Myrica gale L.

Bog Myrtle

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Rare

Monads: 2

Howitt & Howitt (1963) described bog myrtle *Myrica gale* as being very rare and confined to two boggy woods including Sutton Wood near Retford and Wigsley Wood near the Lincolnshire border, where it was undoubtedly native. The species is no longer extant at Sutton Wood and was last recorded at Wigsley Wood in 1986. At Monksbarn, Newstead and Boughton Brake the species has recently been recorded, it is an introduction or garden escape.

Location	GR	Date	Recorder
Wigsley Wood	SK8570	1986	DCW
Monksbarn*	SK533543	1989	DCW
Boughton Brake*	SK671701	2003	DCW, RAJ

*Probably introduced

Myriophyllum alternifolium DC.

Alternate Water-milfoil

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 2

Howitt & Howitt (1963) doubted the validity of the only record for the county, because of the Newark locality. Since 1970 however, the species has been recorded in peaty drains at Gringley and Everton and also in ballast pits at Misson Line Bank. In 1978, an herbarium specimen from Everton Carr was submitted to the Nottingham Natural History Museum and in 1997 D.C. Wood also submitted a specimen from Misson Line Bank. Since 2000 there has only been two records, with only one in the north of the county. The loss of populations in the north is probably indicative of the deteriorating condition of many of the drains because of eutrophication and

dredging. The population at Mansfield is many miles from any of the other populations. The Mansfield subsidence pond has developed following cessation of mining in the late 1980s and the population is most likely to have established from visiting wildfowl.

Location	GR	Date	Recorder
Magnus Drain, Everton Carr	SK705938	1978	Woll.
Black Bank Drain, Everton Carr	SK697937	1978	Woll.
Black Bank Drain, Everton Carr	SK702929	1978	Woll.
Gringley Carr Drain, Carr Road East Drain	SK718943	1978	KLJ
Gringley Carr Drain, Carr Road East Drain	SK715943	1978	KLJ
Gringley Carr Drain	SK718942	1978	Woll.
Gringley Carr Drain	SK717941	1978	KLJ
Gringley Carr Drain	SK723943	1978	KLJ
Gringley Carr Drain	SK702941	2011	DCW, MW
Misson Line Bank	SK712959	1997	DCW
Misson Line Bank	SK712960	1978	NRL, KLJ
Misson Line Bank	SK716960	1978	NRL, KLJ
Misson Line Bank	SK714961	1978	NRL, KLJ
Mansfield Subsidence Pond	SK58296052	2017	DCW

Myriophyllum verticillatum L. Whorled Water-milfoil

National Status: Vulnerable (GB), Near Threatened (Eng.)
Nationally Scarce

Nottinghamshire Status: Scarce

Monads: 7

The species is confined to base-rich waters and has always been rare in the VC. It has persisted since the early 1960s at Misterton and Shireoaks and was probably also present at Gringley. At Misterton and Gringley the populations are located in peaty drains, whilst the Shireoaks population is located in a drain on the Magnesian Limestone. Historically the species was also recorded at the Meadows near Nottingham, in the River Trent at Colwick and in a pool at Attenborough, but all of these populations have disappeared because of habitat destruction. Since 2015, extant populations have been confirmed in several Gringley Carr drains, which suggests that the distribution since the 1970s may be stable (in bold).

Location	GR	Date	Recorder
Fox Covert Drain, Gringley Carr	SK722952	2002	DCW
Shireoaks Park	SK552806	1972	JH
Mother Drain, Gringley Carr	SK713950	2018	DCW, RAJ
Gringley Carr	SK728930	1984	JNCC
Misterton Carr Drain	SK734954	2009	DCW
Gringley Carr Drain	SK713949	2012	DCW
Gringley Carr Drain	SK714946	2009	DCW
Gringley Carr Drain	SK715942	2013	DCW
Gringley Carr Drain	SK718935	2019	MW
Gringley Carr Drain	SK716943	2009	DCW
Gringley Carr Drain	SK716942	2018	RAJ, DCW
Gringley Carr Drain	SK717938	2018	RAJ, DCW
Gringley Carr, Boundary Drain	SK723953	1978	CGC
Misterton Carr, Mother Drain	SK726964	2012	DCW

Nardus stricta L.

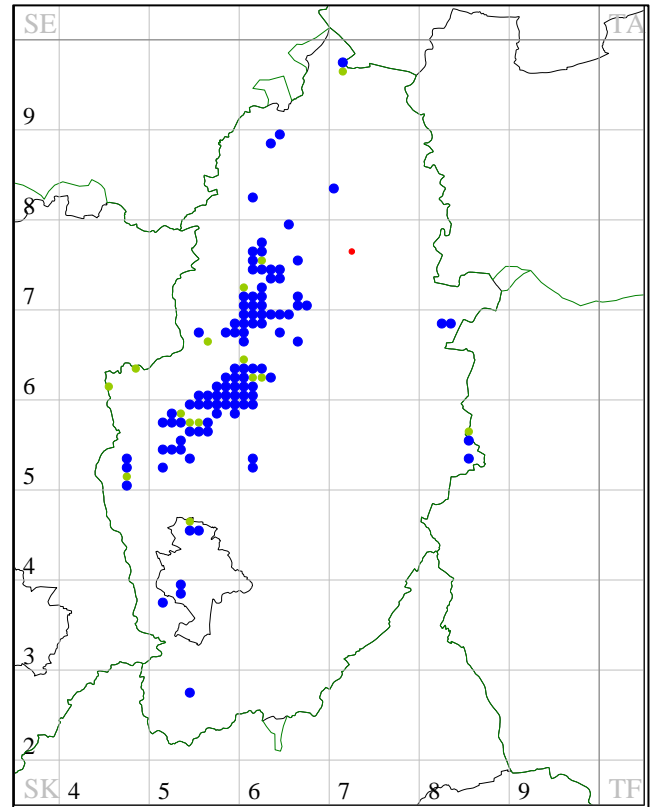
Mat Grass

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Locally Frequent

Monads: 103 (since 2000)

Howitt & Howitt (1963) describes mat grass *Nardus stricta* as being locally common on dry sandy heaths with populations found in all parts of the county. The loss of habitat in lowland Britain has contributed to the recent declines and the 'Near Threatened' status in England. Nottinghamshire is a typical example and whilst the core populations in Sherwood Forest are extant and secure in protected areas, the species is now locally frequent rather than common.



Narthecium ossifragum (L.) Huds.

Bog Asphodel

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Extinct

The only record for bog asphodel *Narthecium ossifragum* originates from the early 19th Century when "two plants were found on Coddington Moor, by Mr Jacob Ordoyno", Howitt & Howitt (1963).

Location	GR	Date	Recorder
Coddington Moor	SK85	1807	JO

Nasturtium x sterile Airy Shaw

Hybrid Watercress

National Status: Data Deficient

Nottinghamshire Status: Scarce

Monads: 8 (since 2000)

There are no historical records for this hybrid, because it was not recognised when Howitt & Howitt's flora was published in 1963. Rich (1991) described hybrid watercress *Nasturtium x sterile* as the most common of the crucifer hybrids in Britain and it is possibly under-recorded in the VC. Since 1970 the hybrid has been recorded at eleven sites, scattered across the VC, often, but not always with the parents. It has only been recorded once since 2015 (in bold).

Location	GR	Date	Recorder
Torworth Drain	SK666863	1972	JH
Warsop Vale Stream	SK554678	1972	JH
Welbeck Colliery Village	SK583697	1972	JH
Sutton Railway Drain	SK669852	1972	JH
Sutton Railway Drain	SK692833	1972	JH
Shireoaks Park Cascade	SK549805	1997	DCW, JH
Shireoaks Park Cascade	SK550805	1997	DCW, JH
Shireoaks Park Cascade	SK552806	1997	DCW, JH
Grantham Canal, Hickling	SK711293	1999	DCW
Grantham Canal, Kinoulton	SK681305	2000	DCW
Grantham Canal, Kinoulton	SK685296	2000	DCW
Ruddington Drain	SK565329	2003	DCW
Holme Pierrepont Stream	SK6038	Undated	DCW
Kennel Wood	SK498512	2007	DCW
Fenton Lane Drain	SK796830	2016	MW

Neotinea ustulata (L.) R.M. Bateman,
Pridgeon & M.W. Chase

Burnt Tip
Orchid

National Status: Endangered (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

In the VC, G. Howitt last recorded burnt tip orchid *Neotinea ustulata* some time before 1839. In the 18th and 19th Centuries the species was recorded at several sites on Magnesian Limestone and base-rich Trent valley grasslands.

Location	GR	Date	Recorder
Kirkby Hardwick	SK55	1839	GLH

Neottia nidus-avis (L.) L.C. Rich.

Bird's-nest Orchid

National Status: Near Threatened (GB), Vulnerable (Eng.)
Nottinghamshire Status: Rare
Monads: 1

Formerly bird's-nest orchid *Neottia nidus-avis* was recorded in seven woodlands located on either base-rich clays or Magnesian Limestone. Since 1970 the species has not been found at any of those woodlands and is probably now confined to two ancient woodlands on the Keuper Marls. In 1995 at Eaton Wood, the population consisted of one plant next to a ride in mixed woodland; there have been no recent sightings. During spring 2018 there were four spikes located in mixed woodland along a new ride under mature hazel *Corylus avellana* shrubs at Gamston Wood.

Location	GR	Date	Recorder
Eaton Wood	SK727775	1995	DCW
Gamston Wood	SK729769	2018	DA

Nepeta cataria L.

Catmint

National Status: Vulnerable (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 7

The species has always been rare in the VC and between 1738 and 1963 was only recorded at fifteen, scattered localities, mostly on hedge banks. Since 1970, it has been recorded a further five times, but never in any great quantity. The largest population, which was recorded at Trowell on a canal towpath (SK495392), is no longer extant and a viaduct in Nottingham (SK576394) that supported a population has also been destroyed to facilitate a tramline. Of the remaining populations, the Rainworth, Cromwell and Lound populations consist of a few plants.

Location	GR	Date	Recorder
Nelson Street, Sneinton	SK579399	2011	PS(b)

Location	GR	Date	Recorder
Ranskill	SK663880	2006	DCW
Daneshill	SK674866	2004	DCW
Sturton-le Steeple	SK785853	1999	DCW
Black Hills Farm Roadside Verge	SK635670	2012	DCW
Rainworth Water	SK604596	2012	RAJ
Muspit Lane	SK761853	2012	DCW
Cromwell Gravel Pits	SK801621	2015	DCW

Nymphaea alba L.

White Water-lily

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare (as a native)
Monads: 3

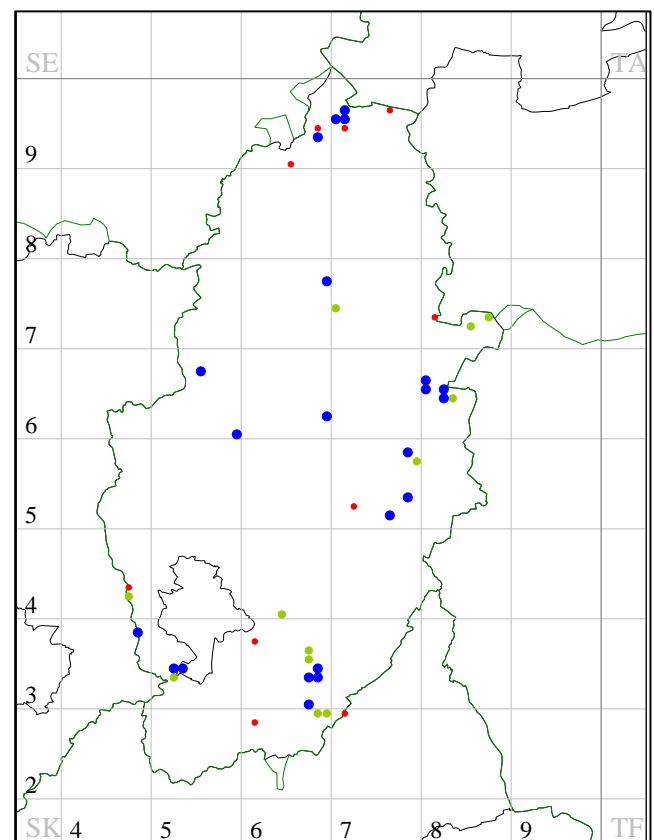
As a native, white water lily *Nymphaea alba* has always been rare in the VC and mostly confined to sites in the Trent valley. Other sites where it was possibly native, such as the River Erewash at Eastwood and Langford Fleet, have been heavily modified in recent times, or in the case of sites in Nottingham are no longer extant. Howitt & Howitt (1963) recorded the species as a native at Collingham and Besthorpe but the populations have not been seen for two decades. A third population at Mons Pool, Besthorpe is also probably native and this was extant in 2013.

Location	GR	Date	Recorder
Horse Pool, Collingham	SK814618	1978	NRL, CGC, KLJ
Black Pool (Besthorpe)	SK820643	1997	Woll.
Mons Pool (Besthorpe)	SK8163	2013	JC

Oenanthe fistulosa L.

Tubular Water-dropwort

National Status: Least Concern (GB), Vulnerable (Eng.), UK Biodiversity Action Plan
Nottinghamshire Status: Uncommon
Monads: 22 (since 2000)



Before the 1960s, tubular water-dropwort *Oenanthe fistulosa* was common in the valleys of the River Trent and its tributaries and it was also frequent in the north of the county on peatlands. The decline of the species in the VC reflects the national decline, which has been of sufficient magnitude to classify the species as 'Vulnerable'. The decline in the VC can probably be attributed to drainage and habitat loss rather than agricultural intensification, because the species prefers eutrophic substrates. The distribution map confirms the continuing decline in the county. Intensive survey effort since 2000 has confirmed that the species has only been recorded in 22 monads.

Oenanthe fluviatilis (Bab.) Coleman

River Water-dropwort

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Extinct

There is a D.A.J. Little specimen in the Aberyswyth University Herbarium that was not mentioned in Howitt & Howitt's (1963) Nottinghamshire Flora. The herbarium sheet describes the location as being near Kegworth, so the actual habitat is not known, but it is probably the River Soar. Given the grid reference, it is not known if the specimen originated from the Nottinghamshire or Leicestershire side. As the species has not been seen for many years it is assumed to be extinct and given the lack of clarity, it is reasonable for either county to lay claim to the record.

Location	GR	Date	Recorder
Kegworth (near)	SK4924	1948	DAJL

Oenanthe lachenalii C.C. Gemel.

Parsley Water-dropwort

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Scarce
Monads: 6

Parsley water-dropwort *Oenanthe lachenalii* has a mainly coastal distribution and becomes rather less common inland. In the VC the species has never been common and traditionally it was associated with damp meadows on basic soils. Although the species is still extant on a few damp grasslands such as Warsop Hills and Holes and Kinoulton Marsh, nowadays it is also found on the margins of drains in the east of the VC. Whilst these populations may have recently colonised the drains, it is possible that the species has been long established, but was overlooked, because it was not generally recognised as being associated with such habitat. The Car Colston Marsh population has never been confirmed. Since 2015 the populations at Balderton have expanded and a new population has been found at Cropwell Bishop. (in bold).

Location	GR	Date	Recorder
Balderton - Hawton Drain	SK809503	2009	DCW, RAJ
Balderton - Hawton Drain	SK811503	2009	DCW, RAJ
Balderton - Hawton Drain	SK810504	2009	DCW, RAJ
Balderton - Hawton Drain	SK812503	2009	DCW, RAJ
Balderton - Hawton Drain	SK804505	2009	DCW, RAJ
Balderton - Hawton Drain	SK804503	2015	DCW
Balderton - Hawton Drain	SK812505	2017	DCW
Newark Southern Link Road	SK812504	2017	RAJ
Newark Southern Link Road	SK813505	2017	RAJ
Fernwood Drain	SK803501	2018	DCW
Cropwell Bishop Field	SK67933597	2016	RAJ, JC
Shire Dyke, Bennington	SK812476	1998	DCW, RAJ
Shire Dyke, Bennington	SK813483	1998	DCW, RAJ
Kinoulton Marsh	SK679305	1991	DCW
Warsop Hills and Holes	SK554677	2008	DCW
Sookholme Moor	SK55446784	2017	RAJ
Car Colston Marsh	SK707418	1987	Woll.

Oenanthe silaifolia Bieb.

Narrow-leaved Water-dropwort

National Status: Near Threatened (GB), Least Concern (Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

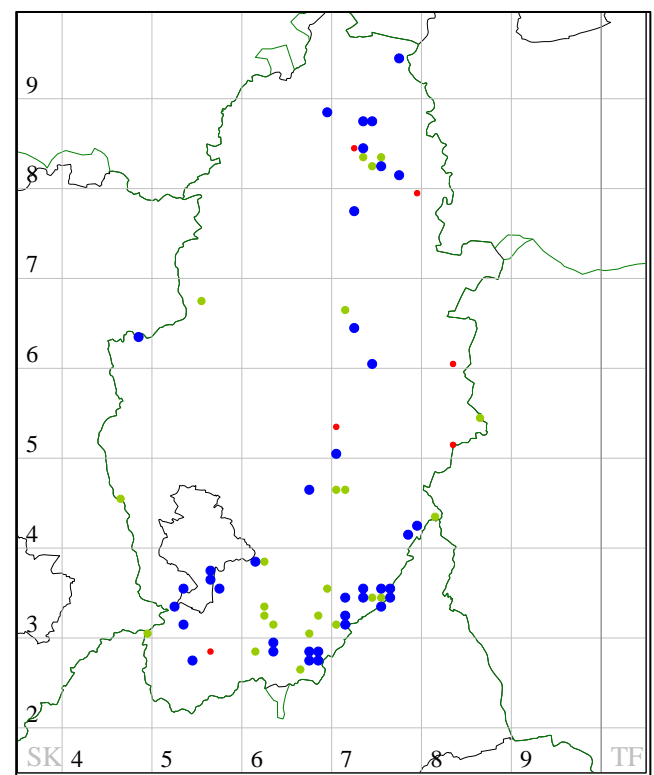
R.C.L. Howitt recorded narrow-leaved water-dropwort *Oenanthe silaifolia* at two locations in the VC, both in the east of the VC in close proximity to the River Trent. Before 1963, he recorded the species at Spalford and in 1976 he recorded six plants at Fledborough Holme. Neither of the two populations has been seen in recent years, but the habitat is still suitable at the latter site.

Location	GR	Date	Recorder
Fledborough Holme	SK813718	1976	RCLH

Ononis spinosa L.

Spiny Restharrow

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Scarce
Monads: 38 (since 2000)



Formerly frequent and widespread on basic soils but declining in recent decades. Intensive surveying since 2000 has identified 38 monads containing the species, but 29 monads that contained populations before 2000 were not re-found. It is reasonable to assume that some of the populations not recorded since 2000 may still be extant because they were overlooked or inaccessible but the declines reflect the national trend.

Ophrys insectifera L.

Fly Orchid

National Status: Vulnerable (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 3

Fly orchid *Ophrys insectifera* has always been very rare in the VC, mostly in woods or scrub on Magnesian Limestone. Since 1970 it has been recorded at three sites, including Quarry Banks and Dyscarr Wood on Magnesian Limestone and at Eaton Wood on Keuper Marl. At Eaton Wood the species has also been recently recorded in close proximity to its original location, but on limestone chippings in a rarely used car park, rather than the woodland soils.

The population at Dyscarr has steadily declined in recent years despite targeted management (clearance of vigorous field layer vegetation) and has not been seen in recent years.

Location	GR	Date	Recorder
Eaton Wood	SK7277	1991	NRL
Eaton Wood	SK728773	2011	GL, CL
Quarry Banks	SK536523	1998	DCW, SC
Dyscarr Wood	SK578876	2007	NRL, JF, DCW, NC

Oreopteris limbosperma (All.) Holub Lemon-scented Fern

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Scarce

Monads: 10 (since 2000)

Before 1970 lemon-scented fern *Oreopteris limbosperma* was considered to be a rare species of moist woods on sandy or clay soils. Since 2000 the species has been recorded at 10 monads; it is no longer extant at Coxmoor Plantation in Kirby-in-Ashfield (SK520567) and Forest Side, Sutton-in-Ashfield (SK520595). Since the early 1960s the species has persisted at Coxmoor, Misson and Spalford. Further searches at locations where it was originally recorded including Oxton, Farnsfield, Rufford and Wigsley may prove to be worthwhile as suitable habitat is still present at these sites. Since 2015, surveys at Stapleford Wood have confirmed that population is intact. In addition, a survey of a gypsum quarry has confirmed the presence of the species in a new monad.

Location	GR	Date	Recorder
Spalford Woodland	SK833686	1968	BH
Balderton Ballast Pits	SK8251	1975	RCLH
Budby South Forest	SK608693	2009	DCW
Budby South Forest	SK607693	2012	DCW, RAJ, JC
Huthwaite Stream	SK456598	2000	DCW
Misson Carr	SK714971	2006	DCW
Misson Carr	SK717976	2006	DCW
Stapleford Wood	SK855557	2008	DCW, RAJ
Stapleford Wood	SK853562	2011	DCW, RAJ, MW
Stapleford Wood	SK853553	2011	DCW, RAJ, MW
Stapleford Wood	SK851552	2008	DCW, RAJ
Stapleford Wood	SK853559	2018	DCW
Stapleford Wood	SK853560	2018	DCW
Stapleford Wood	SK853568	2017	DCW
Stapleford Wood	SK854559	2018	DCW
Stapleford Wood	SK855558	2018	DCW
Stapleford Wood	SK857556	2018	DCW
Coxmoor Golf Course	SK525579	2009	DCW
Felley Mill Plantation	SK480510	2011	MW
Oakfield Lane Sand Quarry	SK565666	2015	JC, MW
Bantycok Quarry	SK814496	2016	GW

Ornithogalum pyrenaicum L. Spiked Star-of-Bethlehem

National Status: Least Concern (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Rare

Monads: 1

Spiked Star-of-Bethlehem *Ornithogalum pyrenaicum* is a nationally scarce species that was first recorded in ancient woodland habitat in the VC during 1993. Although it appeared to be naturalised the single plant was located in close proximity to housing and could be a garden escape or a relic of cultivation.

Location	GR	Date	Recorder
Wallingwells Wood	SK573843	1993	DCW

Orobancha hederæ Duby

Ivy Broomrape

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 2

The origin of the two extant populations is unknown but both appear to be persistent. The Wollaton Hall population has been present for several years and the Bramcote population has been present for at least two years. The host in both cases is *Hedera* 'Hibernica', which suggests that the species may have been introduced with the host.

Location	GR	Date	Recorder
Wollaton Hall	SK533391	2019	RAJ
Bramcote	SK50863573	2018	GH

Orobancha rapum-genistæ Thuill.

Great Broomrape

National Status: Near Threatened (GB), Vulnerable (Eng.),

Nationally Scarce

Nottinghamshire Status: Extinct

Great broomrape *Orobancha rapum-genistæ* has always been rare, being confined to sandy heaths in the north of the VC at Everton and Harworth and in the Sherwood area at Mansfield, Thoresby, Ollerton, Eakring and Farnsfield. It was last recorded in the mid-1960s at Barrow Hills, Everton by R. C. L. Howitt. Subsequent searches in the early 1970s failed to re-locate the species.

Location	GR	Date	Recorder
Barrow Hills	SK674918	1964	RCLH

Osmunda regalis L.

Royal Fern

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Extinct (as a native)

Monads: 2 (as a neophyte)

As a native, royal fern *Osmunda regalis* is probably extinct, because the population at Oxton Bogs, which was the remaining native population was last seen during the early 1970s. Historically the species was recorded as a native at scattered localities throughout the VC including Wigsley Wood, Mansfield, Bulwell, Finningley, Stapleford, Collingham, and Coddington. Since 2015 the species has been recorded at Strelley Park and Newstead Abbey, both are introductions that have regenerated from planted material.

Location	GR	Date	Recorder
Oxton Bogs	SK6151	1972	AJW

Oxalis acetosella L.

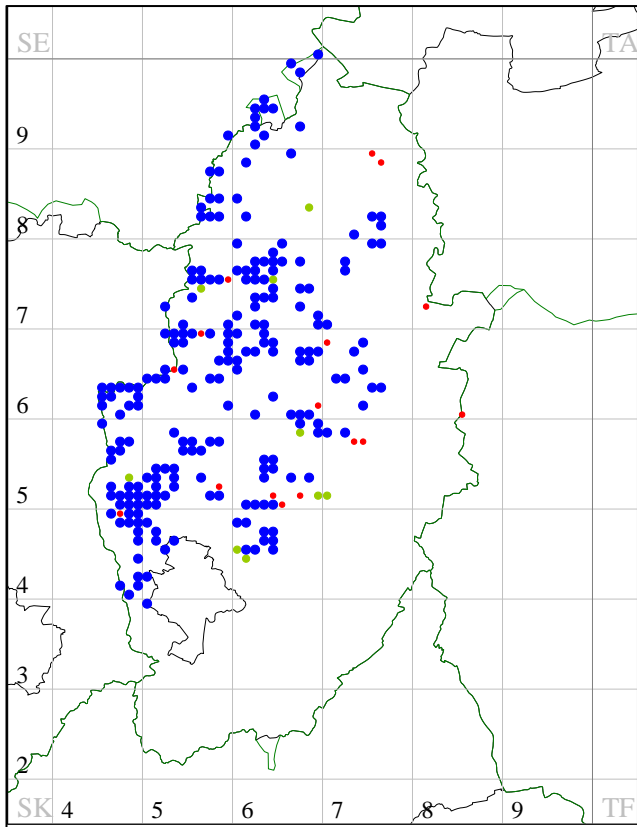
Wood Sorrel

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Frequent

Monads: 206 (since 2000)

Still relatively common to the north and west of the River Trent in damper woodlands across a variety of soil types. The national declines are not necessarily reflected in Nottinghamshire, because there have been no significant losses of woodland in the past twenty years. The pre-2000 records in 33 monads that have not been recorded between 2000 and 2019 could be genuine losses owing to changes to the woodlands in which they occurred. However, many of the sites will have been inaccessible or contain small populations and such populations may still be extant.



Oxybasis glauca (L.) S.
Fuentes, Uotila & Borsch

Oak-leaved Goosefoot

National Status: Vulnerable (GB and Eng.)

Nottinghamshire Status: Uncommon

Monads: 16

Before 1970, the species had been recorded only once in the VC, in a green lane between Misson and Idle Stop where manure was tipped. Although unlikely, it is possible that the species was overlooked, because modern records are, for the most part, associated with semi-natural habitat on the banks of the tidal River Trent between Holme and Rampton. Targeted surveys were carried out from 2006 to 2010, but during 2011 and 2012, the species was not found, probably because of late-summer flooding in the previous years, which stopped the species from germinating at its normal time. During 2013 targeted surveys (in bold) identified near-continuous populations on the tidal Trent, wherever sandy gravels were present. Since 2015 a further six populations have been located all in Barton-in-Fabis (SK5233), many miles upstream from the nearest populations on the River Trent.

Location	GR	Date	Recorder
Bramcote Landfill	SK505388	2009	DCW
River Trent, Collingham	SK807625	2006	DCW, RW
River Trent, Collingham	SK803631	2006	DCW, RW
River Trent, Collingham	SK803632	2006	DCW, RW
River Trent, Collingham	SK803633	2006	DCW, RW
River Trent, Girton	SK818684	2013	DCW, MW
River Trent, Girton	SK816683	2009	DCW
Grassthorne Holme	SK809674	2013	DCW, MW
River Trent, Grassthorne	SK814670	2013	DCW, MW
River Trent, Grassthorne	SK815669	2006	DCW, RAJ
River Trent, Grassthorne	SK815669	2009	DCW, SH
River Trent, Holme	SK802597	2006	DCW, RAJ
River Trent, Holme	SK801595	2006	DCW, RAJ
River Trent, Holme	SK801596	2006	DCW, RAJ
River Trent, Holme	SK799593	2006	DCW, RAJ
River Trent, Normanton Holme	SK817675	2008	DCW

Location	GR	Date	Recorder
River Trent, North Clifton	SK817719	2006	DCW, MW
River Trent, Ragnall	SK81677306	2007	RAJ
River Trent, Rampton	SK833782	2013	DCW, MW
River Trent, Rampton	SK834783	2013	DCW, MW
River Trent, South Clifton	SK817695	2006	DCW, MW
River Trent, Sutton-on-Trent	SK815668	2013	DCW, MW
River Trent, Sutton-on-Trent	SK816666	2006	DCW, RAJ
River Trent, Sutton-on-Trent	SK814665	2013	DCW, MW
River Trent, Sutton-on-Trent	SK810666	2006	DCW, RAJ
River Trent, Sutton-on-Trent	SK812666	2013	DCW, MW
River Trent, Sutton-on-Trent	SK809666	2013	DCW, MW
River Trent, Sutton-on-Trent	SK809664	2013	DCW, MW
River Trent, Sutton-on-Trent	SK808662	2013	DCW, MW
River Trent, Sutton-on-Trent	SK809661	2006	DCW, RAJ
River Trent, Sutton-on-Trent	SK806655	2013	RAJ
River Trent, Sutton-on-Trent	SK807661	2013	RAJ
River Trent, Sutton-on-Trent	SK808657	2013	DCW, MW
River Trent, Sutton-on-Trent	SK809658	2013	DCW, MW
River Trent, Sutton-on-Trent	SK809659	2013	RAJ
River Trent, Girton	SK817679	2013	DCW, MW
River Trent, Girton	SK818677	2013	DCW, MW
Cromwell Gravel Pits	SK802621	2015	DCW
Barton-in-Fabis	SK527336	2017	DCW
Barton-in-Fabis Grassland	SK52313334	2017	DCW
River Trent, Barton-in-Fabis	SK52213341	2017	DCW
River Trent, Barton-in-Fabis	SK52503340	2017	CS(1), MS, PD
River Trent, Barton-in-Fabis	SK52533342	2017	DCW
River Trent, Barton-in-Fabis	SK52623358	2017	DCW

Oxybasis urbica (L.) S.
Fuentes, Uotila & Borsch

Upright Goosefoot

National Status: Critically Endangered (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 1

Before 1970, upright goosefoot *Oxybasis urbica* was considered to be a rare casual and was recorded near to the Plaster Works at Kingston-on-Soar. Since 1970 the species has been recorded in a garden at Collingham; at Bramcote landfill (now landscaped) and as a casual at Kinoulton, on the margin of a game crop. Since 2015 the species has been recorded once at Hickling so it is still extant in the county (in bold).

Location	GR	Date	Recorder
Kingston-on-Soar	SK5228	1907	JWC
South Collingham	SK827613	1989	EMP
Bramcote landfill	SK503387	2005	DCW
Kinoulton	SK668312	2005	DCW
Hickling	SK6928	2017	NP

Parnassia palustris Thuill. Grass-of-parnassus

National Status: Least Concern (GB), Vulnerable (Eng.)

Nottinghamshire Status: Extinct

Grass-of-parnassus *Parnassia palustris* was very rare and decreasing by the early 1960s, because of habitat loss and drainage. It was last recorded at two sites in the Sookholme area and although Sookholme Moor is still extant, the site at Sookholme Bath Lane has been heavily disturbed and damaged by mining activity. Despite repeated searches, since 1971 the species has not been recorded at any of its traditional sites and is considered to be extinct in the VC. There is a specimen in Wollaton Hall Natural History Museum (NOT), collected in Wollaton Park, Nottingham in 1965, but sadly the collector is no longer alive to provide finer details. Suitable habitat still exists, but recent searches have been unsuccessful.

Location	GR	Date	Recorder
Sookholme Bath Lane	SK540665	1971	RCLH
Sookholme Moor	SK554678	1971	RCLH
Wollaton Park	SK53J	1965	WJH

Pedicularis palustris L. Red Rattle

National Status: Least Concern (GB), Vulnerable (Eng.)

Nottinghamshire Status: Extinct

During the 19th Century, red rattle *Pedicularis palustris* was frequent and widespread in the VC, but declined through the early part of the 20th Century. The species was extinct by 1954, being last recorded by R.C.L. Howitt below the River Idle Barrier Bank at Scaftworth.

Location	GR	Date	Recorder
Scaftworth	SK69	1954	RCLH

Pedicularis sylvatica L. Lousewort

National Status: Least Concern (GB), Vulnerable (Eng.)

Nottinghamshire Status: Extinct

Lousewort *Pedicularis sylvatica* was formerly frequent in all areas of the VC on old pastures and woodland rides, but has not been recorded since 1974. It is possible that the impacts of coal mining, which often lowered the water table in the surrounding area, could have contributed to declines in some of the mining areas such as Sookholme and Calverton. Several of the historical sites have been returned to sympathetic management in recent times, for example Mansey Common (formerly known as Manzer Gorse) and Sookholme Moor and this species could still reappear.

Location	GR	Date	Recorder
Sookholme Moor	SK554678	1972	JH
Laxton Castle Meadows	SK7167 / SK7267	1972	RCLH
Calverton Mire	SK606486	1974	RCLH

Persicaria minor (Huds.) Opiz Small Water-pepper

National Status: Vulnerable (GB), Least Concern (Eng.), Nationally Scarce

Nottinghamshire Status: Scarce

Monads: 7 (since 2000)

Small water-pepper *Persicaria minor* has never been common in the VC and before 1963 was only recorded at three sites including the River Idle at Misson, a field in Sneinton and a ditch between Nottingham and Lenton. The latter two sites are no longer extant, having succumbed to urban development in the 19th or 20th Centuries. The species could however, have been overlooked because there are many more modern records. Since 1970, the species has been recorded in 10 monads along the River Trent and the River Idle. The species has been recorded in a variety of habitats including the banks of drains, inundation grassland, willow scrub,

grazing marsh and seasonal pools. The white form of the species has been recorded at Attenborough, but elsewhere the plants are the red-flowered form. There have been no new records since 2015, but surveys of the River Trent have been very limited.

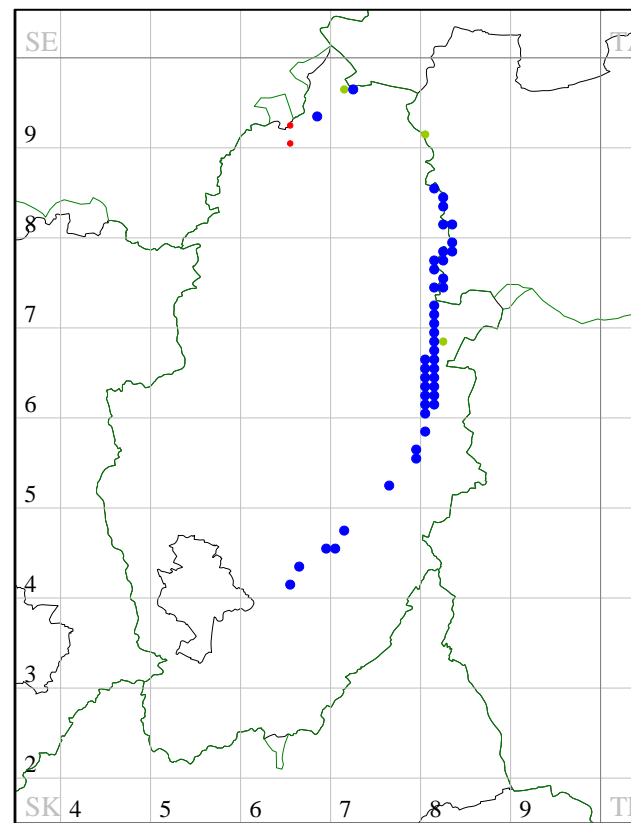
Location	GR	Date	Recorder
Misson Drain	SK687938	1972	JH
Misson Drain	SK684943	1972	JH
Misson Drain	SK713950	1972	JH
West Bridgford	SK569362	1989	Woll.
Shelford Carr	SK668434	1992	DCW
Attenborough Gravel Pits	SK519337	2002	DCW
Attenborough Gravel Pits	SK520338	2002	DCW
Idle Washes, Misterton	SK721963	2002	DCW, RAJ
Rolleston	SK763516	2006	DCW
Clifton (near Holme Pit)	SK53423477	2010	DCW
Clifton (near Holme Pit)	SK537347	2010	DCW
Clifton (near Holme Pit)	SK53453463	2010	DCW
Clifton (near Holme Pit)	SK53653466	2010	DCW
Adbolton Grassland	SK60273854	2010	DCW
Idle Washland, Everton Carr	SK690944	2015	DCW, MW

Persicaria mitis (Schrank.) Assenov Tasteless Water-pepper

National Status: Vulnerable (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Locally Frequent

Monads: 42



Howitt & Howitt (1963) considered tasteless water pepper *Persicaria mitis* to be rare and they provided only five records for the VC. Since 2000 the species has been recorded in 42 monads, mostly in the lower reaches of the tidal Trent valley, wherever suitable habitat is present. Preston *et al* (2002) stated that the species was often confused with water pepper *P. hydropiper* and small water pepper *P. minor*. As such, it is considered likely that the species has always been locally frequent in the Trent valley and was probably overlooked before 1970. Since 2015 there have been 10 records, all within the

same area, but surveys between 2000 to 2015 suggest that the distribution has remained stable since 1980.

Tasteless water-pepper *Persicaria mitis* on the River Trent, Cottam



Source S. Hammonds

Petroselinum segetum (L.) W.D.J.Koch Corn Parsley

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 3

Corn parsley *Petroselinum segetum* has always been rare in the VC and traditionally was associated with arable fields on basic soils. Howitt & Howitt (1963) listed three sites in the VC including Kilvington, Stanford-on-Soar and Barnby-in-the-Willows, but none of those populations are extant. In recent times large populations have been recorded on unimproved grassland banks and the bank of a lagoon, well away from the historic locations. Since 2015 the Hoveringham and Clifton populations have been confirmed as being extant (in bold).

Location	GR	Date	Recorder
A1 Roadside Verge	SK823495	2004	DCW
Clifton Hill	SK822697	2012	DCW, MW, WM, AB
Clifton Hill	SK82656959	2018	JS
Hoveringham Gravel Pits	SK716475	2008	DCW
Hoveringham Gravel Pits	SK716476	2013	DCW
Hoveringham Gravel Pits	SK71554763	2017	DCW

Pinguicula vulgaris L. Common Butterwort

National Status: Least Concern (GB), Vulnerable (Eng.)
Nottinghamshire Status: Extinct

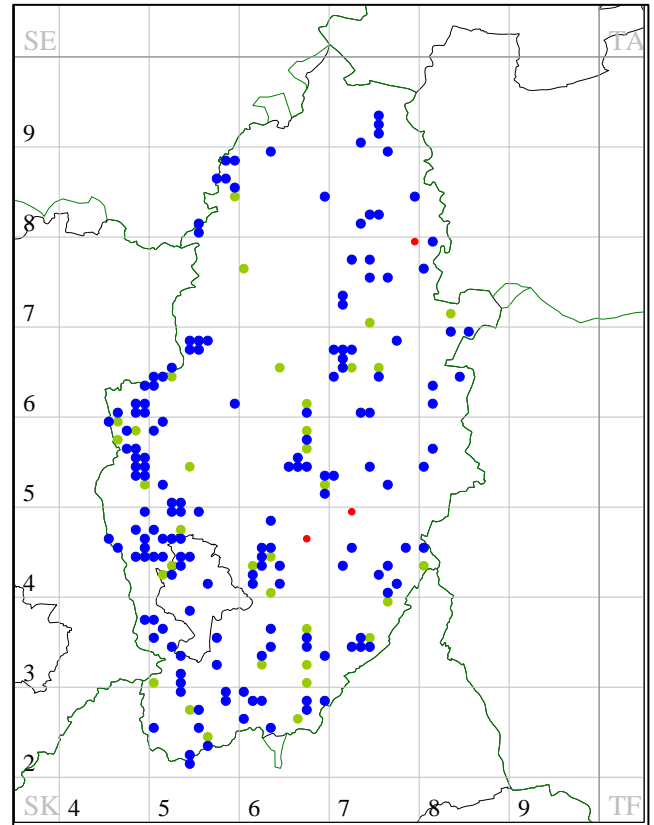
Common butterwort *Pinguicula vulgaris* was formerly common in the VC in marshes and bogs, but by the early 1960s Howitt & Howitt (1963) considered that the species was probably extinct. J.W. Carr last recorded the species at Sookholme Moor in the early part of the 20th Century and approximately 80 years later it was recorded again in peaty flushes at the same site. Unfortunately, the species has not persisted at this site, due to a cessation of grazing and a series of dry summers, and was last seen in 1991.

Location	GR	Date	Recorder
Sookholme Moor	SK554678	1991	DCW

Plantago media L. Hoary Plantain

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Locally Frequent
Monads: 206

Although the records suggest that the species is still widespread on basic clays and Magnesian Limestone, the decline of hoary plantain *Plantago media* in Nottinghamshire reflects the national declines. Habitat loss has occurred, but there has also been declines in population sizes because of a lack of grassland management, which results in shading of the rosette leaves.



Platanthera bifolia (L.) L.C. Lesser Butterfly Orchid Rich

National Status: Vulnerable (GB), Endangered (Eng.)
Nottinghamshire Status: Extinct

T. Ordoyno in the 1807 Flora Nottinghamiensis stated that lesser butterfly orchid *Platanthera bifolia* was recorded in "meadows and pastures; not common, Southwell; and in the meadows leading to Oxtan Wood; also closes between Winkburn and Kirklington." There are no later records for the species.

Location	GR	Date	Recorder
Southwell, near Oxtan Wood, between Winkburn and Kirklington	SK65	1807	TO

Platanthera chlorantha (Cust.) Rchb. Greater Butterfly Orchid

National Status: Near Threatened (GB), Least Concern (Eng.)
Nottinghamshire Status: Scarce
Monads: 4

In the VC, the species has a strong affinity with woodland and was common in clay woodlands in the 19th Century. In the 20th Century, before 1963, greater butterfly orchid *Platanthera chlorantha* was recorded in Hockerton Moor Wood, Lady Wood at Caunton, Eaton Wood, Gamston Wood, Broadwaters Wood at Ossington and

Beverley Springs at Headon. Since 1970 the species has persisted at Gamston Wood, Eaton Wood and Headon (at Darlton Wood, which is next to Beverley Springs). It has not been found at Moor Wood, Lady Wood and Broadwaters Wood in recent times. The species has also been recorded at Treswell Wood, which is close to the woods at Headon, and at Kirton Wood (SK7068), where it is probably no longer extant. Small population could have always been present in Treswell and Kirton Woods, but it is difficult to understand how it would have been overlooked in past times. Since 2012 a single spike was recorded at Bevercotes Colliery in species-rich grassland, but did not persist. The populations at Gamston, Eaton and Treswell are also extant.

Location	GR	Date	Recorder
Darlton Holt	SK7378	1972	RCLH
Bevercotes Colliery	SK71127384	2013	DCW, MW
Eaton Wood Roadside Verge	SK726771	2019	SD
Gamston Wood	SK728769	2006	DCW
Gamston Wood	SK726769	2019	SD
Gamston Wood	SK726764	2006	DCW
Gamston Wood	SK730768	2006	DCW
Gamston Wood	SK727768	2019	SD
Gamston Wood	SK726766	2017	MW
Gamston Wood	SK727765	2006	DCW
Gamston Wood	SK727772	1984	CS, RS
Gamston Wood	SK729767	2019	SD
Treswell Wood	SK762793	2017	MW
Eaton Wood	SK727776	2009	DCW, JF

Polygala serpyllifolia Hose.

Heath Milkwort

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Occasional
Monads: 21 (since 2000)

This native species of heaths and pastures on acid soils was already in decline in Nottinghamshire by the middle of the 20th Century, because of habitat destruction and agricultural intensification. Since that time heath milkwort *Polygala serpyllifolia* has continued to decline with recent losses at Budby North Forest (SK610709), Newark Golf Course (SK8553 and 8554) and Stonehills Plantation (SK533584). Since 2000 populations in 12 monads have not been recorded and may no longer be extant. Since 2015 extant populations have been confirmed at Clipstone Heath, the species has been recorded in two additional monads and a record from 2009 has added another monad (all in bold) so the species is now found in 21 monads.

Location	GR	Date	Recorder
Robbinettes, Cossall	SK4941	1989	DCW
Robbinettes, Cossall	SK4942	1989	DCW
Turfmoor, Brough	SK856588	1994	DCW
Clipstone Dismantled Railway Line	SK592623	1995	DCW
Stapleford Wood	SK852554	1999	DCW
Stapleford Wood	SK853552	1999	DCW
Rainworth Heath	SK592596	2000	DCW
Apleyhead Verges, Clumber Park,	SK644773	2001	DCW
Clumber Lane, Clumber Park	SK612756	2001	DCW
Clumber Park	SK617749	2019	GH
Clumber Lane, Clumber Park	SK616754	2001	DCW
Manton	SK608763	2001	RAJ
Rainworth Heath	SK592591	2017	NBGR
Rainworth Heath	SK592592	2017	NBGR
Rufford Colliery Tip	SK594601	2000	MW
Ollerton Assarts	SK628687	2001	DCW
Vicar Water	SK594620	2001	DCW, MW
Rainworth	SK593599	2002	DCW
Clipstone Forest	SK601626	2002	DCW
Budby South Forest	SK605692	2003	DCW
Rainworth	SK590612	2003	RAJ

Location	GR	Date	Recorder
Clipstone	SK603639	2004	RAJ
Middle Brook Grassland	SK478519	2008	DCW, MW
Stilehollow Plantation	SK643683	2009	RAJ
Sherwood Heath	SK6467	2010	MW
Misson Sand Pit*	SK679954	2011	DCW, MW
Clipstone Heath	SK594625	2019	RAJ
Bilhaugh	SK6373269689	2015	RAJ, JC
Bilhaugh	SK6372969488	2015	RAJ, JC
Budby Corner Plantations	SK621727	2014	RAJ

*Unconfirmed

Polygala vulgaris subsp. *collina*
 (Rchb.) Borbás

Common Milkwort

National Status: Data Deficient
Nottinghamshire Status: Extinct

Stace (2010) describes the subspecies as being scattered throughout Britain, but the distribution is very uncertain. Sell & Murrell (2009), state that all of the plants in Britain are referable to subsp. *vulgaris*. If the existence of subspecies *collina* is accepted, then it was last seen at unspecified times in the early part of the 20th Century at two sites in the VC including Moorgreen Reservoir, Greasley and South Wheatley.

Location	GR	Date	Recorder
Moorgreen Reservoir	SK4849	1909-1939	JWC

Polygonatum odoratum (Mill.) Druce Angular Solomon's Seal

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

In the VC, angular solomon's seal *Polygonatum odoratum* has been recorded only once. J. Roffey recorded the species at Menagerie Wood, Worksop Manor some time during the early 20th Century.

Location	GR	Date	Recorder
Menagerie Wood	SK5778	c.1900	JR

Polygonum rurivagum Jordan ex. Boreau

Cornfield Knotgrass

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 1

Cornfield knotgrass *Polygonum rurivagum* was recorded for the first time in the VC by E.L. Swann (determined by R.P. Libbey) in the Pusto Hill area of Everton. Ackeroyd cited in Stewart, Pearman, & Preston (1994) states that the species is superficially very similar to *P. aviculare*, of which it is probably a segetal ecotype, whilst Stace (2010) suggests that the species is probably best amalgamated with *P. aviculare*. The similarity between the two species and the difficulty of separating the species may go some way to explaining why there have been no other records in the VC.

Location	GR	Date	Recorder
Pusto Hill	SK6960	1973	ELS

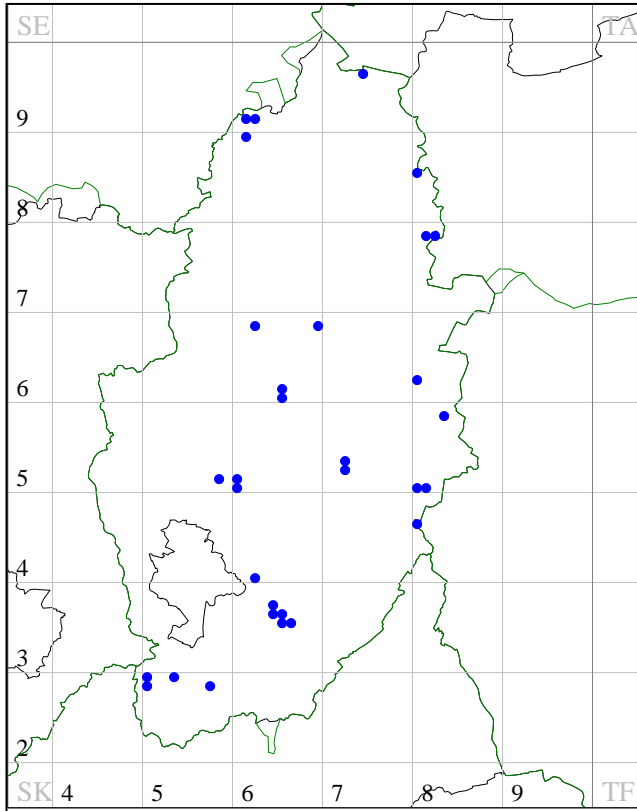
Polygomon monspeliensis (L.) Desf.

Annual Beard-grass

National Status: (Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Uncommon
Monads: 31

In the VC, there are no historical records for this species and all inland records are considered by Preston *et al.* (2002) to be casual. In the VC, however, the species has persisted on colliery sites for several years and does not appear to be casual. The species is

presumably persisting because of the salinity of the substrates and the standing water in ditches and pools. Elsewhere the species is still present at Fiskerton on the edge of the lagoon, but the Bunny Landfill site (SK578287 and SK577284) has been destroyed and the populations are no longer extant. Since 2012, the species has been recorded at a range of new sites with very different habitats including seasonally wet sandy gravels, brownfield sites, roadside verges and manure piles.



Polystichum x bicknellii (H. Christ)
Hahne

P. setiferum x aculeatum

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 5

In the British Isles, this hybrid is scattered throughout the range of soft shield-fern *Polystichum setiferum*. It shows intermediate characters and is probably overlooked, Stace (2010). There are no historical records in the VC and single plants have been recorded at only four locations between 1970 and 2015. Since 2015 a new site has been found, again consisting of a single plant in the vicinity of both parents (in bold).

Location	GR	Date	Recorder
Kelham Hills Wood	SK757561	2005	DCW
Crock Dumble	SK631443	2005	DCW
Epperstone Dumble	SK653513	2013	DCW
Lambley Dumble	SK619450	2014	RAJ
River Maun, Clipstone	SK588644	2017	MW, DCW

Potamogeton coloratus Hornem.

Fen Pondweed

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 2 (since 2000)

Howitt & Howitt (1963) described fen pondweed *Potamogeton coloratus* as being uncommon in the VC. Historically the species was recorded on the Magnesian Limestone at Shireoaks, Worksop and Styrrup; on fen peat at Misson and Gringley Carr, and in ballast pits at Misterton. Since 1970 the species has been recorded at five

sites including the Shireoaks site where the species was recorded before 1963. The other sites include a flooded clay pit at Staunton and shallow drains elsewhere. Since 2000 the populations at Staunton and Ruddington have been confirmed as extant, the status at three other sites needs to be clarified.

Location	GR	Date	Recorder
Shireoaks Park	SK544803	1972	JH
Darnsyke, Thorney	SK8573	1975	RCLH
Shire Dyke, Cotham	SK810470	1988	DCW
Staunton Quarry	SK804457	2012	DCW, MW, WM, AB
Ruddington Moor	SK561315	2007	DCW

Potamogeton compressus L.

Grass-wrack Pondweed

National Status: Endangered (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Scarce
Monads: 4

Before 1963, Howitt & Howitt (1963) listed many records for grass-wrack pondweed *Potamogeton compressus*. Sites included Nottingham Canal, Erewash Canal, Beeston Canal and Grantham Canal and the Rivers Trent and Soar. In modern times the species has been recorded in four monads, including an unconfirmed 1990 record from the Erewash Canal near Eastwood. It still exists abundantly in the Erewash Canal at Eastwood, this stretch now forming the county boundary between Nottinghamshire and Derbyshire.

Location	GR	Date	Recorder
Erewash Canal	SK454471	2006	PP
Erewash Canal	SK455468	2006	PP
Erewash Canal	SK456466	2013	MW
Erewash Canal	SK45704667	2017	NBGR
Erewash Canal	SK457461	2013	DCW
Erewash Canal	SK457467	2013	DCW
Erewash Canal	SK458464	2017	NBGR
Erewash Canal	SK459459	2013	DCW
Erewash Canal	SK460459	2013	DCW
Erewash Canal	SK461458	2013	MW
Erewash Canal	SK463455	2013	MW

Potamogeton friesii Rupr.

Flat-stalked Pondweed

National Status: Near Threatened (GB), Vulnerable (Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 2

Flat-stalked pondweed *Potamogeton friesii* was rather frequent and widespread in canals and ponds before the 1960s. Since 1960s the eutrophication and demise of the canals has resulted in dramatic losses in the VC and the species has not been found during recent searches of the Chesterfield and Grantham Canals. As a consequence, it is likely that the only extant location is the Ox-pasture Drain at Thorney and the side drain at North Harby.

Location	GR	Date	Recorder
Grantham Canal, Kinoulton	SK63	1978	RCLH
Grantham Canal, Cotgrave	SK6336	1975	PAC
Grantham Canal, Cotgrave - Bassingfield	SK63I	1975	PAC
Ox-pasture Drain, Thorney	SK881733	2004	DK
Ox-pasture Drain, Thorney	SK880736	2013	JC
North Harby Drain	SK882725	2004	DK
Chesterfield Canal, Misterton	SK7794	1978	RCLH
Mons Pool, Collingham	SK817636	1974	per GW

Potamogeton gramineus L. Various-leaved Pondweed

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Rare

Monads: 1 (since 2000)

Various-leaved pondweed *Potamogeton gramineus* has always been rare and by the 1960s was confined to peatland drains in the north of the VC. The species was frequent in the Sherwood Forest area, but was lost from the area during the late 19th and early 20th Centuries when many of the peat bogs were drained or destroyed. All of the thirteen records below need to be checked, because they are all more than ten years old. Eutrophication and the long-term impact of drainage schemes in the River Idle floodplain are likely to have caused further declines and most of the records are unlikely to be extant. The only record since 2000 was located at Misson Line Bank. It may still be present, but access to the bankside is becoming increasingly difficult because of scrub encroachment.

Location	GR	Date	Recorder
Hundreds Lane Drain, Gringley Carr	SK7294	1973	RCLH
Hundreds Lane Drain, Gringley Carr	SK714948	1973	RCLH
Carr Road East Drain, Gringley Carr	SK7194	1973	RCLH
Misson Line Bank	SK79	1973	RCLH
Delve Drain, Everton Carr	SK699945	1980	NCC
Misson Line Bank	SK7196	1982	JNCC, EC
Misson Line Bank	SK712959	1983	JOM
Gringley Carr	SK79	1984	EC
Gringley Carr	SK728930	1984	JNCC, EC
Magnus Drain	SK702941	1994	RCLH
Gringley Carr	SK712941	1994	RCLH
River Idle (near)	SK714960	1996	RVL
Misson Ballast Pits	SK712959	1997	DCW, Woll.

Potamogeton lucens L. Shining Pondweed

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 2

Howitt & Howitt (1963) stated that by the 1960s shining pondweed *Potamogeton lucens* was rare and decreasing, because of increasing pollution in the ponds, canals and rivers, where it occurred. In the Nottingham Canal it was out-competed by the more vigorous hybrid willow-leaved pondweed *Potamogeton x salicifolius*. In modern times, the species has been recorded four times in the VC, but is no longer extant in ponds next to the River Trent at Radcliffe-on-Trent (SK650405). The three remaining populations are located in deep pools in rivers with relatively good water quality. Targeted efforts making use of a grab may reveal further populations in the deeper parts of rivers.

Location	GR	Date	Recorder
River Smite, Colston Bassett	SK702341	1999	DCW
River Soar, Ratcliffe-on-Soar	SK492285	2010	DCW
River Soar, Ratcliffe-on-Soar	SK492287	2015	RAJ

Potamogeton obtusifolius Mert & W.D.J. Koch Blunt-leaved Pondweed

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 3

There are no historical records for blunt-leaved pondweed *Potamogeton obtusifolius* and rather than being a recent colonist of the county, it may have been overlooked. Preston *et al.* (2002) suggest that the species has been much better recorded since the

publication of the 1962 Atlas. Since the publication of the 1962 Atlas, the species has been recorded at seven sites, but it is possibly no longer at extant at Hockerton Pond (SK688589), Besthorpe Borrow Pit (SK818645), Oxton Lake (SK6351) and Oxton Bogs (SK6151) having not been seen in recent years. The only record since 2000 is at Attenborough, targeted surveys have not been carried out at Rainworth Lake and the Foulevil Brook sites.

Location	GR	Date	Recorder
Rainworth Lake	SK586582	1984	MAP, KLJ
Foulevil Brook	SK578583	1978	CGC
Foulevil Brook	SK582584	1991	DCW
Attenborough Gravel Pits	SK517333	2007	ESh, JShi

Potamogeton polygonifolius Pourr. Bog Pondweed

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Scarce

Monads: 5

Bog pondweed *Potamogeton polygonifolius* has always been rare in the VC and is a characteristic species of drains and bogs on acid soils. Since 1970 the species has been recorded in the north of the VC in peaty drains and on the sandy soils of the Sherwood area. It has also been recorded on sandy acid soils in the east of the VC at Newark-on-Trent, Stapleford and Wigsley. A population at Vicar Water (SK592628), recorded by R.C.L. Howitt in the 1970s, has not been seen in recent years and is probably no longer extant, because of disturbance and eutrophication. Since 2015 the species has been recorded at Stapleford Wood and Finningley Gravel Pit (in bold)

Location	GR	Date	Recorder
Fiftyeights Road Drain, Misson	SK687986	1972	JH
Newark Golf Course	SK8553 / SK8554	1975	RCLH
Finningley Gravel Pits	SK6899	2019	LHi
Carr Road East Drain, Gringley Carr	SK7193 / SK7194	1978	Woll.
Great Whin Covert Pond	SK645784	2012	DCW
Stapleford Wood	SK852554	2008	DCW
Stapleford Wood	SK849559	2018	RAJ
Stapleford Wood	SK852553	2012	RAJ
Wigsley Wood	SK852706	2011	DCW

Potamogeton praelongus Wulfen Long-stalked Pondweed

National Status: Near Threatened (GB), Endangered (Eng.), Nationally Scarce

Nottinghamshire Status: Extinct

Long-stalked pondweed *Potamogeton praelongus* was last seen in 1965 in the VC and before that time it was always rare, but widespread. There are historic records from canals and rivers throughout the VC and between 1959 and 1965, eight records from drains in the north of the VC, mostly in the Gringley area. The most recent of those records are provided below. The losses from rivers and canals are probably linked with habitat degradation and pollution, and losses from the north of the VC are likely to be linked with drainage and eutrophication.

Location	GR	Date	Recorder
Gringley Carr	SK79	1965	NDS
Gringley Carr Pumping Station	SK7194	1964	RCLH

Potamogeton trichoides Cham & Schldl.

Hairlike Pondweed

National Status: Nationally Scarce

Nottinghamshire Status: Rare

Monads: 1

Howitt & Howitt (1963) described the species as rare or overlooked with the only confirmed record being found in the Trent valley at Colwick Gravel Pit some time before 1963. A further unconfirmed record was also located in a gravel pit at North Muskham, approximately 20 miles downstream of the Colwick record. Research has located two other records; a pre-1970 record originating from Nottingham Canal was obviously not known to the Howitts. A further record, the last confirmed for the VC, originates from the Mother Drain, but the exact location is not known. A specimen from the Mother Drain was confirmed by C.D. Preston and is held in the University of Technology Herbarium (UTLH). The Mother Drain has been extensively surveyed in modern times and the species has not been refound there, but it is still possible that it has been overlooked. During 2013 J. Carruthers found a new population (in bold) in the Crow Wood Drain at Thorney and in 2019 G. Hiron found a small quantity in the Chesterfield Canal (in bold).

Location	GR	Date	Recorder
Colwick Gravel Pit	SK63	1954	RCLH, det.GT
North Muskham Pond	SK793594	1977	Woll.
Nottingham Canal	SK53	1947	GT
Mother Drain	SK79	1982	PMW, RDB, det.CDP
Crow Wood Drain, Thorney	SK867721	2013	JC
Chesterfield Canal, Clayworth	SK723885	2019	GH

Potamogeton x cooperi (Fryer) Fryer *P. perfoliatus x crispus*

National Status: Data Deficient

Nottinghamshire Status: Extinct

Howitt & Howitt (1963) described this hybrid as being locally frequent wherever the parents occurred together and was located near Nottingham, West Bridgford, Retford and in the far north of the VC at West Stockwith. Since 1959, the hybrid has been recorded three times, but searches in recent years have failed to re-locate the hybrid at any of its former stations. The hybrid was presumably lost from its former stations because of habitat destruction and deteriorating water quality.

Location	GR	Date	Recorder
Gringley Carr	SK79	1959	RCLH
Mother Drain, Misterton	SK79	1965	NDS
Mother Drain, Gringley	SK713950	1983	JOM

Potamogeton x sparganifolius Laest. *P. natans x gramineus* ex Fr.

National Status: Data Deficient

Nottinghamshire Status: Extinct

This hybrid has only been recorded once in the VC, in a drain by Cross Lane at Gringley Carr. An unknown recorder collected the hybrid and G. Taylor and J.E. Dandy determined its identity.

Location	GR	Date	Recorder
Cross Lane Drain, Gringley Carr	SK79	1955	RCLH, det. GT and JED

Potamogeton x nitens Weber

P. gramineus x perfoliatus

National Status: Data Deficient

Nottinghamshire Status: Rare

Monads: 1

Howitt & Howitt (1963) lists historical records of this hybrid from drains at Gringley, Misterton, Misson and Finningley. After 1970 R.C.L. Howitt recorded the hybrid at a single drain at Gringley and at an unspecified location on the Misson Line Bank site. The reasons for the loss of populations are not known, but eutrophication of the peatland drains and drainage schemes may have been contributory factors. Targeted surveys are required to confirm the status of the species, but apart from one site that is not in the modern county, it is likely to be extinct.

Location	GR	Date	Recorder
Hundreds Lane Drain, Gringley Carr	SK716949	1973	RCLH
Hundreds Lane Drain, Gringley Carr	SK719950	1983	JOM
Misson Bank	SK79	1978	RCLH
Finningley	SE6900	2008	GLDC

Potamogeton x salicifolius Wolfg.

P. lucens x perfoliatus

National Status: Data Deficient

Nottinghamshire Status: Rare, probably extinct

Monads: 1

The hybrid was formerly abundant in the Nottingham Canal and because of hybrid vigour was probably responsible for the demise of a population of shining pondweed *Potamogeton lucens*. Since the 1960s, the destruction of parts of the Nottingham Canal and eutrophication of the remaining sections are probable reasons for the disappearance of the hybrid. Since 1970 a drain in the north of the VC is the only place where the hybrid has been recorded. The current status of the hybrid needs to be confirmed as it may be extinct in the VC.

Location	GR	Date	Recorder
Fox Covert Drain, Gringley Carr	SK723953	1978	Woll.

Potentilla argentea L.

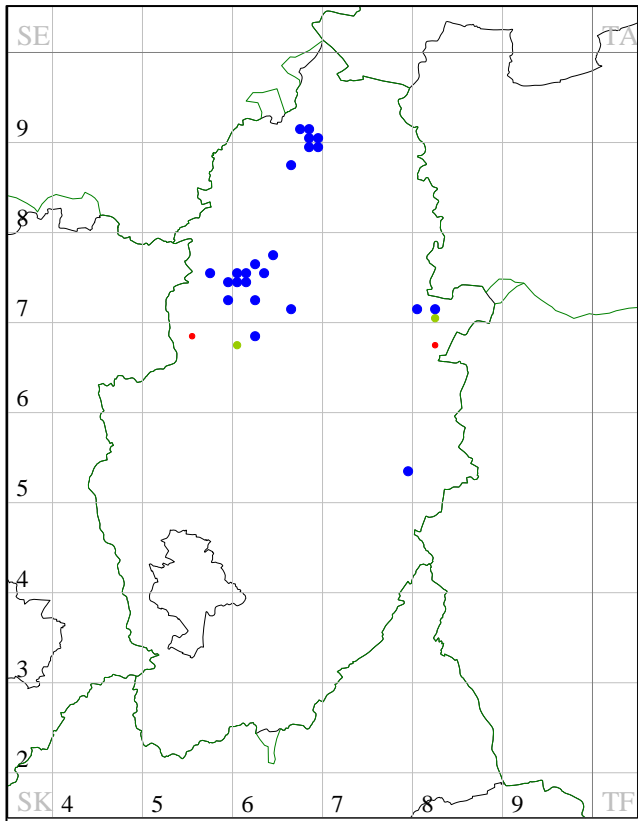
Hoary Cinquefoil

National Status: Near Threatened (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Uncommon

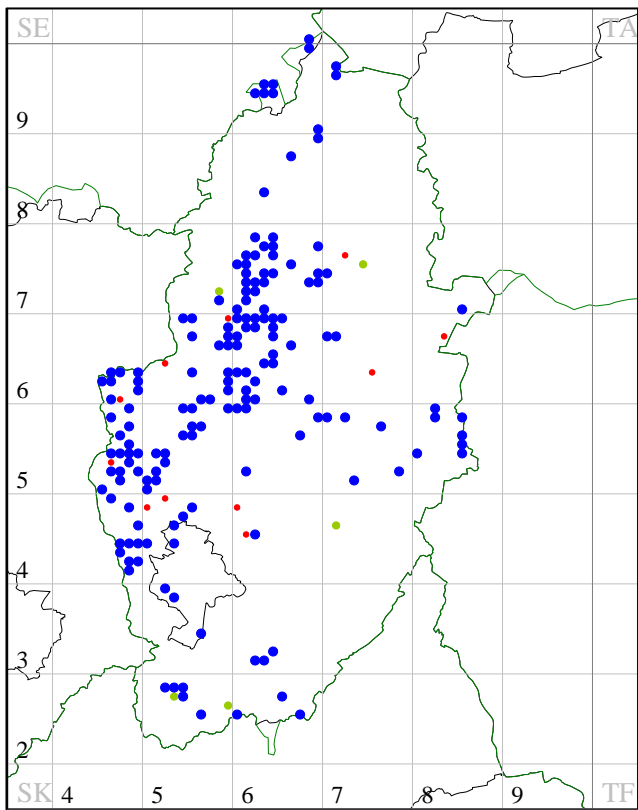
Monads: 22 (since 2000)

The decline of hoary cinquefoil *Potentilla argentea* in the VC appears to follow the national trend. Howitt & Howitt (1963) described the species as being local in the VC, but also fairly frequent on the heaths and tracks of the Bunter Sandstone. Elsewhere the species was found on river gravels at Newark, Gorton, North Clifton and Gringley. The post-1970 records follow a similar distribution to those before 1970; mostly on the Bunter Sandstone, but the populations are smaller and more scattered. Since 2015 extant populations have been confirmed at Clumber Park, which is the stronghold for the species and on a section of the dismantled railway at North Clifton.



Potentilla erecta (L.) Raeusch. Tormentil

National Status: Least Concern (GB), Near Threatened (Eng.),
Nottinghamshire Status: Locally Frequent
Monads: 172 (since 2000)



Previously the species was common on light soils throughout the county but declines in Nottinghamshire (and Lowland England) can be attributed to habitat loss, disturbance and degradation. The overall distribution across the county is not dissimilar to the past and is still associated with lighter soils on the Bunter Sandstone, Alluvial soils in river valleys and on the blown sands in the east. However, populations at many of the individual sites have declined, for example where heathlands have been replaced by conifer plantations. The species also occurs in some post-industrial sites where substrates are acidic and free-draining.

Pyrola minor L. Common Wintergreen

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Extinct

Common wintergreen *Pyrola minor* has only been recorded twice in the VC. J. Thompson found the species in a wood near the Welbeck Toll Bar sometime before 1839. Nearly a century later the species was found in woodland on the Welbeck Estate and was recorded until 1922. The plantation woodlands have been heavily disturbed since the early part of the 20th Century, but the estate still contains suitable habitat and further searches are planned.

Location	GR	Date	Recorder
Welbeck	SK57	1839	GH
Forest Screed	SK57X	1917	RG

Pyrola rotundifolia L. subsp. *rotundifolia* Round-leaved Wintergreen

National Status: Near Threatened (GB), Vulnerable (Eng.),
 Nationally Scarce
Nottinghamshire Status: Rare
Monads: 1

During 2011, John Szczur notified the Reserve Manager of the Nottinghamshire Wildlife Trust's Idle Valley Nature Reserve that he had found a population of round-leaved wintergreen *Pyrola rotundifolia* subsp. *rotundifolia*, outside of the nature reserve in exhausted gravel works. The population consisted of 21 rosettes growing in sparse field layer vegetation below a canopy of willow. This was the first record for the VC and it is somewhat isolated from populations in neighbouring counties such as Derbyshire (SK 38 and SK27) and South Yorkshire (SK38). Searches during 2012 by D.C. Wood and M. Woods confirmed the identity and presence of the population and a further population of similar size was located within 50m. The second population was found in damp soils below a dense canopy of immature birch – willow woodland within a species-rich field layer. Both populations are located in immature carr woodland that has developed following the cessation of gravel extraction, so it is likely that the species is a recent colonist, rather than being overlooked. The vegetation in which the populations are located is difficult to search, so it is possible that further populations are present awaiting discovery. In recent years, B. Featherstone and J. Marsh have carried out extensive surveys and mapped many of the populations as shown below

Location	GR	Date	Recorder
Lound Gravel Pits	SK7009586209	2011	JSz
Lound Gravel Pits	SK7008786241	2012	DCW, MW
Lound Gravel Pits	SK7002786241	2012	DCW, MW
Lound Gravel Pits	SK698863	2017	BF, JM
Lound Gravel Pits	SK700863	2017	BF, JM
Lound Gravel Pits	SK700864	2017	BF, JM, DCW, MW
Lound Gravel Pits	SK70088624	2012	DCW, MW
Lound Gravel Pits	SK701862	2017	BF, JM.

Radiola liniodes L. All-seed

National Status: Near Threatened (GB), Vulnerable (Eng.)
Nottinghamshire Status: Extinct

All-seed *Radiola liniodes* has not been seen since 1839, but in the early part of the 19th Century it was recorded on the Bunter Sandstone about Farnsfield and Ollerton, and somewhere between Stapleford Moors and Sleaford Turnpike in the east of the VC.

Location	GR	Date	Recorder
About Farnsfield and Ollerton	SK65/66	1839	GH

Ranunculus arvensis L. Corn Buttercup

National Status: Critically Endangered (GB), Endangered (Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 1

Corn buttercup *Ranunculus arvensis* was formerly locally frequent in the VC and fairly common on clay soils. It has declined rapidly since the early 1960s, because of agricultural intensification, which has included improved seed screening and herbicide treatments. Since 1970, the species has only been recorded three times and populations recorded at Holme Pierrepont (SK619384) in 1989 and in a Collingham garden (SK8261) in 1987 are no longer extant. The population at Thorpe-in-the-Glebe needs checking, but it is unlikely to be extant. At Headon in 2010 approximately 15 plants were found in the corner of an arable field (rape crop). Flowers and ripe fruits were present so it is anticipated that regeneration will occur and the population will persist.

Location	GR	Date	Recorder
Headon Field	SK759770	2010	DCW
Thorpe-in-the-Glebe	SK612257	1987	Woll.

Ranunculus baudotii L. Brackish Water-crowfoot

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Scarce
Monads: 8 (since 2000)

Brackish water-crowfoot *Ranunculus baudotii* was not recorded in the VC until 1951. Before 1963 it was recorded at Welbeck, Colwick Gravel Pits and in the Chesterfield Canal. Since 1978 the species has been confined to the Chesterfield Canal, being recorded at Babworth (SK68), Misterton (SK775946), Retford to Lady Bridge (SK68), Gringley-on-the-Hill (SK729916, SK724915, SK729917 and SK725915), Hayton (SK728853), and Wiseton to Drakeholes (SK709904, SK719897 and SK7190). However, since the start of the 21st Century the species had not been seen at any of the above locations, possibly because of turbidity caused by boat traffic, until R. A. Johnson found populations at Scofton, Babworth, Wiseton and Clayworth during 2011. Further survey work may re-locate the species at other sites on the canal, but recent surveys have not detected the species. In 2013, D.C. Wood found a population of what is believed to be Brackish water-crowfoot at Cotgrave Colliery. To date this population has not been confirmed.

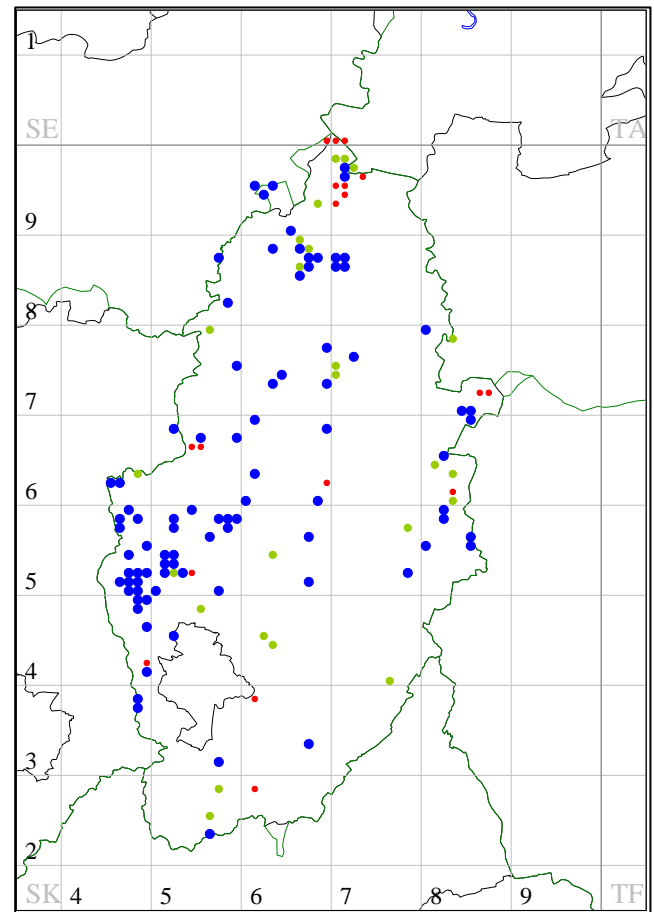
Location	GR	Date	Recorder
Chesterfield Canal, Scofton	SK623791	2011	RAJ
Chesterfield Canal, Babworth	SK665829	2011	RAJ
Chesterfield Canal, Babworth	SK674827	2011	RAJ
Chesterfield Canal, Babworth	SK678824	2011	RAJ
Chesterfield Canal, Babworth	SK679824	2011	RAJ
Chesterfield Canal, Babworth	SK686819	2011	RAJ
Chesterfield Canal, Babworth	SK685821	2011	RAJ

Location	GR	Date	Recorder
Chesterfield Canal, Wiseton	SK719897	2011	RAJ
Chesterfield Canal, Clayworth	SK726880	2011	RAJ
Cotgrave Colliery	SK648361	2013	DCW

Ranunculus flammula L. Lesser Spearwort

National Status: Least Concern (GB), Vulnerable (Eng.)
Nottinghamshire Status: Occasional
Monads: 86 (since 2000)

Formerly lesser spearwort *Ranunculus flammula* was frequent throughout the county apart from the east of the county on the Lias Clays. The distribution map suggests that the species is no longer frequent and there have been losses across the entire county, but particularly in the north, where it would have been locally abundant on the floodplain of the River Idle. Habitat loss (ponds and wetlands) and degradation (lowering of the water-table) combined with agricultural intensification and inappropriate management of drains such as summer dredging have contributed to the losses.



Ranunculus hederaceus L. Ivy-leaved Water-crowfoot

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 8

Historically ivy-leaved water-crowfoot *Ranunculus hederaceus* was formerly rare outside of the Sherwood area, where it was frequent. Elsewhere it was confined to damp sandy places and was recorded at Hucknall, Edingley Moor, Houghton, Besthorpe Fleet and Langford Fleet. Since 1970, the species has been recorded in the north of the VC in drains and the margins of a stream and has also been recorded on a drain margin at Wollaton. In the Sherwood area, the declines have been dramatic and recently the species has only

been recorded in the Rainworth area. Since 2015, the species has only been recorded once in a pasture at Langford (in bold).

Location	GR	Date	Recorder
Everton Carr Drain	SK693923	1972	JH
Everton Carr Drain	SK696925	1972	JH
Watnall Grassland	SK5147	1973	RCLH
Everton Carr Drains	SK6992	1977	DC, MB
Mattersey Main Drain	SK669892	1983	JOM
Foulevil Brook	SK581583	2000	DCW
Foulevil Brook	SK579583	2000	DCW
Torworth	SK667866	2000	DCW
Torworth	SK667869	2001	DCW
Wollaton Park	SK531386	2001	DCW
Wollaton Park	SK529388	2013	DCW
Rainworth Water	SK593588	2002	DCW
Houghton Drain	SK663726	2015	DCW, MW
Langford Medieval Village	SK822589	2017	DCW

Ranunculus lingua L.

Greater Spearwort

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Extinct (as a native)

Monads: 41 (as a neophyte since 2000)

Mrs Sandwith last recorded good quantities of greater spearwort *Ranunculus lingua* as a native in 1918, somewhere in marshlands between Bawtry and Misson. J.W. Carr deposited an herbarium specimen from the above population in the Nottinghamshire Natural History Museum. The species is an attractive plant that is often used for landscaping schemes on the margins of new ponds and since 1970 the species has been recorded in 41 monads as an introduction or garden escape. The possibility of some of the populations being relicts of a native population cannot be ruled out.

Location	GR	Date	Recorder
Between Misson and Bawtry	SK69	1918	Mrs Sandwith

Ranunculus omiophyllus Ten.

Round-leaved Water-crowfoot

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 5

This species has always been very rare and scattered in the VC. Before 1960 it was recorded at Warsop Hills and Holes, Rufford Abbey, Beeston and Eaton, but has not persisted at any of these sites before 1970. The previous editions of this register excluded the records at Bawtry Forest (not in modern Nottinghamshire) and stated that the populations at Clumber Park (SK644738 and SK633732) were lost because of improvements to footpaths. The population at Foulevil Brook consisted of a few plants in wet mud and at Harlow Wood the population consists of two large adjacent patches in pools formed by tyre ruts. Since 2015 the Bawtry Forest population has been re-recorded again and at Clumber Park the species has been re-found in new ponds and consists of hundreds of plants (in bold).

Location	GR	Date	Recorder
Foulevil Brook	SK579583	1991	DCW
Harlow Wood	SK559565	2010	DCW
Bawtry Forest	SK62989426	2019	LHi
Bawtry Forest	SK635950	2004	LHi
Thoresby Border	SK64277378	2018	MW, DCW
Thoresby Border	SK64277382	2018	MW, DCW

Ranunculus parviflorus L.

Small-flowered Buttercup

National Status: Least Concern (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Uncommon

Monads: 12

Small-flowered buttercup *Ranunculus parviflorus* has always been scarce in the VC. There were only five pre-1970 records, which were located in dry meadows at Clifton Lane, Colwick Lodge, Clifton Wood, near Lea Pool, and at Gotham Hills. Only the Gotham Hills population has persisted into modern times with all other post-1970 records being new locations in close proximity to the River Trent or River Soar. The species is now found in 12 monads. Since 2015, the populations at Gotham and East Bridgford have been re-surveyed and confirmed as extant.

Location	GR	Date	Recorder
Holme Pierrepont	SK629396	1990	DCW
Fiskerton	SK733495	1997	DCW
Kneeton	SK708459	1998	DCW
Toot Hill	SK702456	2018	DCW
Ratcliffe-on-Soar	SK509299	2000	DCW
Ratcliffe-on-Soar	SK5093010	2000	DCW
Red Hill and Wood Hill	SK493305	2003	DCW
Red Hill and Wood Hill	SK496307	2003	DCW
Red Hill and Wood Hill	SK500307	2003	DCW
Wright's Hill	SK502307	2003	DCW
Wright's Hill	SK506307	2003	DCW
Wright's Hill	SK509304	2003	DCW
Lound Gravel Pits	SK711873	2005	DCW
Gotham Hills	SK533311	2009	DCW
Gotham Hills	SK529309	2009	DCW
Gotham Hills	SK531308	2009	DCW
Gotham Hills	SK538312	2016	JC
Gotham Hills	SK535310	2014	DCW
Gotham Hills	SK539311	2014	DCW
Gotham Hills	SK5330	2016	JC
Gotham Hills	SK535311	2018	GH
Old Hill	SK696448	2016	RAJ
Old Hill	SK697452	2010	DCW
Old Hill	SK698453	2010	DCW
Old Hill	SK695448	2010	DCW
Ratcliffe-on-Soar	SK509300	2014	DCW
High Marnham Power Station	SK804714	2015	RAJ
High Marnham Power Station	SK804713	2015	RAJ
High Marnham Power Station	SK801712	2015	DCW, MW
High Marnham Power Station	SK801717	2015	DCW, MW

Rhinanthus angustifolius C.C.

Greater Yellow-rattle

Gmel.

National Status: Least Concern (GB and Eng.), Nationally Rare,

Schedule 8: Wildlife & Countryside Act 1981

Nottinghamshire Status: Extinct

Greater yellow-rattle *Rhinanthus angustifolius* has been recorded only once in the VC (as *R. major*) somewhere on a lane leading to Stapleford Moor. G. Howitt recorded the species some time before 1839.

Location	GR	Date	Recorder
Lane leading to Stapleford Moor	SK85	1839	GH

Rhinanthus minor subsp. *stenophyllus*
O. Scharwz

Yellow-rattle

National Status: Data Deficient (GB and Eng.)**Nottinghamshire Status:** Rare**Monads:** 3

This subspecies is more common in the north of Britain and is associated with damp grassland and fens. The subspecies may have always been present in the VC wherever suitable habitats occur, but there are no historical records. Since 1970 it has been recorded at two localities including a wet and peaty grassland field near the middle of the VC at Southwell and the rides of wet woodland on fenland in the north of the VC at Misson Carr, where it is abundant.

Location	GR	Date	Recorder
Southwell Grassland	SK704534	2004	RAJ
Misson Carr	SK710976	2007	DCW
Misson Carr	SK710977	2012	DCW
Misson Carr	SK709977	2012	DCW
Misson Carr	SK711973	2018	DCW, MW, KW

Ribes alpinum L.

Mountain Currant

National Status: Least Concern (GB and Eng.), Nationally Scarce**Nottinghamshire Status:** Scarce**Monads:** 9

Howitt & Howitt (1963) described mountain currant *Ribes alpinum* as being very rare in the VC. Historically it was recorded at Felley Mill, Shireoaks, Pleasley Vale, Skegby, Dovedale Wood, and Wallingwells Wood. The species has persisted into modern times at Pleasley Vale, Skegby, Dovedale Wood and Wallingwells. It has also been recorded on the Magnesian Limestone at Carlton Wood (near Wallingwells Wood) and in a gorge of the River Maun at Mansfield. Away from the Magnesian Limestone, the species has also been recorded on Keuper Marl in Eakring Brail Wood. In addition to the presumed native populations, there are six other VC records, where the species is considered to be an introduction. Since 2015, populations at Eakring Brail and Dovedale Wood have been confirmed as extant (in bold).

Location	GR	Date	Recorder
Pleasley Vale	SK520649	2012	RAJ
Hollins Mill	SK521649	1972	RCLH
Dovedale Wood	SK465632	2018	DaS
Dovedale Wood	SK465630	2012	DCW
Dovedale Wood	SK466633	2010	DCW
Dovedale Wood	SK4663	2019	IH, JSt
Eakring Brail Wood	SK662608	2018	NBGRC
Eakring Brail Wood	SK662610	2009	DCW
Eakring Brail Wood	SK663606	2011	MW
Pleasley Vale	SK515648	2009	DCW
Pleasley Vale	SK518649	2009	DCW
Skegby Mill (Stream-bank)	SK494607	2011	DCW, JC
River Maun, Sutton-in-Ashfield	SK508590	2010	DCW
Wallingwells Wood	SK573843	2011	DCW, MW
Carlton Wood	SK583844	2011	DCW, MW
West Bridgford Dismantled Railway*	SK589359	2012	DCW
Rufford Park*	SK646651	1997	DCW
Rufford Park*	SK649646	1976	JH
Gringley-on-the-Hill Village*	SK736909	2001	DCW
Bestwood Country Park*	SK570464	2004	DCW
Warsop Vale Former Allotments*	SK545679	2004	DCW
Bob's Rock, Stapleford*	SK494374	2007	DCW

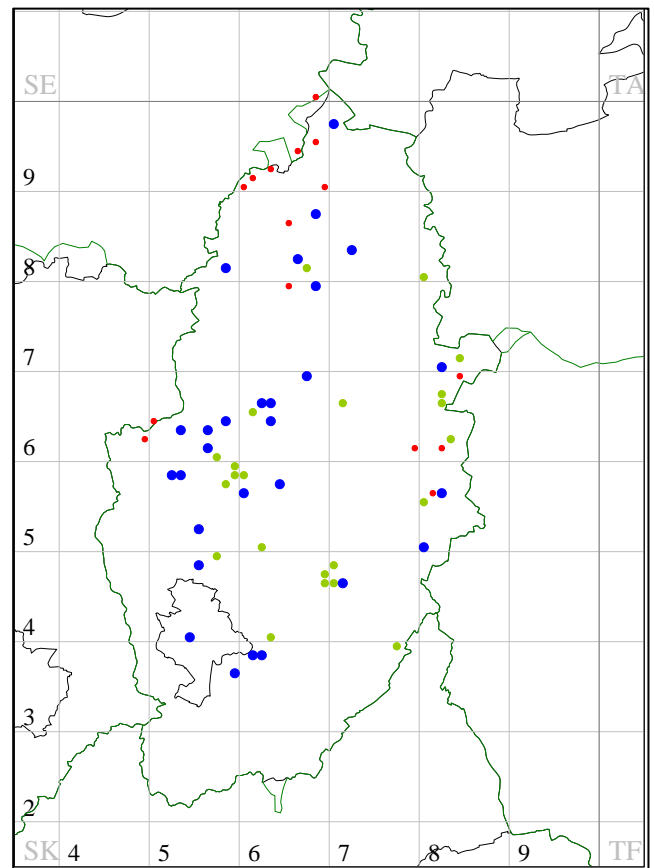
*Introductions

Roemeria argemone (L.) C. Morales, R.
Mend. & Romero Garcia

Prickly Poppy

National Status: Vulnerable (GB), Endangered (Eng.), Nationally Scarce**Nottinghamshire Status:** Occasional**Monads:** 28 (since 2000)

Before 1970 prickly poppy *Roemeria argemone* was locally frequent in arable crops on light soils, particularly in the Sherwood area, but also on gravels and blown sand in and around the Trent Valley. Nationally the species has declined in modern times, because of its susceptibility to pesticides, Preston *et al.* (2002) and similarly, declines have also occurred in the VC. Since 1970 the species has been recorded in 68 monads in the VC mostly in the Trent Valley and the Sherwood area. Since 2000 the records are much more scattered with most losses in the Trent Valley and the north of the county. Since 2015 there have only been six new records, three of which are in urban habitats.



Rorippa x armoracioides
(Tausch) Fuss.

Walthamstow Yellow-cress

National Status: Data Deficient**Nottinghamshire Status:** Rare**Monads:** 1

Nationally this neo-native hybrid is found at several sites in England on damp waste ground. In south Nottinghamshire, the hybrid has been found at Bradmore on the verges and centre-line of a farm track in rough grassland.

Location	GR	Date	Recorder
Bradmore	SK592321	2018	DCW
Bradmore	SK592322	2007	DCW

Rosa caesia Sm.

Northern Dog-rose

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 3 (since 2000)

Previous editions of this register have combined the two subspecies *Rosa caesia* subsp. *caesia* and subsp. *vosagiaca* with *Rosa caesia* sensu lato and categorised it as being uncommon in the county. Following the fourth edition of Stace (2019) the species has been split into two distinct species. Further survey work is necessary to confirm the identity of fourteen records that are recorded as *Rosa caesia* sensu lato., and consequently these records are excluded at this stage. The records, which have been previously identified to subspecies level are listed below and it is recognised that the list is probably incomplete and does not reflect the true distribution of the species.

Location	GR	Date	Recorder
A52 Trunk Road, Edwalton	SK59003418	2018	DAB
A52 Trunk Road, Ruddington	SK577347	2018	DAB
Hawton Gypsum Works	SK803501	1993	DCW
Hose Lane, Colston Bassett	SK714315	2017	DCW
Hose Lane, Colston Bassett	SK714316	2017	DCW
Ruddington Dismantled Railway	SK568334	1994	DCW

Rosa micrantha Borrer ex Sm.

Small-flowered Sweet-briar

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Extinct

This species was always very rare in the VC and was only recorded in a quarry at Bulwell in the 19th Century and in a meadow at Osberton in the 20th Century. It has not been seen in the VC since 1961 and is considered to be extinct.

Location	GR	Date	Recorder
Between Chequer Bridge and Bilby, Osberton	SK68	1961	RCLH, det.RM

Rosa mollis Sm.

Soft Downy-rose

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Extinct

Nottinghamshire is located some way to the south of the current distribution of soft downy-rose *Rosa mollis*. It has only been recorded twice in the VC in hedgerows at Bramcote Moor and Aspley near Wollaton. It has not been seen in the 20th and 21st Centuries.

Location	GR	Date	Recorder
Aspley	SK53 or 54	1839	GH

Rosa rubiginosa L. x *Rosa caesia* sens. lat. Sm.

Sweet Briar x Northern dog-rose

National Status: Data Deficient**Nottinghamshire Status:** Rare**Monads:** 1

An unconfirmed hybrid, but intermediate between both parents, which are present in close proximity.

Location	GR	Date	Recorder
Bestwood Sand Quarry	SK564479	2005	DCW

Rosa stylosa L.

Short-styled Field Rose

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 6Short-styled field rose *Rosa stylosa* at Wilford Claypit

Source: S. Hammonds

There is no historical data for the species and since 1970 it has only been recorded at six sites. In the VC, there is no detectable pattern to the distribution or ecological preferences of the species, because it occurs in a range of habitat types. At West Bridgford the species occurs on the edge of the dismantled railway trackbed; at Cossall it occurs in rough grassland on a former colliery tip. At Wilford it has been recorded in scrub in an ex-clay quarry and on clay soils elsewhere, it is in woodland at Redgate Wood and hedgerows at Kneeton and Epperstone.

Location	GR	Date	Recorder
West Bridgford Dismantled Railway Line	SK585368	1994	DCW
Cossall Colliery Tip	SK476425	2009	DCW
Kneeton Hedgerow	SK712457	2010	DCW
Wilford Claypit	SK571355	2018	DCW
Epperstone Hedgerow	SK649506	2012	MW, DCW
Redgate Wood	SK678598	1999	DCW, MW

Rosa vosagiaca Sm.

Glaucous Dog-rose

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Scarce**Monads:** 6

The separation of *Rosa caesia* into two distinct species is described above. Records of what is now named as glaucous dog-rose *Rosa vosagiaca* are slightly more numerous and widespread than northern dog-rose, but without re-visiting the *Rosa caesia* sensu lato records the true distribution has yet to be established.

Location	GR	Date	Recorder
Beeston Sidings	SK542373	2011	DCW.
Beeston Sidings	SK544374	1995	DCW
Beeston Sidings	SK548377	2005	MW
Brierley Forest Park	SK477602	2011	MW
River Trent, Church Laneham	SK819762	2016	MW
Rufford Colliery	SK594604	2012	MW
The Fleet, Girton	SK821663	2004	RAJ, DCW
Wilford Clay Pit	SK571355	2013	DCW

Rosa x andegavensis Bastard*R. stylosa x canina***National Status:** Data Deficient**Nottinghamshire Status:** Rare**Monads:** 2

It is likely that the true distribution of this hybrid is either rare or scarce, because of the restricted distribution of short-styled field rose *Rosa stylosa*, which is scarce in Nottinghamshire. Both locations are associated with the east side verges of former and extant railway lines and the parents are present in close proximity.

Location	GR	Date	Recorder
Wilford Dismantled Railway	SK567361	1994	DCW.
Widmerpool Railway	SK645296	1994	DCW

Rosa x irregularis Déségl. & Guillon*R. arvensis x canina***National Status:** Data Deficient**Nottinghamshire Status:** Rare**Monads:** 3

Although this hybrid has been recorded throughout the British Isles, there is only one historical record for this hybrid from 1878 in the south of the county (SK63). Since 1970 it has been recorded only three times, but it could be overlooked, given how often the parents occur together probably overlooked. At all of the sites the populations consist of one-two bushes, so it is particularly vulnerable to extinction.

Location	GR	Date	Recorder
Upper Broughton Scrub	SK678253	1999	DCW
Broxtowe Hedgerow	SK513431	2005	DCW
Halam Green Lane	SK665547	2017	MW

Rosa x nitidula Besser*R. canina x rubiginosa***National Status:** Data Deficient**Nottinghamshire Status:** Scarce**Monads:** 10

This hybrid is scattered across the county usually in close proximity to the parents. The lack of historic records for the hybrid may reflect the former rarity of sweet briar *Rosa rubiginosa*. In modern times *Rosa rubiginosa* has been frequently planted in new farmland hedgerows often in close proximity to existing dog rose *Rosa canina* shrubs creating the opportunity for the hybrid to occur.

Location	GR	Date	Recorder
Toton Sidings	SK492346	2016	DC.
Cinderhill Colliery	SK531440	2019	MW
Warsop Vale Colliery	SK541680	2004	DCW
Ruddington Dismantled Railway	SK567333	2005	DCW
Wilford Clay Pit	SK570356	1994	DCW
West Bridgford Dismantled Railway	SK587363	1994	DCW
Clipstone Dismantled Railway	SK605643	2005	DCW
Gedling Colliery	SK612433	2013	MW
Widmerpool Railway	SK644297	1994	DCW
Widmerpool Railway	SK645296	1994	DCW
Whetton-in-the-Vale	SK749397	2015	MW, MCr, SP

Rosa x rothschildii Druce*R. canina x sherardii***National Status:** Data Deficient**Nottinghamshire Status:** Rare**Monads:** 1

The only record of this hybrid was reported by D.C. Wood at Cotgrave Forest. There are no historical or recent records of

Sherard's downy rose *Rosa sherardii* at Cotgrave Forest so the presence of the hybrid is surprising.

Location	GR	Date	Recorder
Cotgrave Forest	SK64763284	2010	DCW

Rosa x sabinii Woods*R. spinosissima x mollis***National Status:** Data Deficient**Nottinghamshire Status:** Extinct

The only record of this hybrid was reported by J.W. Carr at Bunny Hill (SK52) in the 1909 Journal of Botany. Burnet rose *Rosa spinosissima* has declined significantly within the county, but Howitt & Howitt (1963) lists a very old record from Bunny. However, soft downy-rose *Rosa mollis* was never recorded to the south of the River Trent so the appearance of the hybrid is all the more surprising.

Location	GR	Date	Recorder
Upper Broughton Scrub	SK678253	1999	DCW

Rubus x pseudoidaeus (Weihe.) Lej.*R. idaeus x caesius***National Status:** Data Deficient**Nottinghamshire Status:** Scarce**Monads:** 4

This sterile hybrid is scattered throughout Britain, Sell & Murrell (2009), but there are no historical records for the VC. In recent years the hybrid has been recorded at four sites in scrubby habitats in close proximity to the parents. At Toton the hybrid is located in scrub on a riverbank and at Netherfield it is located in 'scrubby' tall-herb and tall grassland habitats.

Location	GR	Date	Recorder
River Erewash, Toton	SK489345	2010	DCW
Netherfield Dismantled Railway Sidings	SK629403	2019	RAJ
Netherfield Dismantled Railway Sidings	SK633402	2015	DCW
Netherfield Dismantled Railway Sidings	SK629404	2010	DCW
Colwick Country Park	SK600390	2019	PA
Queens Drive Park and Ride	SK563373	2019	PA

Rumex pulcher L.

Fiddle Dock

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Extinct

In the VC fiddle dock *Rumex pulcher* was last recorded in the early part of the 19th Century at two locations near to the City of Nottingham. Nottinghamshire is beyond the northern edge of the species range in England, but climate change could encourage a northward spread and the county contains suitable habitats in the Sherwood Forest area.

Location	GR	Date	Recorder
Near Radford Church	SK54	1839	GH

Rumex x dufftii Hausskn.*R. obtusifolius x sanguineus***National Status:** Data Deficient**Nottinghamshire Status:** Extinct

This hybrid has only been recorded once in the county. It is probably present wherever the parents occur together, but in modern times it has been overlooked. Until evidence to the contrary is found it has to be considered as being extinct.

Location	GR	Date	Recorder
Welbeck Estate	SK57	1917	RG

Rumex x heteranthos Borbás. *R. crispus x palustris*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 2

This hybrid has been recorded with parents by lakes and reservoirs. In Nottinghamshire the hybrid has been recently recorded in two monads at a disused gravel pit in the Trent valley.

Location	GR	Date	Recorder
Besthorpe Nature Reserve	SK81686503	2018	NBGRC
Besthorpe Nature Reserve	SK81786505	2018	NBGRC
Besthorpe Nature Reserve	SK817649	2018	NBGRC

Rumex x knafii Čelak. *R. conglomeratus x maritimus*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

The hybrid is scattered throughout Britain and it is usually found with both parents, Stace (2010). In the VC there are no historical records for this hybrid and there are only two recent records, one of which is an undated and unconfirmed record from Holme Pierrepont (SK623392). A single plant in marshy grassland is the only confirmed record.

Location	GR	Date	Recorder
West Bridgford	SK574374	2001	DCW

Rumex x schulzei Hausskn. *R. conglomeratus x crispus*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 3

In central and south Britain this hybrid is fairly common whenever the parents occur together, Stace (2010). In Nottinghamshire, this hybrid has been recorded three times including a disused gravel pit at Holme Pierrepont, the shoreline of lagoons at Walesby and in disused sewage tanks at Bulcote. Targeted searches in the VC may be worthwhile, because the hybrid could be under-recorded.

Location	GR	Date	Recorder
Holme Pierrepont Gravel Pits	SK6138	1990	DCW
Walesby Lagoons	SK663713	2003	RAJ, DCW
Bulcote Gravel Pits	SK673443	1999	DCW

Rumex x steinii Becker *R. obtusifolius x palustris*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

This hybrid has been recorded with one of its parents (marsh dock *Rumex palustris*) in southeast England and North Somerset, Stace (2010). In the VC, two plants have been recorded in former sewage tanks in association with abundant populations of both parents.

Location	GR	Date	Recorder
Bulcote Gravel Pits	SK673443	1999	DCW

Rumex x wirtgenii Beck. *R. conglomeratus x palustris*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

This hybrid occurs with both parents in southeast and central England, Stace (2010). The species has been recorded three times in the VC, where both parents have been recorded. Both parents commonly occur together in the River Trent valley and targeted searches may reveal further populations of the hybrid.

Location	GR	Date	Recorder
Girton Gravel Pits	SK816671	2003	RAJ
Gunthorpe Pits	SK673442	2004	RAJ
Horse Pool, Collingham	SK813618	2003	DCW

Sagina maritima Don Sea Pearlwort

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 1

Until 2019 there was a single record for sea pearlwort *Sagina maritima* on a roadside verge at Apleyhead near to the entrance to Clumber Park, presumably on the verge of the A614 Trunk Road. This has not been seen in recent years. In 2019 a further two populations were located in the south of the county on a major trunk road. Inland, this species is less common than other halophytes that are commonly associated with salt-treated roads.

Location	GR	Date	Recorder
Apleyhead Verges, Clumber Park	SK646773	1972	JH
Melton Road, Hickling	SK66202796	2019	DCW, SM
Melton Road, Hickling	SK663278	2019	DCW

Sagina nodosa (L.) Fenzl. Knotted Pearlwort

National Status: Least Concern (GB), Vulnerable (Eng.)
Nottinghamshire Status: Scarce
Monads: 4

This species of drain-sides and damp places declined in the early part of the 20th Century and by 1963 was confined in the VC to the Magnesian Limestone in the west and the base-rich peatlands in the north, Howitt & Howitt (1963). Since 1963, the species has survived at Misson, Warsop and Sookholme. The species has also been recorded at Friezeland, Underwood, where it occurs in short fen vegetation and at Ranskill, which is located in a peatland area, but actually occurs in old gravel workings.

Location	GR	Date	Recorder
Snow Sewer, Misson	SK723982	1972	JH
Ranskill	SK667890	1977	Woll.
Sookholme Moor	SK554677	1989	DCW
Warsop Hills and Holes	SK556680	1991	CL
Friezeland	SK476506	2002	DCW
Warsop Hills and Holes	SK558681	2007	DCW

Salix aurita L. Eared Willow

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 8

This species of damp acid soils had almost disappeared in the VC by the early 1960s because of the progressive drying out of the VC, Howitt & Howitt (1963). It is now reduced to a handful of scattered sites across the VC and populations are usually small being no more than a few bushes. It is possible that some populations that occurred with grey willow *Salix cinerea* have been lost, because of introgression to the hybrid *Salix x multinervis*, which has also

become uncommon in the VC. The species has been planted on five colliery spoil tips. Populations at Everton Carr (SK699946, SK703934, SK705931 and SK706929) have not been seen since the 1980s survey and are probably no longer extant

Location	GR	Date	Recorder
Ash Holt Lane, Askham	SK744752	2010	DCW
Bevercotes Colliery Tip*	SK696734	2010	MW
Bevercotes Colliery Tip*	SK700737	2013	RAJ
Brierley Forest Park*	SK663278	2013	MW
Brierley Forest Park*	SK663278	2013	MW
Cinderhill Colliery Tip*	SK536442	2010	DCW
Freckland Wood*	SK529523	2012	MW
Freckland Wood*	SK526524	2012	MW
Gedling Colliery Tip*	SK607442	1987	PS
Stapleford Wood	SK852554	2011	DCW, MW
Finningley	SK69U	2017	MH

*Planted

Salix myrsinifolia Salisb.

Dark-leaved Willow

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

R.C.L. Howitt found two bushes of dark-leaved willow *Salix myrsinifolia* in woodland by Ragged Rock, Newstead. An herbarium specimen is in the Nottinghamshire Natural History Museum. Despite searches the bushes have not been re-located and the species is likely to be extinct. A planted specimen was found by D.C. Wood at Farndon Willow Holt in 1999, but this is no longer extant and cuttings planted at Brackenhurst Estate did not survive.

Location	GR	Date	Recorder
Newstead, by Lower Lake	SK544532	1974	RCLH

Salix repens L.

Creeping Willow

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Rare
Monads: 1

Creeping willow *Salix repens* was once widespread in the VC on moist heaths, but has declined because of habitat destruction and drainage. By the 1960s the species was already rare, but according to Howitt & Howitt (1963) it still occurred in good quantity to the east of Newark. The species is now only confirmed at Stapleford Wood having been lost from its only other remaining location at Spalford Warren (SK8368), at some time before the 1990s. A further record from a clay pigeon shooting ground at Thoresby (SK6468) is unconfirmed, because of the poor condition of the specimens that were viewed. Recently cuttings from Stapleford Wood plants have been propagated by N.R. Lewis and planted at Budby South Forest and re-introduced to Stapleford Wood (in bold).

Location	GR	Date	Recorder
Stapleford Wood	SK853553	2011	DCW
Stapleford Wood	SK852554	2008	DCW
Stapleford Wood	SK853552	2008	DCW
Stapleford Wood	SK849559	2018	DCW
Stapleford Wood	SK851561	2008	DCW
Stapleford Wood	SK852557	2008	DCW
Budby South Forest	SK66E	2018	NRL

Salix x calodendron Wimm.

Holme Willow

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 7

This triple hybrid (*Salix viminalis* x *cinerea* x *caprea*) is native, but its distribution within the VC and the British Isles is not clear because of planting (most recently for biomass). Howitt & Howitt (1963) doubted the native status of the hybrid and stated that a few plants

were found in every willow holt and by many streams in the Trent valley. Outside of willow holts in the VC, the plant is rare. In modern times, the hybrid has been found as a definite introduction at two sites and was planted on the Brackenhurst Estate by M. Woods. Of the seven remaining records, the identity of the specimens at Holme Pit and Fairham Brook are as yet, unconfirmed, but are likely to be correct.

Location	GR	Date	Recorder
Farndon Willow Holt*	SK767521	2004	MW
Brackenhurst Estate*	SK704514	2003	MW
Holme Pit	SK536344	1997	PA
Fairham Brook, Clifton	SK563340	2001	PA
Misson Line Bank	SK709959	2010	DCW, MW
Wilwell Cutting	SK567352	2011	DCW, PS
Mill Lakes*	SK549477	2003	MW
Ferry Road, Torksey	SK828789	2013	DCW, MW
Wigsley Airfield	SK859698	2016	DCW
Cottam Sand Pit	SK819782	2016	MW

*Planted

Salix x forbyana Sm.

Fine Osier

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 8

The female of this triple hybrid (*Salix purpurea* x *viminalis* x *cinerea*) is frequent throughout the south of Britain, being a relict of cultivation in many counties. The male was not known until 1954 when it was discovered at Attenborough by R.C.L. Howitt and later determined by R.D. Meikle. The male was planted by R.C.L. Howitt at Farndon Willow Holt and subsequently, the male was also found in Holts at Lound and by Rufford Lake. Single female specimens are still present at Attenborough and several other scattered sites throughout the VC, but the male has not been seen in recent years. Male and female specimens are however, cultivated in the collections at Farndon Willow Holt and Brackenhurst Estate. In 2015, a single specimen of *S. x forbyana* was recorded in the original willow holt at Farndon. The origin of the specimen is not known, but it is probably planted (asterisk in table) and may have been one of the source plants (collected by N.R. Lewis) for establishing the new collection at Farndon and Brackenhurst.

Location	GR	Date	Recorder
Attenborough Gravel Pits	SK529349	2004	DCW
River Leen, Basford	SK544438	1995	DCW
Kinoulton Marsh	SK6730	1978	RCLH
River Trent, Nottingham	SK565373	2006	DCW
River Trent, Radcliffe-on-Trent	SK647401	2005	DCW
River Trent, Radcliffe-on-Trent	SK635396	2011	DCW, PS(B)
South Muskham Gravel Pits	SK797561	2005	DCW
Brackenhurst Estate	SK704514	2004	MW
Farndon Willow Holt*	SK767521	2003	MW
Farndon Willow Holt	SK767521	2015	MW
River Trent, Stoke Bardolph	SK637398	2010	DCW
River Erewash, Toton	SK501344	2010	DCW

Salix x fruticosa Döll.

Eared Osier

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 2

This hybrid between osier *Salix viminalis* and eared willow *Salix aurita* has always been rare in the VC and before 1970 was recorded only once in an old brickyard at Besthorpe, Howitt & Howitt (1963). In modern times, the species has been recorded at two locations as a native, both in hedgerows and some distance apart. In addition, R.C.L. Howitt planted eared osier *Salix x fruticosa* at Farndon Willow Holt. Cuttings from the sole surviving specimen were re-planted* at the Holt and also at Brackenhurst Estate, where they have successfully established.

Location	GR	Date	Recorder
B6386 Roadside Verge	SK630507	2003	MW
Farndon Willow Holt*	SK767521	2004	MW
Sheepwalks Pond, Brackenhurst Estate*	SK705515	1999	MW
B600 Roadside Hedgerow	SK472494	2012	DCW

Salix x leiophylla auct. non. E.G. & A. *S. triandra x purpurea*
Camus

National Status: Data Deficient
Nottinghamshire Status: Extinct

Stace (2010) states that the hybrid was recorded from four sites in Britain, but all records are now considered erroneous. Howitt & Howitt (1963) attributes two of the records to willow holts at Lound and Beckingham in Nottinghamshire. Specimens from both sites were determined by R.D. Meikle and the Howitt's cultivated the specimens along with a specimen from Long Ashton Research Centre, which they claimed was identical. The Long Ashton specimen was referred to as *S. purpurea x triandra* Kerksii, Stott (1971), which was described by Stott as an ornamental willow. Searches of Farndon Willow Holt, which held the Howitt's collection, have failed to detect any cuttings that fit the description provided by the Howitts. Even if the hybrid is *bona fide*, the Lound and Beckingham Willow Holts have long been derelict and basket willow varieties have disappeared from both sites, so any specimens are unlikely to have survived dereliction and it is considered that the hybrid is best considered to be extinct in the VC.

Location	GR	Date	Recorder
Lound Willow Holt	SK7187	<1963	RCLH
Beckingham Willow Holt	SK7990	<1963	RCLH

Salix x meyeriana Döll. Shiny-leaved Willow

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 2

There are two historical records, originating before 1963; a male plant in an old quarry next to the River maun at Mansfield and two male trees next to a railway bridge at North Muskham. Neither of these specimens has been found in recent times. In modern times the species has been found in two relic osier beds at Annesley and Bestwood and cuttings from Howitt's willow collection at Farndon Willow Holt have been re-planted at Farndon and also at the Brackenhurst Estate.

Location	GR	Date	Recorder
Kodak Willow Holt	SK501527	2011	MW
Farndon Willow Holt*	SK767521	1999	MW
Sheepwalks Pond, Brackenhurst Estate*	SK705515	1999	MW
Mill Lakes	SK549478	2003	MW

*Planted

Salix x rubra Huds. Green-leaved Osier

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 8

Howitt & Howitt (1963) described the hybrid (*Salix viminalis x purpurea*) as being planted on the tidal River Trent and elsewhere as an uncommon component of willow holts. In recent times most of the records have been single bushes on riverbanks and a single bush has also been recorded at Lound Holt. Only two of the records are comprised of more than a single bush; at Ratcliffe-on-Soar the population is locally abundant, but is probably planted; whereas the Holme Pit population, which consists of several shrubs is located in fen vegetation and appears to be native. The hybrid has been

planted at Farndon Willow Holt and Brackenhurst Estate as part of the restoration of Howitt's willow collection at Farndon.

Location	GR	Date	Recorder
Clifton Grove	SK547355	2010	DCW
Holme Pit	SK535346	2007	DCW
Lound Holt	SK715878	2006	DCW
River Trent, Holme Pierrepont	SK607386	2002	DCW
River Trent, Holme Pierrepont	SK592387	2002	DCW
River Soar, Ratcliffe-on-Soar	SK492282	2000	DCW
River Soar, Stanford-on-Soar	SK541219	2005	DCW
Farndon Willow Holt	SK704514	2003	MW
Sheepwalks Pond, Brackenhurst Estate	SK7652	1999	MW

Salix x subsericea Döll. *S. cinerea x repens*

National Status: Data Deficient
Nottinghamshire Status: Rare, probably extinct
Monads: 1

This rare hybrid has only been recorded once in modern times, in woodland to the east of Newark-on-Trent. The woodland has been surveyed in recent years, but specific searches for the hybrid have not been undertaken. Although grey willow *Salix cinerea* is still present, the nearest known population of creeping willow *Salix repens* is 1km to the north in Stapleford Woods.

Location	GR	Date	Recorder
Brown's Wood	SK8453	1975	RCLH

Salvia verbenaca L. Wild Clary

National Status: Least Concern (GB), Near Threatened (Eng.)
Nottinghamshire Status: Uncommon
Monads: 12

This species of dry soils on roadsides and waste ground declined in Nottinghamshire and was very rare by the beginning of the 1960s, probably because of habitat loss and modification. Several new populations have been recorded in gravel pits and roadsides across the county since 2012, which have, in part, replaced historic losses.

Location	GR	Date	Recorder
Nottingham	SK582396	2009	PS(b)
Netherfield Spoil mound	SK634397	2010	DCW
Nottingham Castle Rock	SK570394	2000	PA, RAJ
Sneinton Hermitage	SK584394	2012	PA
Westfield Lane, Collingham	SK821616	2015	JC
Westfield Lane, Collingham	SK820616	2012	RAJ
Rainworth Water Piece	SK592587	2012	RAJ
Hawton Works	SK796499	2015	DCW
Wilford Lane, Wilford	SK568366	2015	SM
Cromwell	SK800615	2018	JS
Idle Valley Nature Reserve	SK705853	2017	KW
Idle Valley Nature Reserve	SK707853	2017	KW
Idle Valley Nature Reserve	SK708854	2017	KW
Idle Valley Nature Reserve	SK708855	2017	KW
Idle Valley Nature Reserve	SK710856	2017	KW
Idle Valley Nature Reserve	SK711854	2017	KW
Idle Valley Nature Reserve	SK711855	2017	KW
Idle Valley Nature Reserve	SK713857	2019	GH

Sambucus ebulus L.

Danewort

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare**Monads:** 1

Historically danewort *Sambucus ebulus* was scattered throughout the VC on roadsides and building ruins. There were records from Blidworth and Ollerton on the Bunter Sandstones, Gamston, Bunny, Normanton, Bleasby, Beeston and Walkeringham on the Keuper Marls, Great Leake on the Lias Clays and Greasley on the Permian Marls. The species has disappeared at all of the above sites except Beauvale Priory at Greasley and despite the destruction of the Priory is still present. It is hoped that a large population located <5m outside of VC56 at Hose Lane, Kinoulton (SK722305), will eventually spread from Leicestershire into Nottinghamshire and double the number of modern records.

Location	GR	Date	Recorder
Beauvale Priory	SK493490	1996	RCLH, Woll.

Scandix pecten-veneris L.

Shepherd's-needle

National Status: Critically Endangered (GB), Endangered (Eng.), Nationally Scarce, UK Biodiversity Action Plan**Nottinghamshire Status:** Scarce**Monads:** 7

This archaeophyte has dramatically declined across south and east England since 1950, because of herbicide treatments, Preston *et al.* (2002). In the VC the species was once frequent in cornfields on Keuper Marl and Lias Clay and was also recorded at several sites on calcareous loams and at a single site on sandy soils at Everton. The species has been recorded at six locations since 1970, but has not been seen recently at the North Clifton (SK832715) and Cotham (SK803477) sites. A small population was recorded in a rape crop during 2015 at a new site near Sutton-on-Trent, which is not far from the historical sites. A visit in 2019 confirmed that the population was extant (in bold) across much of the margin of the same field, but the distribution had shifted slightly, between SK781651 and SK781656.

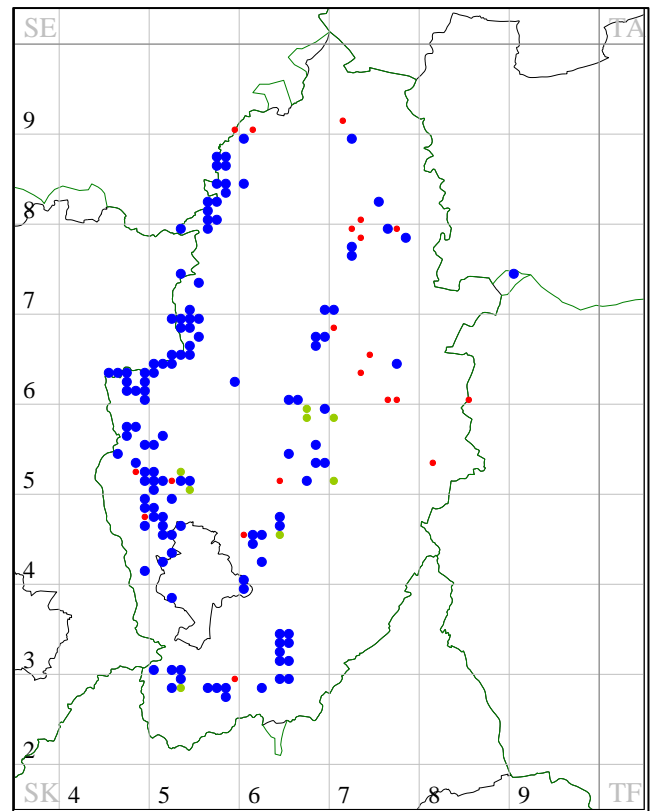
Location	GR	Date	Recorder
Laxton Mill Field	SK709664	1996	DCW
Laxton Mill Field	SK717664	1996	DCW
Laxton Mill Field	SK715666	1996	DCW
Laxton Mill Field	SK716664	2007	DCW, MW
Hayton Field	SK737852	1997	DCW
Kneesall	SK726639	1998	RAJ
Kneesall	SK727640	1998	RAJ
Ossington Airfield	SK749644	1998	RAJ
Broadwaters Farm, Ossington	SK756636	1998	RAJ
Sutton-on-Trent Field	SK779651	2015	SM
Sutton-on-Trent Field	SK781654	2019	MW

Sanicula europaea L.

Sanicle

National Status: Least Concern (GB), Near Threatened (Eng.)**Nottinghamshire Status:** Locally Frequent**Monads:** 124 (since 2000)

The species was formally common throughout most of the county, but absent from most of the woodlands in Sherwood Forest and on the sandlands to the east. Most of the mature woodlands on the clays and the coal measures still support populations of sanicle, but it is rarely abundant. It is assumed that some of the woodlands in the central part of the county probably still contain populations, but there have been no recent surveys and losses across the county could be as high as 50% since 2000.

*Schoenus nigricans* L.

Black Bog-rush

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare**Monads:** 1

Black bog-rush *Schoenus nigricans* is a species of base-rich peat bogs that has steadily declined and is now reduced to a single site in a peaty flush, where, despite no discernible change in habitat quality or management, it has declined to a small population. In the 18th and 19th Centuries the species was found at Edingley, Bulwell, Papplewick, Lindhurst, Basford, Pleasley, Newboundmill, Teversal and Sookholme Moor. Drainage and to a lesser extent habitat destruction has contributed to the 20th Century decline.

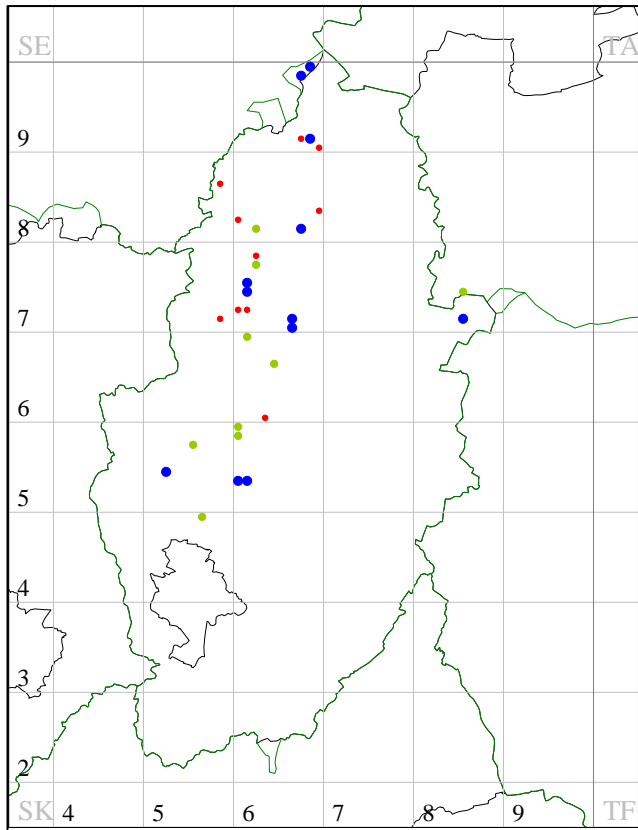
Location	GR	Date	Recorder
Sookholme Moor	SK554678	2017	NBGR

Scleranthus annuus L.

Annual Knawel

National Status: Endangered (GB and Eng.)**Nottinghamshire Status:** Uncommon**Monads:** 29

Howitt & Howitt (1963) described annual knawel *Scleranthus annuus* as being locally common in sandy fields. It was once particularly common in the Sherwood area and to a lesser extent on the blown sands and light soils in the east of the VC. In the latter part of the 20th Century, the decline of the species in the VC appears to have reflected the national decline, presumably because of factors such as habitat loss and agricultural intensification. Losses since 2000 appear to have accelerated with only twelve extant populations recorded since 2000.

*Sedum telephium* L.

Orpine

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Rare**Monads:** 2

As a native this species of woods and hedgerows has always been rare and scattered. Before 1960, the species was recorded in hedgerows at Worksop on Magnesian Limestone and Bunter Sandstone, in sandy woodland at Barrow Hills, Everton and at Gamston Wood on Keuper Marl. Since 1970 the species has not been recorded at any of its historic sites, but the population at Stone Hill Lane, Everton is less than 1km to the south of Barrow Hills and the Osberton location is near to Worksop. There are a number of other modern VC records for orpine *Sedum telephium*, which are considered to be introductions such as Pleasley Vale (SK516650) and Linby Quarries (SK532521).

Location	GR	Date	Recorder
Osberton Railway Embankment	SK634786	1972	JH
Stone Hill Lane, Everton	SK682909	1999	DCW

Selinum carvifolium L.

Cambridge Milk Parsley

National Status: Vulnerable (GB), Endangered (Eng.), Nationally Rare**Nottinghamshire Status:** Extinct

In 1909 J. W. Carr recorded Cambridge milk parsley *Selinum carvifolium* in a boggy meadow beside the River Meden at Newboundmill near Teversal. In 1952 when R. C. L. & B. M. Howitt visited the site the farmer informed them that the plant had disappeared when the field was drained a few years before their visit.

Location	GR	Date	Recorder
Newboundmill Meadow	SK4861	<1952	JWC

Senecio x baxteri Druce*S. squalidus x vulgaris***National Status:** Scattered**Nottinghamshire Status:** Rare**Monads:** 1

Nationally this hybrid occurs spontaneously wherever both parents are present, Stace *et al* (2015). In Nottinghamshire, the hybrid has been recorded twice. The Bassingfield site is no longer extant and searches in neighbouring areas on similar habitat have yet to find any further plants. A second specimen has been recorded more recently at Cossall in scrubby grassland by Nottingham Canal SK478429.

Location	GR	Date	Recorder
Bassingfield Gravel Pit	SK625377	1996	DCW
Nottingham Canal, Cossall	SK478429	2014	RAJ

Senecio x londonensis Lousley*S. jacobaea x aquaticus***National Status:** Scattered**Nottinghamshire Status:** Rare**Monads:** 5

This hybrid is usually found in disturbed man-made habitats, Stace *et al* (2015) and usually occurs as just one or a few plants with both parents. In Nottinghamshire, it has been recorded at eight sites, but is probably no longer extant at Bunny Brick Works (SK581286), the former factory at Dunkirk (SK553376), Bramcote Landfill (SK503388) and Cotgrave Colliery (SK653364 and SK656363), because of development or landscaping work. The extant populations are associated with disturbed, sandy soils. Since 2015, the hybrid has been recorded once (in bold) at a derelict farm with both parents.

Location	GR	Date	Recorder
Bestwood Sand Quarry	SK567480	1995	DCW
Holme Pierrepont Gravel Pits	SK618384	1987	DCW
Holme Pierrepont Gravel Pits	SK621388	1993	DCW
Boughton Dismantled Railway	SK676673	1996	DCW
River Trent, Staythorpe	SK765533	1995	DCW
Stanford-on-Soar	SK544223	2019	DCW

Silene conica Jacq.

Sand Catchfly

National Status: Vulnerable (GB), Endangered (Eng.)**Nottinghamshire Status:** Extinct

Sand catchfly was recorded as a casual in 1935, described in Howitt & Howitt (1963) as a weed in lawn seed at Farndon, probably in his garden. Further information in Howitt's diary mentions a single plant appearing on a new lawn, which was mown several times. Stace (2010) considers the species to be native in sandy places in East Anglia (and perhaps only there) and is a scattered casual elsewhere.

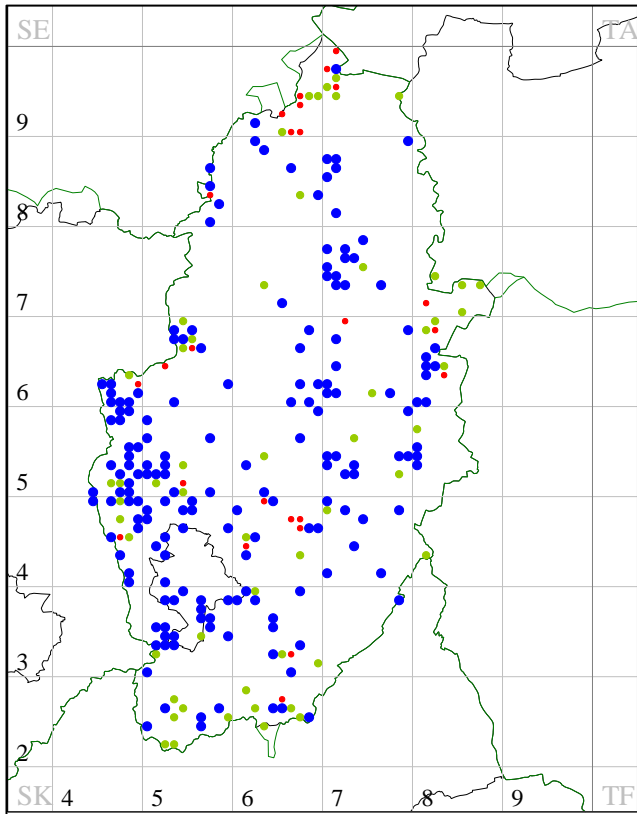
Location	GR	Date	Recorder
Farndon	SK7651	1949	RCLH

Silene flos-cuculi (L.) Clairv.

Ragged-robin

National Status: Least Concern (GB), Near Threatened (Eng.)**Nottinghamshire Status:** Scattered**Monads:** 177 (since 2000)

By 1963, Howitt & Howitt described the species as widespread but declining. The declines have continued because of habitat loss and degradation. Although the species has been recorded in 177 monads since 2000, there have been losses in up to 80 monads. It is also worth mentioning that some of the recently recorded populations may be of artificial origin, because the species is a common component of wildflower seed mixes.



Silene gallica Jacq. Small-flowered Catchfly

National Status: Endangered (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Rare
Monads: 1

Before 1839 G. Howitt recorded small-flowered catchfly *Silene gallica* growing in sandy arable fields at several locations in the VC. L. Allen then recorded the species in 1877 and H. Fisher recorded the species between 1878 and 1894. The species was not seen at all during the 20th Century, but during the 2003 Local Change survey work, a few plants were located in a 'weedy' raised flowerbed in a Municipal Park. Unfortunately, the raised flowerbed was destroyed before seed-set, because of on-going refurbishment work at the park. Despite searches since 2003, no plants have been seen again. In 2012, a small population of 17 plants was found growing in open, species-rich vegetation on a disturbed, sandy slope at the edge of the former colliery yards at Calverton. Searches in following years have failed to locate any plants and the site needs to be disturbed in order to encourage germination.

Location	GR	Date	Recorder
Titchfield Park	SK536485	2003	MW
Calverton Colliery Yards	SK601504	2012	MW

Silene noctiflora L. Night-flowering Catchfly

National Status: Vulnerable (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Scarce
Monads: 3

This archaeophyte has always been uncommon in the VC and has been mostly recorded on basic peat soils or soils overlying Magnesian Limestone. Howitt & Howitt (1963) described 11 historical records, but only one population survived beyond 1970; at Balderton (SK830487) three plants were found in the margin of an arable field, but there have been no records since 2000. Since 2000 small numbers of plants have been recorded at five locations with three records since 2015 (in bold).

Location	GR	Date	Recorder
Barnstone Field	SK734351	2004	DCW
South Clifton	SK822700	2008	RAJ
Gotham Moor	SK55223015	2018	GH
North Clifton Field	SK84757150	2019	MW
North Farm, Bleasby	SK71545049	2019	RAJ

Silene nutans L. Nottingham Catchfly

National Status: Near Threatened (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

Mr Willisel first recorded Nottingham catchfly *Silene nutans* on Nottingham Castle Rock some time before 1670. J. Ray subsequently published the record. Howitt & Howitt (1963) described the decline of the species during the 19th Century stating that restoration works to the castle and grounds c.1890 all but exterminated the species. V. Leather was the last person to record the species in 1934 when one flower was seen in a new rockery. Unfortunately, the flower was 'weeded out' before it could set seed.

Location	GR	Date	Recorder
Nottingham Castle Rock	SK569394	1934	VL

Silene uniflora Roth Sea campion

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 1

Sea campion *Silene uniflora* is common around the coast of Britain, but inland is usually associated with lake and stream margins in mountainous areas. In Nottinghamshire, three plants were recorded in rubble at the end of a field track; probably a garden throwout and no longer extant. More recently, a population has been recorded outside a Diner at Carlton-on-Trent on the margins of a busy dual carriageway.

Location	GR	Date	Recorder
Ruddington	SK569394	2002	DCW
A1 Dual Carriageway, Carlton-on-Trent	SK799625	2019	KB

Sium latifolium L. Greater Water-parsnip

National Status: Endangered (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

Howitt & Howitt (1963) described greater water-parsnip *Sium latifolium* as rare and decreasing on the sides of drains and fen pools. R.C.L. Howitt subsequently recorded the species at Misson and Misterton in the early 1970s and J.O. Mountford recorded the Misson population a decade later. A further population was recorded at Everton Carr in the 1980s, but none of these populations have been found in subsequent surveys and all of the sites have been visited on more than one occasion. As a consequence, it is considered that the species is likely to be extinct in the VC.

Location	GR	Date	Recorder
Gate Inn Pond, Misterton	SK765964	1971	RCLH
Dales Lane Drain, Misson	SK7195	1973	RCLH
Dales Lane Drain, Misson	SK710956	1983	JOM
Everton Carr	SK6992	1984	EC

Solidago virgurea L.

Goldenrod

National Status: Least Concern (GB), Near Threatened (Eng.)**Nottinghamshire Status:** Scarce**Monads:** 4

By the early 1960s goldenrod *Solidago virgurea* had become very rare in the VC with the loss of most of the historical populations. The Bramcote Hills population was the only one to survive into the modern era and it still remains to this day. Of the three other populations that have been recorded since 1970, only the Pleasley Vale population consists of more than a single plant. Surveys since 2012 have confirmed that the Bramcote Hills, Pleasley Vale and Birdcage Walk populations are extant.

Location	GR	Date	Recorder
Bramcote Hills	SK522385	2015	RAJ
Bramcote Hills	SK519385	2015	RAJ
Bramcote Hills	SK520386	2008	PA, RAJ, DS
Bramcote Hills	SK515389	2015	RAJ
Bramcote Hills	SK515387	2015	RAJ
Pleasley Vale Dismantled Railway	SK520649	2019	RAJ
Pleasley Vale Dismantled Railway	SK521648	2012	KB
Pleasley Vale Dismantled Railway	SK517648	2013	DaS
Littlewood Lane Quarry	SK533649	2009	DCW
Birdcage Walk, Nottingham*	SK560384	2015	DCW

*Possibly introduced

Sparganium natans L.

Least Bur-reed

National Status: Least Concern (GB), Vulnerable (Eng.)**Nottinghamshire Status:** Extinct

In Howitt & Howitt (1963) the species was recorded as floating bur-reed *Sparganium angustifolium*, but this is highly unlikely given the national distribution of the species. It is much more likely that the taxon was least bur-reed *Sparganium natans*. This species has only been recorded three times in the VC at Kirkby Hardwick, Scrooby and possibly at Trent Bridge during the 18th Century. The Trent bridge record is likely to be erroneous, because of the unsuitability of the habitat and was probably unbranched bur-reed *Sparganium emersum*.

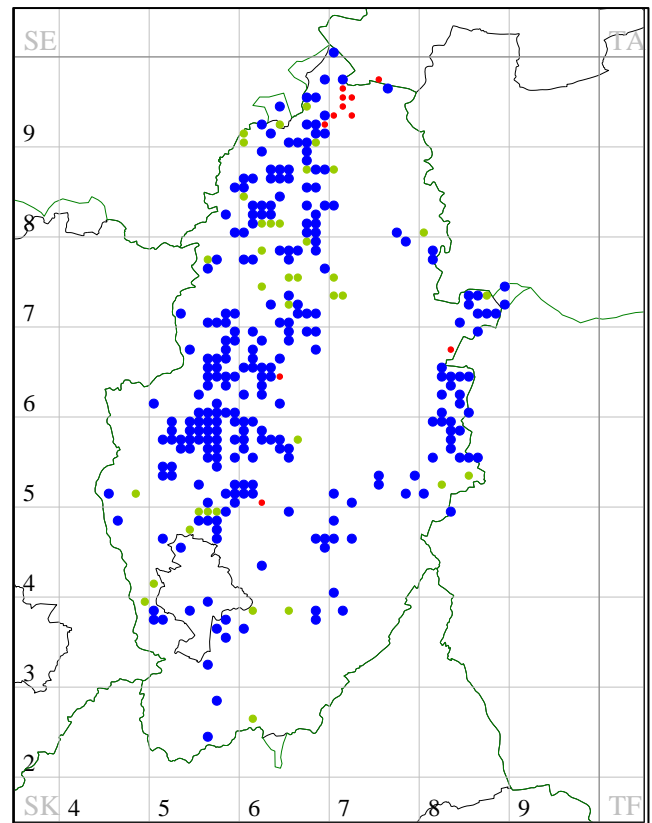
Location	GR	Date	Recorder
Kirkby Hardwick Ponds	SK55	1839	Hu

Spergula arvensis L.

Corn Spurrey

National Status: Vulnerable (GB and Eng.)**Nottinghamshire Status:** Locally Frequent**Monads:** 245 (since 2000)

Since the early the 1960s, agricultural intensification has been responsible for the national decline of corn spurrey *Spergula arvensis*. In the VC it was once common and widespread on arable fields with light soils. Although the species has declined it has probably fared better in Nottinghamshire than many other VCs, because of the abundance of light sandy soils in the VC, agricultural systems (root crops) and the availability of alternative habitats to arable fields such as sand and gravel pits.

*Spiranthes spiralis* (L.) Chevall.

Ladies' Tresses

National Status: Near Threatened (GB and Eng.)**Nottinghamshire Status:** Extinct

This species has been recorded only four times since 1756 at scattered locations across the VC. J. Brown was the last to record the species some time between 1942 and 1946. Ten plants were recorded on a gravel heap by the Idle Stop near Misson.

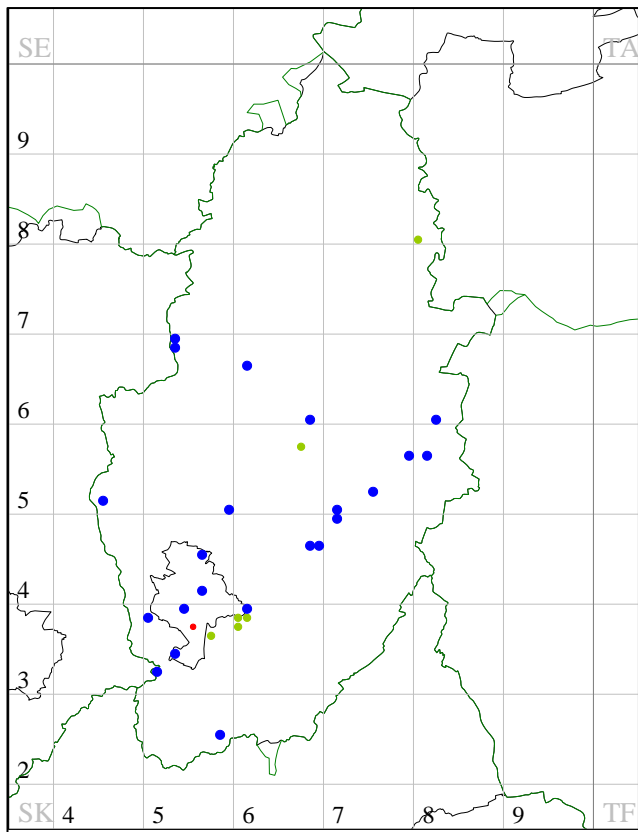
Location	GR	Date	Recorder
Idle Stop, Misson	SK7296	1942-1946	JBn

Stachys arvensis (L.) L.

Field Woundwort

National Status: Near Threatened (GB and Eng.)**Nottinghamshire Status:** Uncommon**Monads:** 21

This arable weed of sandy fields has never been common in the VC, but was most frequent in the west of the VC. Although field woundwort *Stachys arvensis* declined before the 1950s, the rate of decline accelerated in the latter part of the 20th Century. Since 1970 the species has been recorded in 21 monads since 2000, scattered throughout the VC on a variety of soils, but often on lighter soils. Since 2015 six populations have been found at new sites.

*Stellaria nemorum* L.

Wood Stitchwort

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 1

Wood Stitchwort *Stellaria nemorum* is a species of damp woodland that has always been very rare in the VC. The population in Budby that was recorded by Bradley in the late 19th Century has not been seen in recent times. The population at Clifton Grove in the City of Nottingham is located in woodland overlooking the River Trent from SK547355 to SK544353. It was first recorded in the early 20th Century and persisted despite the need for translocation, because of partial habitat destruction in the mid-1980s. There are now two adjacent patches.

Location	GR	Date	Recorder
Clifton Grove	SK546354	2017	DCW

Stellaria palustris Retz.

Marsh Stitchwort

National Status: Vulnerable (GB and Eng.)

Nottinghamshire Status: Scarce

Monads: 8

Marsh stitchwort *Stellaria palustris* is a species of marshy meadows on light soils, being absent from the heavier marls in the centre and west of the VC. By the 1960s, Howitt & Howitt (1963) described the species as decreasing in the VC, which followed the national declines that started before the 1930s. Losses were caused by drainage and direct habitat destruction and the remaining populations in the VC are located close to Nottingham in the Trent Valley and in the north of the VC at Misson. Recent losses include populations at Girton in the east of the VC and in the north of the VC at Scrooby. In addition, the Holme Pit population at Clifton has not been seen during recent visits and may no longer be extant. Since 2012, archival searches have revealed historic records from Barton-in-Fabis (close to Holme Pit) and Lound Gravel Pits (grid reference provided is indicative). The population at Netherfield has been confirmed as extant and a further population has been recorded at Jacksdale.

Location	GR	Date	Recorder
Everton Carr Drain	SK667904	1972	JH
Misson Drain	SK678945	1972	JH
Snow Sewer, Misson	SK723982	1972	JH
Idle Stop	SK716962	1994	DCW
Holme Pit	SK537346	1990's	DCW
Snow Sewer, Misson	SK720981	1995	DCW
Misson Carr	SK7197	2001	DCW
Idle Stop	SK718964	2010	DCW, MW
Attenborough Gravel Pits	SK528354	2010	DCW, RAJ, PA
Netherfield Gravel Pits	SK639400	2015	JC
Netherfield Gravel Pits	SK642402	2010	DCW
Barton-in-Fabis Drain	SK530335	1998	MW
Lound Gravel Pits	SK712823	2012	JS
Jacksdale Meadows West	SK448506	2014	JC

Stratiotes aloides L.

Water Soldier

National Status: Near Threatened (GB), Least Concern (Eng.), Nationally Scarce

Nottinghamshire Status: Extinct (as a native)

Monads: 11 (as a neophyte)

As a native, the presence of this nationally declining species has only ever been confirmed twice in the VC. G. Howitt last recorded the species some time before 1839 in a moat in Strelley. At some time before 1855 J.K. Miller recorded the species somewhere between Morton in Lincolnshire and Walkeringham in Nottinghamshire. After 1855 there were no further records until the modern era, when water soldier *Stratiotes aloides* become commercially available. All of the ten modern records are considered to be introductions or garden escapes.

Location	GR	Date	Recorder
Strelley Moat	SK5041	<1839	GH
Brackenhurst Gardens*	SK695523	2019	MW
Brinsley Pond*	SK465490	2012	MS, CS, PO
Shireoaks Colliery Yards*	SK559807	2011	DCW, MW
Thorpe-in-the-Glebe*	SK621261	2004	DCW
Newark-on-Trent*	SK804559	2017	RAJ
Newark-on-Trent*	SK804560	2017	RAJ
Nottingham Canal, Cossall*	SK478429	2001	DCW
Nottingham Canal, Trowell*	SK485399	2001	DCW
Nottingham Canal, Trowell*	SK481398	2001	DCW
Martins Pond, Wollaton*	SK527401	1995	DCW
Grantham Canal, Owthorpe*	SK67932	1994	DCW
Chesterfield Canal, West Stockwith	SK785946	2015	RAJ
Barnby-in-the-Willows Pond*	SK858533	2018	DCW
Granby Pond*	SK753360	2017	DCW
Holme Pit, Clifton*	SK537344	2017	DCW, NP

*Introduction or garden escape

Succisa pratensis Haller

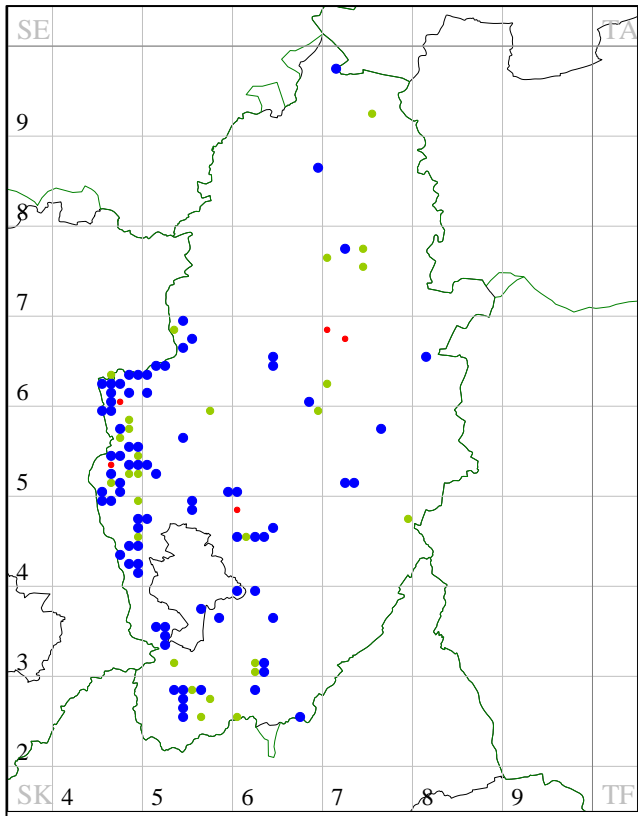
Devil's-bit Scabious

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Occasional to Locally Frequent

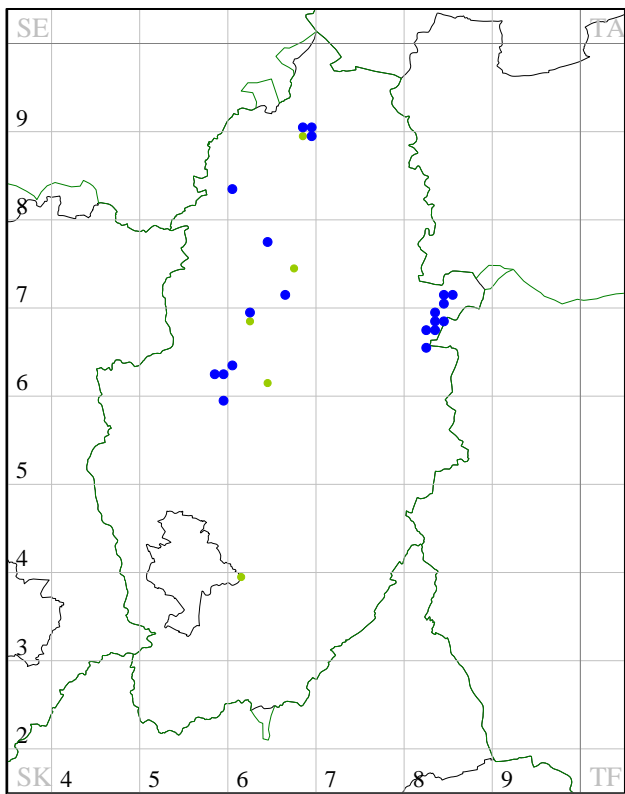
Monads: 80 (since 2000)

Formally the species was common throughout most of the county with fewer records to the east on the Lias Clays. The species was most prevalent on the Coal Measures to the west. Habitat loss has been responsible for most of the population losses since 1963 with nearly 50% of the previously occupied monads no longer recorded after 2000.



Teesdalia nudicaulis (L.) R. Br. Shepherd's Cress

National Status: Near Threatened (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Uncommon
Monads: 20



Shepherd's cress *Teesdalia nudicaulis* was once locally common, but scattered on the Bunter Sandstone, blown sands and gravels in

the VC. Habitat loss and intensification of agriculture has contributed to both county and national declines, but sand and gravel workings and to a lesser extent post-industrial land has created new habitats and opportunities for the species. As a consequence, the species is not considered to be at threat of extinction in the VC. Since 2012, populations have been found at Clipstone Heath and Spalford, both in close proximity to other known populations. A population at Besthorpe, last recorded in 1990, was recorded again in 2018.

Thelyptris palustris Schott.. Marsh Fern

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Extinct

R.M. Payne last recorded marsh fern *Thelyptris palustris* in 1944 at Oxtou Bogs. Subsequent searches failed to find the species, presumably because the bogs dried out. There is an unconfirmed record from fenland that had developed at the former Wilford Clay Pit. Unfortunately, this cannot now be confirmed, because the area where it probably occurred has been developed.

Location	GR	Date	Recorder
Oxtou Bogs	SK6151	1944	RMP

Thymus pulegoides L. Large Thyme

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Extinct (as a native)
Monads: 3

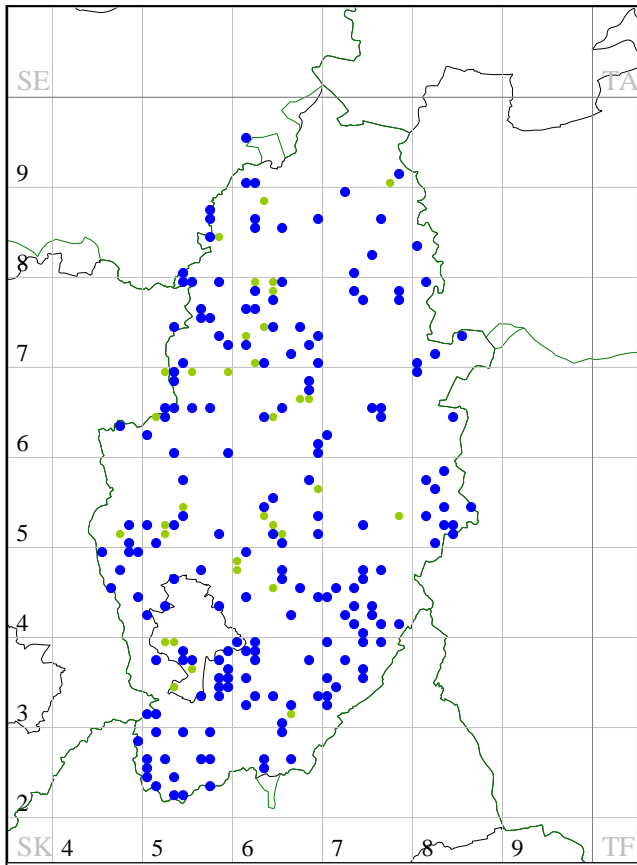
R.C.L. Howitt recorded large thyme *Thymus pulegoides* during 1950 at West Leake Hills. This was the only record before 1970 and R.C.L. Howitt considered that population to be native. Since 1970 the population at West Leake has not been seen. Given the habitat types, the two extant populations are considered to be non-native. The population at Bingham (SK713386) consists of scattered plants on the track-bed ballast of a dismantled railway line. The population at Silverhill Colliery Tip (SK471622) consists of several plants growing on bare introduced limestone rubble. Since 2015 a further population has been recorded in Lenton at the University of Nottingham and is also likely to be a garden escape.

Location	GR	Date	Recorder
West Leake Hills	SK52	1950	RCLH
Bingham Linear Park	SK713386	2015	RAJ
Silverhill Colliery Tip	SK471622	2011	DCW, MW
Silverhill Colliery Tip	SK468623	2015	RAJ
University of Nottingham, Jubilee Campus	SK546399	2019	PA
University of Nottingham, Jubilee Campus	SK547398	2017	JC

Tilia platyphyllos Scop. Large-leaved Lime

National Status: Least Concern (GB and Eng.), Nationally Scarce
Nottinghamshire Status: Uncommon
Monads: 96 (24 as a native)

Scratta Wood at Shireoaks was the only site in the VC where large-leaved lime *Tilia platyphyllos* was recorded before 1963 and Howitt & Howitt (1963) considered that the species was a denizen rather than native. The lack of records seems extraordinary considering the number of mature trees that have been recorded since 1970 and 24 of the records are almost certainly native given the location and circumstances. For example, the mature limes in ancient woodlands that are growing out of rocky outcrops on the Magnesian Limestone. In addition to the native records, there are a further 62 monads containing records of planted trees. Since 2015 the species has been recorded 55 times with seven of the records likely to be of native origin given the locations. The remaining 48 records are all likely to be introductions or regenerating from planted specimens.

*Trifolium fragiferum* L.

Strawberry Clover

National Status: Least Concern (GB), Vulnerable (Eng.)**Nottinghamshire Status:** Uncommon**Monads:** 31 (since 2000)

Before 1963 strawberry clover *Trifolium fragiferum* was considered to be local on substrates where water stands in winter. Formerly the taxon was frequent in the Trent valley, but it is now rare due to habitat loss and changes to drainage patterns. In the south of the county the taxon was widespread in the 19th century, but it is now locally frequent and largely confined to marginal land such as roadsides and track verges on Lias Clay. This is because much of the grassland resource that would have supported the species has been agriculturally improved and drained.

Torilis arvensis L.

Spreading Hedge Parsley

National Status: Endangered (GB and Eng.), Nationally Scarce**Nottinghamshire Status:** Rare**Monads:** 1

This archaeophyte has shown dramatic national declines, because of increasing agricultural intensity, vulnerability to herbicides and an inability to compete in dense crop swards, Preston *et al.* (2002). The decline has been less dramatic in the VC, because the species has never been common. Before 1970 the species was recorded on Keuper Marls at Gamston Moor, Clifton (near Nottingham), Kingston-on-Soar and Fiskerton, and on the Lias Clays, somewhere between Gotham and West Leake. Since 1970, the species has only been recorded at Cotgrave Colliery in a former arable field, which is heavily grazed by rabbits. When the population was first recorded in 1999 it was abundant on a former arable field over an area of approximately 100m². In subsequent years the population has declined and now consists of a few plants, which were seen most recently during the summer of 2012.

Location	GR	Date	Recorder
Cotgrave Colliery Yards	SK654365	2012	DCW

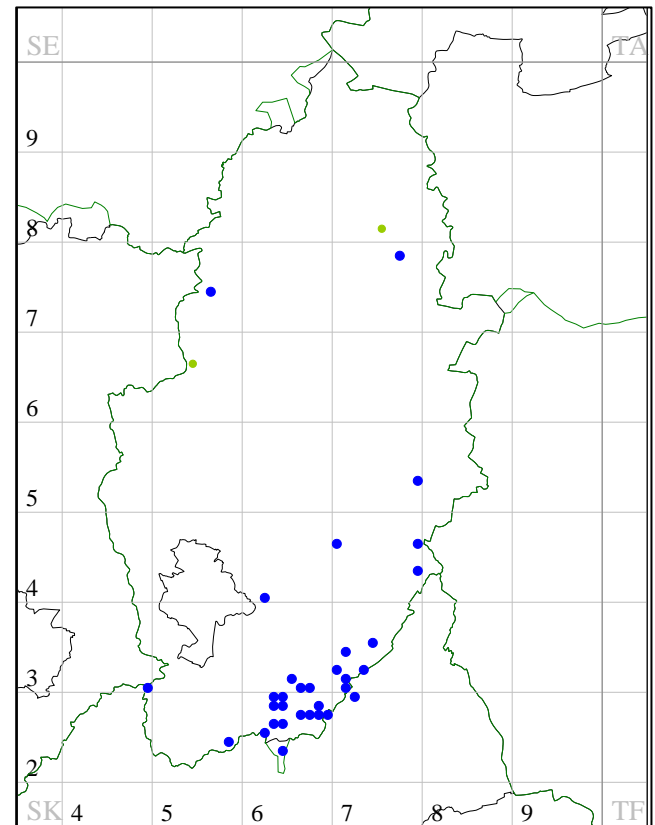
Trichophorum germanicum Palla

Deergrass

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Extinct

In the 19th Century deergrass *Trichophorum germanicum* was relatively common on wet heaths. The species was not recorded during the 20th Century, presumably because of habitat loss and drainage, so Howitt & Howitt (1963) considered the species to be extinct.

Location	GR	Date	Recorder
On wet heaths	Not Applicable	1839	GH

*Trifolium ochroleucon* Palla

Sulphur Clover

National Status: Near Threatened (GB), Vulnerable (Eng.)**Nationally Scarce****Nottinghamshire Status:** Extinct

Sulphur clover *Trifolium ochroleucon* has only been recorded once in the VC, in a meadow near Wilford Osier Holt. It is considered to be extinct having not been recorded after 1839.

Location	GR	Date	Recorder
Wilford Osier Holt	SK53	1839	GH

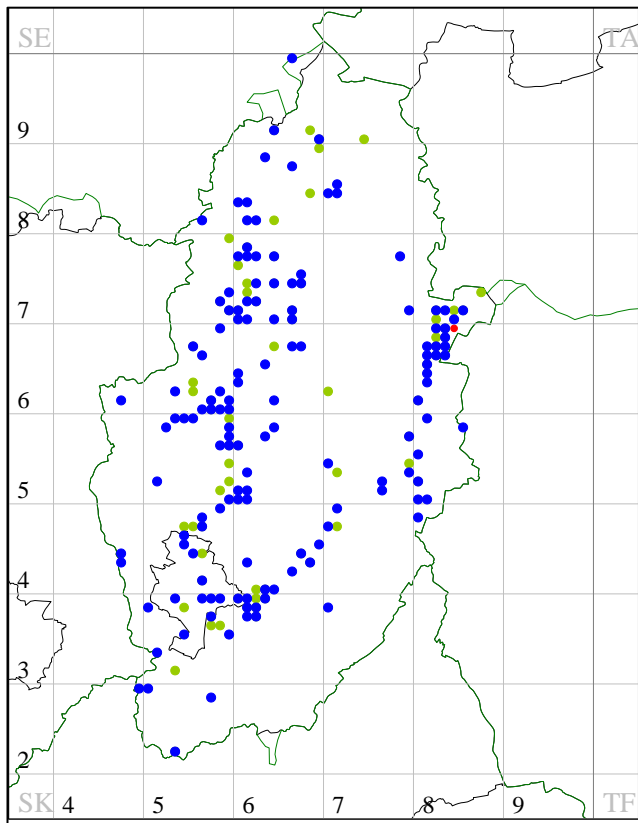
Trifolium striatum L.

Knotted Clover

National Status: Least Concern (GB), Near Threatened (Eng.)**Nottinghamshire Status:** Locally Frequent**Monads:** 181

Knotted clover *Trifolium striatum* was formerly common on sandy and light soils and the modern distribution map suggests little change from the mid 20th Century. On the blown sands in the east of the county the species is still common and thrives on disturbed sandy grasslands, which are frequently associated with pony paddocks and less disturbed areas of gravel pits. Elsewhere, many

of the remaining populations are small and located on nature reserves and forestry plantations.

*Triglochin maritima* L.

Sea Arrow-grass

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Extinct

Inland, sea arrow-grass *Triglochin maritima* is rare and many of the inland brackish pastures it once frequented have been destroyed. A specimen located in the Bolton Museum Herbarium was obviously unknown to the Howitts, because there is no mention in the 1963 Flora of Nottinghamshire. The quarry at Barnstone, from where the specimen was collected by J.T. Harris in 1867, is no longer extant, but it was probably somewhere in the vicinity of the Cement Works, which is located to the south of Barnstone Village. A further record has recently been found in the papers of Richard Goulding, which was known to the Howitt's only after they had published their flora in 1963. The second record originates from the edge of Welbeck Abbey gardens where it was recorded in 1916 and not seen again. The most recent record from 2002 is considered to be a casual, because it has not been seen since, despite repeated surveys.

Location	GR	Date	Recorder
Barnstone Quarry	SK73	1867	JTH
Welbeck Abbey Gardens	SK5674	1916	RG
Common Lane Bank, Pleasley	SK5264	2002	RAJ

Triglochin palustris L.

Marsh Arrow-grass

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Declining

Monads: 14 (since 2000)

Before 1970 marsh arrow-grass *Triglochin palustris* was frequent in all areas of the VC, except for the south and southeast on the Lias Clays, where the species was present at only one site. Habitat destruction, drainage, eutrophication and agricultural intensification are factors that are likely to be responsible for the losses from 34 monads between 1970 and 2000. Intensive recording in recent

years has identified new populations such as Besthorpe and Crowhill Farm, but these may have been overlooked during past surveys.

Location	GR	Date	Recorder
Alder Carr	SK45144839	2013	DCW, PO
Clipstone Colliery	SK596630	2012	DCW
Crowhill Farm Grasslands	SK503478	2016	RAJ, JC
Kirkby Bentinck	SK472548	2002	DCW
Leen Pastures	SK552490	2007	DCW
Poulter Fen, Nether Langwith,	SK548704	2011	DCW, AB
River Trent, Besthorpe	SK814651	2016	BH
Skegby Stream	SK489605	2006	DCW
Skegby Stream	SK491606	2006	DCW
Skegby Stream	SK493606	2006	DCW
Skegby Stream	SK492605	2015	RAJ
Skegby Grassland	SK486612	2012	DCW
Sookholme Moor	SK554677	2012	RAJ, JC, DCW
Stanton Hill Grassland	SK486612	2012	DCW
Teversal Grassland	SK490637	2008	DCW
Toton Pond	SK484357	2001	DCW

Tripolium pannonicum (Jacq.) Dobrocz.

Sea Aster

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 2

This coastal species is located at two sites in the VC on the tidal section of the River Trent. Since 1970 the taxon has been confined to two localities, with only a single plant recorded at West Stockwith and a small population found at Walkeringham. Early in the 20th century, away from the tidal River Trent, the species was recorded in a drain at Misson, but has not been found again at this locality.

Location	GR	Date	Recorder
River Trent, Walkeringham	SK806916	1994	DCW
River Trent, West Stockwith	SK793949	1998	DCW

Turritis glabra L.

Tower Mustard

National Status: Endangered (GB and Eng.)

Nottinghamshire Status: Extinct

The species was always very rare on sandy fields and roadsides and was last recorded at Barrow Hills in 1904 by J.W. Carr. Other historical sites such as Radford, Lenton and Bestwood Park have been radically altered by urbanisation, whilst rural sites such as Gleadthorpe, Finningley and Cuckney have been altered by factors such as afforestation, mineral extractions and agricultural improvement. There are still parts of Barrow Hills and mineral extraction sites in the Finningley area that contain suitable habitat, but it would require active intervention because there are no longer any extant populations close enough to facilitate natural colonisation.

Location	GR	Date	Recorder
Finningley	SK6799	1881	GES
Barrow Hills	SK6792	1904	JWC
Blyth	SK6286	1807	TO

Typha x glauca Godr.*T. latifolia x angustifolia*

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 67

This sterile hybrid occurs in scattered places throughout England, usually with both parents and it is probably overlooked, Stace (2010). There are no historical records for the species, but it has probably always been present in the VC, wherever the parents occur together. Although the hybrid is only found at five sites, it is locally abundant at three of the sites. Between 2015 and 2019, populations in the Grantham Canal and Colwick Country Park have been confirmed as extant (in bold) and the population at Calverton Colliery Tip appears to have been lost due to rapid replacement by common reed *Phragmites australis*.

Location	GR	Date	Recorder
Grantham Canal, West Bridgford	SK5838	2009	DCW, RW
Grantham Canal, West Bridgford	SK590380	2015	RAJ
Grantham Canal, West Bridgford	SK599375	2018	DCW
Grantham Canal, Cotgrave	SK634365	2015	RAJ
Colwick Country Park	SK6038	2010	DCW
Colwick Country Park	SK609393	2010	DCW
Colwick Country Park	SK608391	2016	RAJ
Martin's Pond, Wollaton	SK526402	2011	DCW
Gateford Fox Covert	SK563819	2012	GC
Calverton Colliery Tip	SK601513	2013	MW

Umbilicus rupestris (Salisb.) Dandy

Navelwort

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Rare
Monads: 1

Stace (2010) describes navelwort *Umbilicus rupestris* as being rare in the East of England and often only naturalised. There are no historical records and Preston *et al* (2002) shows native populations to the south, west and north, but only non-native populations to the east and southeast. Given the location in Nottingham, on the external faces of garden walls, it is likely that the population is naturalised and may be a recent introduction rather than being overlooked.

Location	GR	Date	Recorder
Melton Road, West Bridgford,	SK58763676	2015	SM
Taunton Road, West Bridgford	SK58713675	2016	SM

Urtica dioica subsp. *galeopsifolia* (Wierzb. ex Opiz) Chrtek.

Fen Nettle

National Status: Waiting List
Nottinghamshire Status: Scarce
Monads: 5

Nationally and also in the VC fen nettle *Urtica dioica* subsp. *galeopsifolia* is a plant of wet woodlands rather than weedy situations. Howitt & Howitt (1963) does not include any information about the presence of the species in the VC and the BSBI species accounts³ indicates that further work is needed to understand the species ecology and distribution. The populations at Clifton are widespread and frequent, but are less abundant at Shelford and Haughton. A further population has been detected since 2015 at Sturton-Le-Steeple.

Location	GR	Date	Recorder
Haughton Lower Ponds	SK689723	1999	DCW
Shelford Carr	SK668433	2010	DCW
Holme Pit, Clifton	SK535346	2011	DCW
Holme Pit, Clifton	SK536345	2011	DCW
Kirkby Park Grassland	SK471548	2015	MW
Littleborough Road, Sturton-Le-Steeple	SK802836	2019	DCW

Utricularia minor L.

Lesser Bladderwort

National Status: Least Concern (GB), Vulnerable (Eng.)
Nottinghamshire Status: Extinct

Lesser bladderwort *Utricularia minor* was only ever recorded twice in the VC. It was recorded in the central part of the VC at Edingley Moor in the early 19th Century and 150 years later it was recorded in the north of the VC in a drain at Misson Bombing Range, Howitt & Howitt (1963). The reason for the loss at Misson is not known, but drainage of the surrounding land is likely to have been a contributory factor.

Location	GR	Date	Recorder
Misson Bombing Range Drain	SK79	1952	RCLH

Utricularia vulgaris sensu lato L.

Greater Bladderwort

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Extinct

In the VC greater bladderwort *Utricularia vulgaris sensu lato* was always more common than lesser bladderwort *U. minor*, but by the 1950s it was confined to the north of the VC. Since the early 1960s the species has not been found. In the 19th century the species was found at scattered localities throughout the county such as Mansfield, Kirklington, Thurgarton and Muskham, in addition to Misson, Misterton and Gringley in the north. Factors such as habitat destruction, drainage and eutrophication are likely to have contributed to the loss of the species.

Location	GR	Date	Recorder
Park Drain Station, Misson	SK7298	1905	JWC
Misson; Misterton; Gringley Carr	SK79	<1963	RCLH

Vaccinium myrtillus L.

Bilberry

National Status: Least Concern (GB and Eng.)
Nottinghamshire Status: Scarce
Monads: 7

This formerly frequent species of heaths and sandy woods was rapidly declining by the early 1960s, Howitt & Howitt (1963). Bilberry *Vaccinium myrtillus* was most frequent in the Sherwood area, but was also present on the blown sands in the east of the VC. In modern times, the species disappeared from Wigsley Wood (SK850702) and Spalford Warren (SK833680) in the east of the VC and Coxmoor Plantation (SK518566) in the Sherwood area. It is now confined to six sites; five are located on sandy soils in the Sherwood area and the population at Lord Stubbins Wood is located close to the Derbyshire border on the Permian Marls. Since 2012, populations at Birklands and Clipstone have been confirmed as extant (in bold).

Location	GR	Date	Recorder
Ratcher Hill, Mansfield	SK576599	1996	DCW
Lord Stubbins Wood	SK540691	2012	DCW
Lord Stubbins Wood	SK541691	2012	DCW
Lord Stubbins Wood	SK541690	2012	DCW

³ <http://sppaccounts.bsbi.org.uk/content/urtica-dioica-and-u-galeopsifolia>

Location	GR	Date	Recorder
Newlands Plantation	SK58076434	2019	JC
Robin Hood Hills	SK510544	2018	DaS
Birklands	SK617678	2018	DaS
Birklands	SK6168	2015	WH
Birklands	SK61556794	2017	MW
Thieves Wood	SK546567	2018	DaS
Thieves Wood	SK549565	2011	DCW
Thieves Wood	SK546572	2018	DaS
Thieves Wood	SK546573	2018	DaS
Thieves Wood	SK546570	2018	MW, NRL, MC
Thieves Wood	SK547569	2018	DaS
Thieves Wood	SK548569	2018	DaS
Thieves Wood	SK548568	2018	MW, NRL, MC

Vaccinium oxycoccus L.

Cranberry

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Extinct

Oxton Bogs is the only site in the VC where cranberry *Vaccinium oxycoccus* was recorded and it was last seen during the late 19th Century. There is a specimen in the Nottingham Natural History Museum (NOT). The loss of the species probably coincided with adverse changes to the local water table.

Location	GR	Date	Recorder
Oxton Bogs	SK6151	1886	HFi

Vaccinium vitis-idaea L.

Cowberry

National Status: Least Concern (GB and Eng.)**Nottinghamshire Status:** Extinct

This characteristic species of wet acid peat was recorded on bogs alongside Rainworth Water, at Papplewick Forest and bogs near Mansfield, where it was last seen in 1875. The losses probably coincided with drainage and habitat loss.

Location	GR	Date	Recorder
Bogs near Mansfield	SK55	1875	JCr

Valeriana dioica L.

Marsh Valerian

National Status: Least Concern (GB), Near Threatened (Eng.)**Nottinghamshire Status:** Uncommon**Monads:** 14 (since 2000)

Marsh valerian has been declining in the VC over the last century, because of drainage, habitat loss and eutrophication. It was however, considered by Howitt & Howitt (1963) to be still frequent near limestone streams, and it was also occasional on calcareous clays and in fenland. Between 1963 and 1999 the species has disappeared from 21 monads and is now restricted to 14 monads, for the most part, associated with Limestone streams and ancient woodland. Many of the sites in which it is still found are protected and it is probably not under any immediate threat of further decline.

Location	GR	Date	Recorder
Annesley Woodhouse Grassland	SK489529	2015	RAJ, JC
Annesley Woodhouse Grassland	SK489530	2015	RAJ, JC
Crowhill Farm Grasslands	SK503478	2016	RAJ, JC
Cuttail Brook, Annesley Woodhouse	SK489530	2011	DCW
Darnsyke, Thorney	SK856739	2011	DCW, MW
Dovedale Wood	SK464631	2002	MW
Dyscarr Wood	SK578876	2008	RAJ
Gamston Wood	SK72727676	2016	DaS

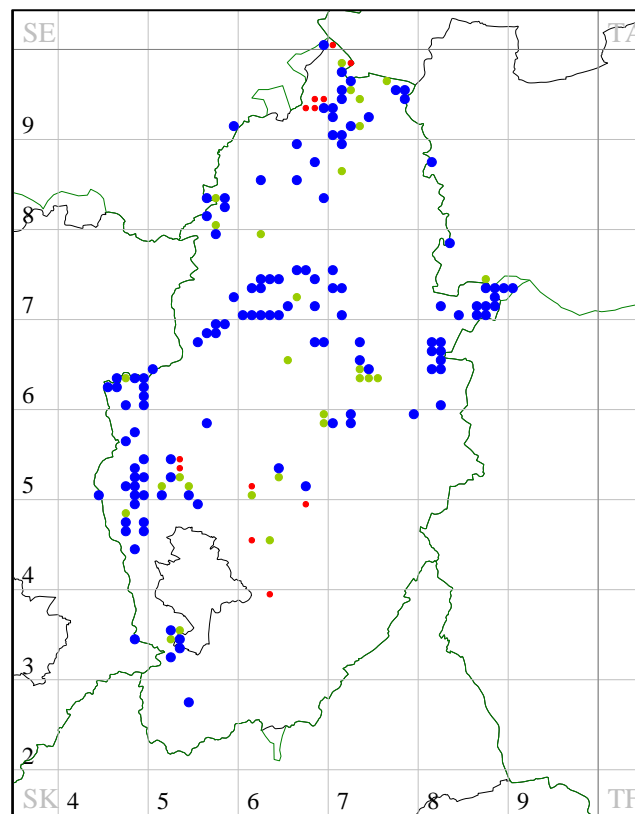
Location	GR	Date	Recorder
Levels Lane Drain, Misson	SK710971	2006	DCW
Levels Lane Drain, Misson	SK712971	2006	DCW
Misson Carr	SK711971	2006	DCW
Misson Carr	SK712971	2002	DCW
Misson Carr	SK7197	2004	RAJ
Newboundmill	SK490635	2004	RAJ
Newboundmill Wood	SK492635	2006	DCW
Newboundmill Wood	SK493636	2011	RAJ, JC
Norwood	SK479636	2004	RAJ
Norwood	SK481635	2012	JC
Norwood	SK482636	2003	DCW
Norwood Flush	SK490636	2017	RAJ
Sookholme Moor	SK554678	2002	MW
Spring Wood, Stanton Hill	SK476603	2009	DCW
Teversal Grassland	SK49006362	2014	DaS
Teversal Trail	SK49036364	2017	RAJ
Wighay Wood Stream	SK513512	2011	DCW

Valeriana officinalis L.

Common Valerian

National Status: Least Concern (GB), Near Threatened (Eng.)**Nottinghamshire Status:** Occasional**Monads:** 122 (since 2000)

Formerly common in damp woodlands, hedgerows and stream margins, but less common in the south and southeast of the county. Surveys between 2000 and 2019 have confirmed presence in 122 monads, but losses between 1963 and 1999 have been confirmed in 39 monads, scattered across the county. Losses can be attributed to habitat loss, poor management, eutrophication and drainage. It is likely that further losses of grassland and drain-bank populations will occur outside of protected sites unless there is more appropriate management.



Valerianella dentata (L.) Pollich. Narrow-fruited Cornsalad

National Status: Endangered (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Scarce

Monads: 6 (3 since 2000)

Narrow-fruited cornsalad *Valerianella dentata* was once widespread, but uncommon in the VC, being found on arable fields with basic soils. Since 1970 it has been recorded nine times at seven sites, but a population in a wheat field at Sookholme (SK539667) has been buried under a colliery spoil tip and a population in an arable field at West Leake Hills (SK541283) in the south of the VC has not been seen since 1987. Of the extant populations, the Teversal and Warsop populations are located on Limestone chippings and Magnesian Limestone respectively, the Thurgarton populations are located on Keuper Marl and the Everton Carr population is located on the base-rich peat of a drain-bank.

Location	GR	Date	Recorder
Everton Carr Drain	SK693929	1972	JH
Teversal Trail	SK4962	1978	Woll.
Teversal Trail	SK493630	1997	DCW
Thurgarton Footpath	SK694481	2002	RAJ, DCW
Thurgarton Footpath	SK692479	2002	RAJ, DCW
Warsop Vale Dismantled Railway	SK549677	2007	DCW

Verbascum lychnitis L. White Mullein

National Status: Least Concern (GB and Eng.), Nationally Scarce

Nottinghamshire Status: Rare

Monads: 2

Before 1970, white mullein *Verbascum lychnitis* was only ever recorded during the early part of the 19th Century at Clifton Hill on the east bank of the River Trent, to the north of Newark-on-Trent. Between 1970 and 2015, the species has only been recorded on railway ballast and clinker at Toton Sidings where it still persists, after more than twelve years. In 2015, a new population of three plants was found on an abandoned section of the A52 Trunk Road, near Elton-on-the Hill in South Nottinghamshire. Since 2015, both populations have been confirmed as extant (in bold).

Location	GR	Date	Recorder
Toton Sidings	SK489349	2015	DCW
Toton Sidings	SK489350	2015	DCW
Toton Sidings	SK490351	2015	DCW
Toton Sidings	SK487354	2016	RAJ
A52 Trunk Road, Elton-on-the-Hill	SK761385	2016	DCW, NP

Verbascum pulverulentum Vill. Hoary Mullein

National Status: Least Concern (GB and Eng.), Nationally Rare

Nottinghamshire Status: Extinct

The species was last recorded in the 18th Century, growing out of walls at Wollaton Hall and in the City of Nottingham.

Location	GR	Date	Recorder
Wollaton and Nottingham sites	SK53	1748	CD

Verbascum x duernsteinense Teyber *V. thapsus x speciosum*

National Status: Data Deficient

Nottinghamshire Status: Rare

Monads: 1

This native hybrid has only ever been recorded once in Nottinghamshire at Toton Sidings; elsewhere Sell & Murrell (2009) state that the hybrid has been recorded elsewhere in Norfolk and Cambridgeshire. In 2001 D.C. Wood recorded several plants on

railway ballast that were present where the parents were growing together.

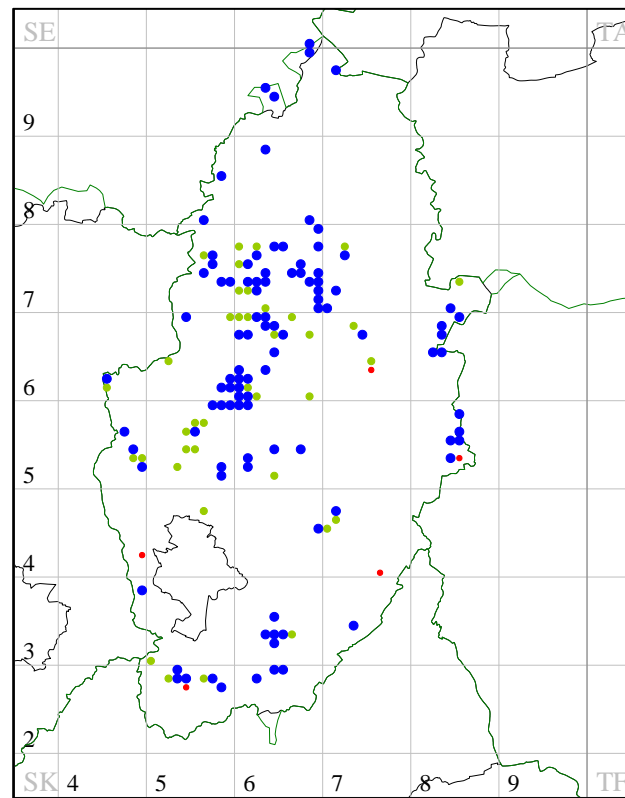
Location	GR	Date	Recorder
Toton Sidings	SK488352	2001	DCW

Veronica officinalis L. Heath Speedwell

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Scarce

Monads: 101 (since 2000)



This taxon was formerly common on light soils throughout the county, usually associated with heathland, open woodland and unimproved pasture. Nowadays, it also occurs on free-draining post-industrial and mineral extraction sites. Between 2000 and 2019 the species was recorded in 101 monads and the overall distribution is not dissimilar to that described in Howitt & Howitt, 1963. However, losses have occurred and searches of 53 monads failed to re-find the taxon since 2000, suggesting that localised extinction is occurring because of factors such as habitat loss and lack of management.

Veronica scutellata L. Marsh Speedwell

National Status: Least Concern (GB), Near Threatened (Eng.)

Nottinghamshire Status: Scarce

Monads: 5 (since 2000)

Marsh speedwell *Veronica scutellata* has never been common, but was historically recorded throughout the VC in bogs and marshes. Comparison of pre- and post-1970 records indicates that the only populations that have persisted are those at Misson. All other extant populations were not recorded before 1970. Whilst this is not surprising for gravel pit and reservoir populations at Daneshill, Girton and Greasley respectively, other populations occur in long standing semi-natural habitats at sites such as Selston, Rempstone and Underwood and these may have been overlooked before 1970. One other population recorded at Gamston Brickyards (SK696771) in 1972 has not been seen in recent years and is therefore, likely to be extinct.

Location	GR	Date	Recorder
Misson Drain	SK677944	1972	JH
Daneshill Gravel Pits	SK667863	1975	JH
Girton Gravel Pits	SK86C	1986	LNU
Moorgreen Reservoir	SK481491	1995	DCW
Daneshill Gravel Pits	SK666859	1997	DCW
Daneshill Gravel Pits	SK669862	1997	DCW
Selston Common	SK474527	1998	DCW
Friezeland	SK476505	2004	DCW
Friezeland	SK475506	2004	DCW
Rempstone Old Churchyard	SK568250	2010	DCW
Misson Carr Drain	SK713973	2010	DCW, RAJ
Misson Carr Drain	SK717974	2010	DCW, RAJ
Misson Carr Drain	SK715973	2010	DCW, RAJ
Misson Carr Drain	SK715976	2012	DCW, JC
Misson Carr Drain	SK711973	2012	DCW, JC
Misson Carr Drain	SK710974	2018	MW, DCW, KW
Misson Carr Drain	SK713973	2018	MW, DCW, KW
Misson Carr Drain	SK715974	2018	MW, DCW, KW
Retford Grassland	SK717816	2012	JC, DCW
Clumber Park	SK632736	2014	DCW

Veronica triphyllos L.

Fingered Speedwell

National Status: Endangered (GB), Critically Endangered (Eng.), Nationally Rare

Nottinghamshire Status: Extinct

Howitt & Howitt (1963) includes an extract from J. W. Carr. Transactions of Nottinghamshire Naturalists, 1904, which states: "There is one specimen of this species in the Herbarium at Nottingham Natural History Museum gathered at Barrow Hills, Everton. No date or collectors name are given, but the specimen is probably fifty or sixty years old." Searches during the 20th and 21st Centuries have not re-located the species at Barrow Hills. As a neophyte, the species has escaped from cultivation at the University of Nottingham Jubilee Campus.

Location	GR	Date	Recorder
Barrow Hills	SK69	1820	Anon. (<i>pers. comm.</i> JWC)
University of Nottingham, Jubilee Campus	SK5439	2011	DKe

Vicia bythnica (L.) L.

Bythnian Vetch

National Status: Vulnerable (GB), Least Concern (Eng.), Nationally Scarce

Nottinghamshire Status: Extinct

During 1952 R. C. L. Howitt recorded Bythnian vetch *Vicia bythnica* at Hare Hills among scrub. This was the only record for the VC and it was last recorded in 1968.

Location	GR	Date	Recorder
Hare Hills	SK7062	1968	RCLH

Viola canina subsp. *canina* L.

Heath Dog-violet

National Status: Near Threatened (GB), Vulnerable (Eng.)

Nottinghamshire Status: Uncommon

Monads: 9 (since 2000)

Declines in the VC appear to reflect the national declines, brought about by habitat loss, drainage, agricultural improvement and under-grazing. Howitt & Howitt (1963) described the species as being a locally frequent native of heathlands and sandy woods. It was formally common on Sherwood heaths and sandy soils of the River Idle valley, but was also found on the blown sands to the east

of the River Trent and elsewhere, wherever sandy soils were present. Since 1970 the species has become generally uncommon, being recorded in 24 monads, but it still occupies the same soils and habitat types. Since 2015, populations outside of modern Nottinghamshire at Bawtry and Finningley have been found along with a new population at Besthorpe and a re-find at Misson.

Location	GR	Date	Recorder
Apleyhead Verges, Clumber Park	SK643773	2014	RAJ
Apleyhead Verges, Clumber Park	SK644774	2001	DCW, MW
Bawtry Forest	SK63899480	2019	LHi
Besthorpe Warren	SK82956543	2017	DaS
Bevercotes	SK6873	2004	MW
Birklands	SK627682	2001	DCW, MW
Budby South Forest	SK625691	2001	MW
Carburton Plantation	SK613717	1994	DCW, MW
Clipstone Forest	SK623605	2008	DCW, MW
Clumber Park	SK618749	2019	GH
Duncanwood Plantation	SK620720	1994	DCW, MW
Finningley Gravel Pit	SK686995	2019	LHi
Finningley Gravel Pit	SK68719973	2019	LHi
Misson Carr	SK711971	2012	DCW, MW
Misson Carr	SK712971	2018	DCW, MW
Newark Golf Course	SK850532	2007	DCW, MW
Newark Golf Course	SK853540	1975	RCLH
Normanton Inn, Clumber Park	SK646744	1980	JH
Ollerton Assarts	SK626688	2015	RAJ, JC
Ollerton Assarts	SK627687	2001	DCW, MW
Ollerton Assarts	SK628689	2001	RAJ
Rainworth Heath	SK592590	1991	DCW, MW
Sadler's Breck	SK609716	1994	DCW, MW
Sherwood Forest Golf Course	SK589616	2003	DCW, MW
Spiffire Hill	SK670749	1992	DCW, MW
Stapleford	SK8555	1975	RCLH, BMH
Swinecotte Dale	SK546543	1996	DCW, MW
Swinecotte Dale	SK547543	1994	DCW
Walesby Forest	SK665714	2003	DCW
Wigsley Wood	SK847707	2011	DCW, MW

Viola canina subsp. *montana* (L.) Fries.

Heath Dog-violet

National Status: Endangered (GB and Eng.)

Nottinghamshire Status: Extinct

R.C.L. Howitt last recorded the subspecies *montana* before 1963 in peaty meadows at two locations in the VC. Prof. D. H. Valentine confirmed both records. The species has not been seen since 1970 at either location or anywhere else in the VC, probably because of drainage or the direct destruction of fens.

Location	GR	Date	Recorder
Gonalston	SK64	<1963	RCLH
Clifton	SK53	<1963	RCLH

Viola palustris L.

Marsh Violet

National Status: Least Concern (GB and Eng.)

Nottinghamshire Status: Rare

Monads: 2 (since 2000)

Preston *et al* (2002) states that marsh violet *Viola palustris* is now absent from large areas of the Midlands. Howitt & Howitt (1963) stated that the species occurred in bogs and boggy woodlands and was "less frequent than formerly." Historically the species was recorded throughout the VC, but was only considered to be frequent in the Sherwood area. Since 1970 the species has persisted at only three sites in the Sherwood area. Other populations at Rainworth Lakes (SK583579), Newstead Reedwater Pond (SK539542),

Newstead Dumbles (SK532537) Spalford (SK8369) and Ling's Wood Scaftworth (SK668908) are probably no longer extant, because of habitat change or loss. Since 2015 the species has been recorded again at Fountain Dale (in bold).

Location	GR	Date	Recorder
Fountain Dale	SK573573	1972	JH
Hollinwell Golf Course	SK526544	1972	Woll.
Foulevil Brook	SK577583	1991	DCW, Woll.
Foulevil Brook	SK580583	1991	DCW, Woll.
Fountain Dale	SK568569	2001	DCW
Fountain Dale	SK56835692	2017	DCW
Hollinwell Golf Course	SK526545	2009	DCW

Viola lutea Huds.

Mountain Pansy

National Status: Least Concern (GB) and Near Threatened (Eng.)
Nottinghamshire Status: Extinct

G. Howitt recorded mountain pansy *Viola lutea* in the early part of the 19th Century at Bramcote in what was described as "upland pastures". This was the only record and it has not been seen since 1839.

Location	GR	Date	Recorder
Bramcote Pasture	SK53	1839	GH

Viola persicifolia Schreb.

Fen Violet

National Status: Endangered (GB), Critically Endangered (Eng.), Schedule 8: Wildlife & Countryside Act 1981, Nationally Rare
Nottinghamshire Status: Extinct

Fen violet *Viola persicifolia* (recorded as *V. stagnina*) was located at three locations in the north of the VC in peaty meadows. The species was found in a dyke at Gringley Carr, in meadows between Misson and Misterton and between Misson and Lewington. Howitt & Howitt (1963) stated that the species was flourishing between Misson and Newington in 1952, but by 1956 was no longer extant, because of ploughing and re-seeding. In 2014 J.O. Mountford of the Centre for Ecology and Hydrology (formally the Institute of Terrestrial Ecology (ITE)) contacted the authors to enquire about former Misson Fenny Fields described by the Howitts in their 1963 flora. J.O. Mountford is currently working with the Fen Violet Recovery Steering Group and wanted to know about recent botanical records.

It was confirmed by M. Woods, what J.O. Mountford suspected that the ditches he had visited in the 1980s had deteriorated further and were now even less suitable and in some cases completely overgrown or lacking any peat.

J. O. Mountford kindly provided M. Woods with a summary of research regarding the historical records and current status. Reproduced below is an extract from his Nottinghamshire research. "In 1982, Margaret Miller found one flowering plant of *Viola persicifolia* on the north bank of the drain separating the Misson Line Bank from the arable land which had once been "Fenny Fields" (43/705957). A colour slide taken by Dr L. Storer was confirmed as Fen Violet by Dr S.M. Walters. It was growing in a more open area with *Galium palustre* and *Ranunculus repens*, among *Epilobium hirsutum* with some *Sium latifolium* and *Oenanthe fistulosa*. Mrs Miller revisited the site in 1983 with Mrs G. Crompton, Ms L. Farrell and Dr Storer.

Despite a careful search of the area, the violet was not re-found and Ms Farrell believed that the banks were too overgrown and the water level too high, rendering the site unsuitable for *V. persicifolia*. However, she felt that were the banks to be cleared and the ground somewhat disturbed, there was some possibility that the violet might return. The 1983 visit recorded the following species as present where the violet had occurred in the previous year: *Achillea*

ptarmica, *Carex rostrata*, *Equisetum fluviatile*, *Myosotis scorpioides* and *Stellaria palustris*.

In 1983, the ITE made a detailed survey of the fields and drainage channels around the villages of Misson, Misterton and Gringley (Mountford & Sheail, 1985). In consultation with R.C.L. Howitt, they made a thorough search of those areas where *Viola persicifolia* (and other fen specialities e.g. *Lathyrus palustris*) had been recorded during the 1950s (Howitt, *pers.comm.* to J.O. Mountford, 1983). All the fields concerned were under intense arable cultivation. The drainage ditches appeared unlikely to be able to act as refugia: some had been eliminated; others were derelict and overgrown with coarse grassland and bramble, whilst those which retained a drainage function were very frequently scoured by an excavator to produce an open vegetation, with bare sand and ruderals. Their assessment of the Miller site agreed with that of Farrell." Mountford (undated).

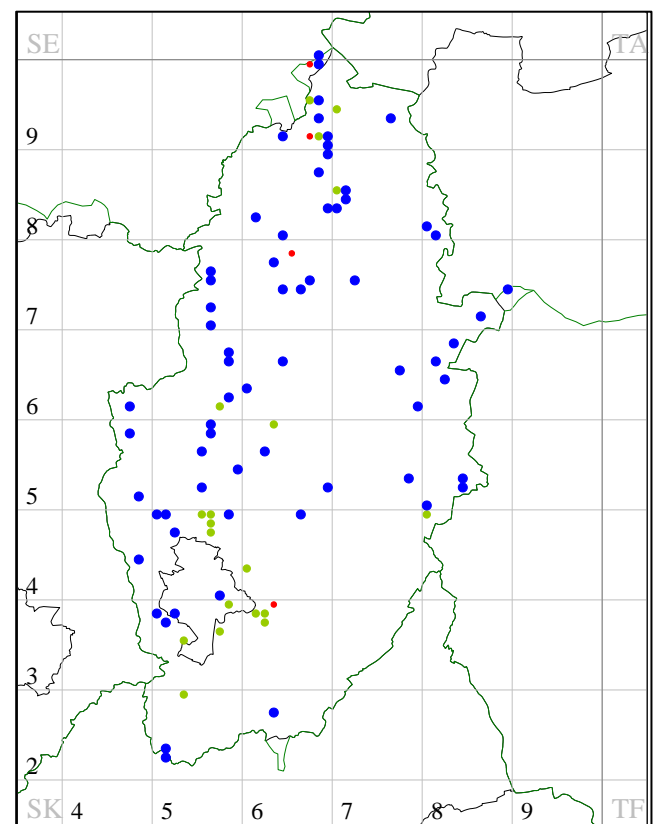
Subsequent searches in the 1990s by the ITE proved fruitless and it is probably now extinct. Additional correspondence during 2014 regarding possible sites for re-introduction such as Misson Carr and Misson Line Bank (if properly managed) were followed up by a field visit in 2018 to both sites. Misson Carr was considered to be unsuitable for reintroduction, but Misson Line Bank still had potential, if significant management work was carried out.

Location	GR	Date	Recorder
Between Misson and Newington	SK69	1952	RCLH
Misson Drain	SK705957	1982	MM

Viola tricolor subsp. *tricolor* L.

Heartsease

National Status: Near Threatened (GB and Eng.)
Nottinghamshire Status: Uncommon
Monads: 57 (since 2000)



Howitt & Howitt (1963) described heartsease *Viola tricolor* subsp. *tricolor* as a common and widespread native in arable fields. The decline in the VC since 1963 reflects the national declines described by Preston *et al.* (2002) and has presumably been caused by habitat loss and agricultural improvement. Many of the modern records are

associated with sand pits, conifer forest tracks and sandy verges that to some extent have provided replacement habitat for the huge losses of sandy grasslands and heathlands, which have occurred in the VC. The distribution map also includes records of garden escapes, which are more common in urban areas.

Viola x bavarica Schrank *V. riviniana x reichenbachiana*

National Status: Scattered
Nottinghamshire Status: Rare
Monads: 3

Stace (2010) describes this hybrid as “only sparsely scattered throughout the range of early dog violet *Viola reichenbachiana* despite the frequent co-habitation of the parents.” This observation goes some way to explaining why the hybrid, despite searches of sites where both parents occur has only been recorded three times in the VC.

Location	GR	Date	Recorder
Wilwell Cutting	SK567349	2012	DCW
Coach Road, Market Warsop	SK573666	2017	MW
Clarlborough Tunnel	SK750826	2020	MW

Viola x intersita Beck *V. riviniana x canina*

National Status: Data Deficient
Nottinghamshire Status: Rare
Monads: 1

Howitt & Howitt (1963) listed one record for this sterile hybrid at Lound in the north of the VC, but details of the recorder and the date were not provided. In modern times, the hybrid has been recorded once on the north side of the Apleyhead road verges at Clumber Park from SK644773 to SK642773. The hybrid was first seen in 2004 with both parents and was frequent in 2009 and when last recorded in 2014.

Location	GR	Date	Recorder
Apleyhead Verges, Clumber Park	SK643773	2014	RAJ, JC

Viola x scabra F. Braun *V. odorata x hirta*

National Status: Data Deficient
Nottinghamshire Status: Scarce
Monads: 7

Howitt & Howitt (1963) described two records for the partially fertile *Viola x scabra*, which is found throughout England whenever the parents occur together, Stace (2010). J.W. Carr recorded the hybrid some time before 1909 at Widmerpool in the south of the VC and at Clipstone near Mansfield. Since 1970, the hybrid has been recorded at four localities on Keuper Marl at East Markham, on Magnesian Limestone at Rhodesia and on Lias Clays at Owthorpe and Orston. Since 2015 three further populations (in bold) have been found in scattered locations across the county.

Location	GR	Date	Recorder
Cliff Gate, East Markham	SK724737	1999	DCW
Lady Lee Quarry	SK563794	2007	DCW
Herrywell Lane, Owthorpe	SK665329	2010	DCW
Kirkby-in-Ashfield Hills and Holes	SK499553	2013	DCW
Orston Plaster Pits	SK762401	2015	RAJ
Hose Lane, Colston Bassett	SK71353173	2016	DCW
Saxondale Dismantled Railway	SK688401	2019	RAJ
Warsop Hills and Holes	SK55836810	2017	NBGR

X Dactyloдения heinzelliana
(Reichardt) Garay & H.R. Sweet

Gymnadenia conopsea x Dactylorhiza fuchsii

National Status: Scattered
Nottinghamshire Status: Rare
Monads: 1

Nationally this hybrid has been recorded in scattered localities throughout most of Britain. There are no known pre-1970 records. This single record originates from Magnesian Limestone grassland in a Nottinghamshire Wildlife Trust Nature Reserve. The single plant was recorded in close proximity to both parents. There have been no further sightings since 2008.

Location	GR	Date	Recorder
Kirkby Bentick	SK49475510	2008	RAJ

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Appendix I: Status of Taxa Checklist

The status of the taxa in this register is summarised in the table below. Table Ia below provides the conservation codes that are used in taxa checklist (Table Ib). A further four criteria have been added to the table below owing to the publication of the vascular plant red data list for England, Stroh *et al* (2014).

Table Ia: Conservation Codes used in Checklist

Status Code	Explanation
1	Nationally Extinct
2	County Extinct
2a	County Extinct (as a native)
3	County Extinct (unconfirmed)
4	IUCN Critically Endangered (GB)
5	IUCN Endangered (GB)
6	IUCN Vulnerable (GB)
7	IUCN Near Threatened (GB)
8	Nationally Rare (<15km squares)
9	Nationally Scarce (16 - 100km squares)
10	County Rare (1 - 3 monads)
11	County Scarce (4 - 10 monads)
12	Section 41 Species of Principal Importance
13	Nottinghamshire LBAP Species
14	Declining in the County (10 - 30 monads)
15	Restricted in the County (10 - 30 monads)
16	Schedule 8 Wildlife & Countryside Act, 1981
17	IUCN Critically Endangered (England)
18	IUCN Endangered (England)
19	IUCN Vulnerable (England)
20	IUCN Near Threatened (England)

Table Ib: Checklist of Conservation Status of Taxa

Scientific (Kent/Stage)	Common	Codes					
		9	10	8	10	17	
<i>Adiantum capillus-veneris</i>	Maidenhair Fern	9	10				
<i>Adonis annua</i>	Pheasant's Eye	5	8	10	17		
<i>Agrostemma githago</i>	Corncockle	1	2a	8			
<i>Agrostis x fouilladeana</i>	<i>Agrostis capillaris x castellana</i>	10					
<i>Agrostis x murbeckii</i>	<i>Agrostis capillaris x stolonifera</i>	11					
<i>Alchemilla xanthochlora</i>	Pale Lady's-mantle	10					
<i>Alisma x rhinocarpum</i>	<i>Alisma lanceolatum x plantago-aquatica</i>	10					
<i>Allium oleraceum</i>	Field Garlic	6	9				
<i>Allium schoenoprasum</i>	Chives	1					
<i>Allium scorodoprasum</i>	Sand Leek	9	11				
<i>Alnus cordata x incana</i>	Hybrid Alder	8	11				
<i>Alnus x elliptica</i>	Hybrid Alder	8	11				
<i>Alopecurus aequalis</i>	Orange Foxtail	9	11				
<i>Alopecurus x brachystylus</i>	<i>Alopecurus pratensis x geniculatus</i>	2					
<i>Anacamptis morio</i>	Green-winged Orchid	7	9	19			
<i>Anagallis arvensis forma azurea</i>	Scarlet Pimpernel	10					
<i>Anagallis arvensis forma carnea</i>	Scarlet Pimpernel	10					
<i>Anagallis arvensis subsp. foemina</i>	Blue Pimpernel	2					
<i>Anagallis tenella</i>	Bog Pimpernel	11					
<i>Antennaria dioica</i>	Mountain Everlasting	2	19				
<i>Anthemis arvensis</i>	Corn Chamomile	5	10	18			
<i>Anthemis cotula</i>	Stinking Chamomile	6	19				
<i>Apera spica-venti</i>	Loose Silky-bent	7	9				

Scientific (Kent/Stage)	Common	Codes				
<i>Apium graveolens</i>	Wild Celery	11				
<i>Apium inundatum</i>	Lesser Marshwort	11	19			
<i>Aquilegia vulgaris</i>	Columbine	11				
<i>Arabis hirsuta</i>	Hairy Rock-cress	11	20			
<i>Arctium x nothum</i>	<i>Arctium lappa x minus</i>	10				
<i>Armeria maritima</i>	Thrift	10				
<i>Arnoseria minima</i>	Lamb's Succory	1	2			
<i>Artemisia maritima</i>	Sea Wormwood	10	20			
<i>Asplenium ceterach</i>	Rustyback	15				
<i>Asplenium trichomanes subsp. quadrivalens</i>	Maidenhair Spleenwort	10				
<i>Avena x hybrida</i>	Hybrid Oat	2	10			
<i>Baldellia ranunculoides</i>	Lesser Water-plantain	7	11	19		
<i>Beta vulgaris subsp. maritima</i>	Sea Beet	2				
<i>Betula x aurata</i>	<i>Betula pendula x pubescens</i>	11				
<i>Blitum bonus-henricus</i>	Good King Henry	6	14	19		
<i>Blysmus compressus</i>	Flat-sedge	2	6	12	19	
<i>Botrychium lunaria</i>	Moonwort	2	19			
<i>Brachypodium x cugnacii</i>	<i>Brachypodium pinnatum x sylvaticum</i>	10				
<i>Brassica nigra</i>	Black Mustard	10				
<i>Briza media</i>	Quaking Grass	20				
<i>Briza minor</i>	Lesser Quaking Grass	2				
<i>Bromus secalinus</i>	Rye Brome	6	20			
<i>Bupleurum rotundifolium</i>	Thorow-wax	4	8	10		
<i>Callitriche brutia subsp. brutia</i>	Pedunculate Water-starwort	11				
<i>Callitriche truncata</i>	Short-leaved Water-starwort	9				
<i>Calluna vulgaris</i>	Heather	20				
<i>Calystegia sepium subsp. roseata</i>	Hedge Bindweed	10				
<i>Campanula glomerata</i>	Clustered Bellflower	11				
<i>Campanula patula</i>	Spreading Bellflower	2a	5	9	17	
<i>Campanula rapunculus</i>	Rampion	2a	5	8	18	
<i>Campanula trachelium</i>	Nettle-leaved Bellflower	11				
<i>Campanula rotundifolia</i>	Harebell	20				
<i>Cardamine impatiens</i>	Narrow-leaved Bitter-cress	2	7	9		
<i>Carduus tenuiflorus</i>	Slender Thistle	11				
<i>Carex canescens</i>	White Sedge	10				
<i>Carex diandra</i>	Lesser Tussock-sedge	2	7	19		
<i>Carex digitata</i>	Fingered Sedge	2	9			
<i>Carex dioica</i>	Dioecious Sedge	10				
<i>Carex distans</i>	Distant Sedge	11				
<i>Carex echinata</i>	Star Sedge	10	20			
<i>Carex elata</i>	Tufted Sedge	9	11	20		
<i>Carex ericetorum</i>	Rare Spring-sedge	2a	6	9	19	
<i>Carex hostiana</i>	Tawny Sedge	10				
<i>Carex pulicaris</i>	Flea Sedge	11	20			
<i>Carex vesicaria</i>	Bladder-sedge	11	19			
<i>Carex vulpina</i>	True Fox-sedge	2	6	19		
<i>Carlina vulgaris</i>	Carlina Thistle	20				
<i>Carum carvi</i>	Caraway	10	17			
<i>Catabrosa aquatica</i>	Whorl Grass	14	19			
<i>Centaurea calcitrapa</i>	Red-star Thistle	2	5	8	18	
<i>Centaurea cyanus</i>	Cornflower	9	10	12		
<i>Centaurea debeauxii</i>	Lesser knapweed	10				
<i>Centaurea nigra x debeauxii</i>	Hybrid knapweed	3				
<i>Centaureum pulchellum</i>	Lesser Centaury	11				

Scientific (Kent/Stage)	Common	Codes					
<i>Cephalanthera damasonium</i>	White Helleborine	2	6	19			
<i>Cephalanthera longifolia</i>	Narrow-leaved Helleborine	2	6	9	18		
<i>Cerastium arvense</i>	Field Mouse-ear	20					
<i>Cerastium x maureri</i>	<i>Cerastium arvense x tomentosum</i>	10					
<i>Chamaemelum nobile</i>	Chamomile	6	9	19			
<i>Chenopodiastrum hybridum</i>	Sowbane	11					
<i>Chenopodiastrum murale</i>	Nettle-leaved Goosefoot	6	10	18			
<i>Chenopodium vulvaria</i>	Stinking Goosefoot	2	5	8			
<i>Cichorium intybus</i>	Chicory	19					
<i>Cicuta virosa</i>	Cowbane	2	5	9			
<i>Circaea x intermedia</i>	Hybrid Enchanter's Nightshade	10					
<i>Cirsium acaule</i>	Dwarf Thistle	11					
<i>Cirsium dissectum</i>	Meadow Thistle	3					
<i>Cirsium x celakovskianum</i>	<i>Cirsium arvense x palustre</i>	10					
<i>Cirsium x grandiflorum</i>	<i>Cirsium eriophorum x vulgare</i>	10					
<i>Cladium mariscus</i>	Great Fen-sedge	10					
<i>Clinopodium acinos</i>	Basil Thyme	6	11	12			
<i>Clinopodium ascendens</i>	Common Calamint	11					
<i>Clinopodium calamintha</i>	Lesser Calamint	2	6	9			
<i>Coeloglossum viride</i>	Frog orchid	6	9	20			
<i>Colchicum autumnale</i>	Meadow Saffron	2a	7	10			
<i>Comarum palustris</i>	Marsh Cinquefoil	10	20				
<i>Convallaria majalis</i>	Lily-of-the-valley	11					
<i>Crassula tillaea</i>	Mossy Stonecrop	9	10				
<i>Crepis paludosa</i>	Marsh Hawk's-beard	10					
<i>Crocus neapolitanus</i>	Spring Crocus	11	13				
<i>Crocus nudiflorus</i>	Autumn Crocus	11	13				
<i>Cuscuta epithymum</i>	Dodder	6	10	19			
<i>Cuscuta europaea</i>	Greater Dodder	2	9				
<i>Cynoglossum officinale</i>	Hound's-tongue	7	14	20			
<i>Cystopteris fragilis</i>	Brittle Bladder-fern	11					
<i>Dactylorhiza incarnata</i> subsp. <i>incarnata</i>	Early Marsh-orchid	11					
<i>Dactylorhiza incarnata</i> subsp. <i>pulchellum</i>	Early Marsh-orchid	10					
<i>Dactylorhiza maculata</i> subsp. <i>ericetorum</i>	Heath Spotted-orchid	10					
<i>Dactylorhiza x insignis</i>	Hybrid Marsh-orchid	10					
<i>Daphne mezereum</i>	Mezereum	6	9	10	19		
<i>Dianthus armeria</i>	Deptford Pink	5	9	10	13	16	18
<i>Dianthus deltoides</i>	Maiden Pink	2a	7	9	11	19	
<i>Drabella muralis</i>	Wall whitlowgrass	2					
<i>Drosera rotundifolia</i>	Round-leaved Sundew	2	20				
<i>Dryopteris cristata</i>	Crested Buckler-fern	2	4	8			
<i>Dryopteris x complexa</i>	<i>Dryopteris filix-mas x affinis</i>	10					
<i>Dryopteris x deweveri</i>	<i>Dryopteris carthusiana x dilatata</i>	11					
<i>Dryopteris x uliginosa</i>	<i>Dryopteris cristata x carthusiana</i>	2					
<i>Eleocharis acicularis</i>	Needle Spike-rush	9	10	20			
<i>Eleocharis multicaulis</i>	Many-stemmed Spike-rush	2					
<i>Eleocharis palustris</i> subsp. <i>palustris</i>	Common Spike-rush	2					
<i>Eleocharis quinqueflora</i>	Few-flowered Spike-rush	10					
<i>Eleogiton fluitans</i>	Floating Club-rush	10					
<i>Elymus athericus</i>	Sea Couch	2					
<i>Empetrum nigrum</i>	Crowberry	2					
<i>Epilobium lanceolatum</i>	Spear-leaved Willowherb	11					
<i>Epilobium x brevipilum</i>	<i>Epilobium hirsutum x tetragonum</i>	11					
<i>Epilobium x dacicum</i>	<i>Epilobium parviflorum x obscurum</i>	10					

Scientific (Kent/Stage)	Common	Codes				
<i>Epilobium x erroneum</i>	<i>Epilobium hirsutum x montanum</i>	11				
<i>Epilobium x fossicola</i>	<i>Epilobium ciliatum x palustre</i>	10				
<i>Epilobium x haussknechtianum</i>	<i>Epilobium montanum x tetragonum</i>	10				
<i>Epilobium x mentiens</i>	<i>Epilobium tetragonum x ciliatum</i>	11				
<i>Epilobium x novae-civitatis</i>	<i>Epilobium ciliatum x hirsutum</i>	10				
<i>Epilobium x semiobscurum</i>	<i>Epilobium tetragonum x obscurum</i>	10				
<i>Epilobium x subhirsutum</i>	<i>Epilobium parviflorum x hirsutum</i>	11				
<i>Epilobium x vicinum</i>	<i>Epilobium obscurum x ciliatum</i>	11				
<i>Epipactis palustris</i>	Marsh Helleborine	3	20			
<i>Epipactis phyllanthes</i>	Green-flowered Helleborine	9	10			
<i>Equisetum hyemale</i>	Dutch Rush	2				
<i>Equisetum variegatum</i>	Variegated Horsetail	2	9			
<i>Equisetum x litorale</i>	Shore Horsetail	10				
<i>Erica cinerea</i>	Bell Heather	20				
<i>Erica tetralix</i>	Cross-leaved Heath	11	20			
<i>Erigeron x huelsenii</i>	<i>Erigeron acris x canadensis</i>	10				
<i>Eriophorum angustifolium</i>	Common Cottongrass	15	19			
<i>Eriophorum latifolium</i>	Broad-leaved Cottongrass	2				
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	3				
<i>Erodium maritimum</i>	Sea Stork's-bill	9	10			
<i>Erodium moschatum</i>	Musk Stork's-bill	11				
<i>Erophila majuscula</i>	Hairy Whitlow-grass	10				
<i>Erysimum cheiri</i>	Wallflower	11				
<i>Euphorbia amygdaloides</i> subsp. <i>amygdaloides</i>	Wood spurge	2				
<i>Euphorbia exigua</i>	Dwarf Spurge	7	19			
<i>Euphorbia platyphyllos</i>	Broad-leaved Spurge	9	10			
<i>Euphrasia officinalis</i> subsp. <i>anglica</i>	an eyebright	5	11	12		
<i>Euphrasia pseudokernerii</i>	Chalk Eyebright	5	9	10	12	19
<i>Euphrasia stricta</i> (= <i>brevipila</i>)	an eyebright	2	5			
<i>Festuca longifolia</i>	Blue Fescue	8	10			
<i>Filago germanica</i>	Common Cudweed	7	20			
<i>Fragaria vesca</i>	Wild Strawberry	20				
<i>Fumaria capreolata</i>	White Ramping-fumitory	10				
<i>Gagea lutea</i>	Yellow Star-of-Bethlehem	9	11			
<i>Galeopsis angustifolia</i>	Red Hemp-nettle	3	4	9	10	
<i>Galeopsis segetum</i>	Downy Hemp-nettle	1	2	9		
<i>Galeopsis speciosa</i>	Large-flowered Hemp-nettle	6	19			
<i>Galium constrictum</i>	Slender Marsh-bedstraw	2	8			
<i>Galium parisiense</i>	Wall Bedstraw	3	6	9	10	19
<i>Galium tricorutum</i>	Corn Cleavers	2	4	8	17	
<i>Galium uliginosum</i>	Fen Bedstraw	11				
<i>Genista anglica</i>	Petty Whin	7	11	19		
<i>Genista tinctoria</i> subsp. <i>tinctoria</i>	Dyer's Greenweed	20				
<i>Gentiana pneumonanthe</i>	Marsh Gentian	2	9	20		
<i>Gentianella amarella</i>	Autumn Gentian	11	20			
<i>Gentianella baltica</i> (= <i>campestris</i>)	Field Gentian	2	6	18		
<i>Gentianella campestris</i> agg.	Field Gentian	2	6	18		
<i>Geranium columbinum</i>	Long-stalked Crane's-bill	11				
<i>Geranium purpureum</i>	Little-Robin	9	10			
<i>Geranium sanguineum</i>	Bloody Crane's-bill	2a	20			
<i>Glebionis segetum</i>	Corn Marigold	6	19			
<i>Glyceria x pedicillata</i>	Hybrid Sweet-grass	11				
<i>Gnaphalium sylvaticum</i>	Heath Cudweed	5	9	18		
<i>Groenlandia densa</i>	Opposite-leaved Pondweed	6	19			

Scientific (Kent/Stage)	Common	Codes					
<i>Gymnadenia conopsea</i> sensu lato	A Fragrant Orchid	10					
<i>Gymnadenia densiflora</i>	Marsh fragrant orchid	11					
<i>Gymnocarpium robertianum</i>	Limestone Fern	9	11				
<i>Helianthemum nummularium</i>	Common Rock-rose	11					
<i>Helleborus viridis</i>	Green Hellebore	10					
<i>Heracleum sphondylium</i> x <i>mantegazzianum</i>	Hybrid Hogweed	10					
<i>Herniaria glabra</i>	Smooth Rupture-wort	2a	8	10			
<i>Hippocrepis comosa</i>	Horseshoe Vetch	2					
<i>Hordelymus europaeus</i>	Wood Barley	9	11				
<i>Hottonia palustris</i>	Water Violet	14	19				
<i>Huperzia selago</i>	Fir Clubmoss	2					
<i>Hydrocharis morsus-ranae</i>	Frogbit	6	9	10	19		
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort	20					
<i>Hyoscyamus niger</i>	Henbane	6	9	15	19		
<i>Hypericum androsaemum</i>	Tutsan	2a					
<i>Hypericum montanum</i>	Pale St. John's-wort	7	9	10			
<i>Hypochaeris glabra</i>	Smooth Cat's-ear	6	15	19			
<i>Hypochaeris x intermedia</i>	Hybrid Cat's-ear	10					
<i>Hypopitys monotropa</i>	Yellow Bird's-nest	5	10	12	18		
<i>Iberis amara</i>	Wild Candytuft	2a	6	19			
<i>Illecebrum verticillatum</i>	Coral-necklace	2	6	9	18		
<i>Inula helenium</i>	Elencampane	15	20				
<i>Jacobaea x ostenfeldii</i>	<i>J. vulgaris</i> x <i>aquaticus</i>	10					
<i>Jasione montana</i>	Sheep's-bit	11	19				
<i>Juncus compressus</i>	Round-fruited Rush	7	19				
<i>Juncus x diffusus</i>	<i>Juncus inflexus</i> x <i>effusus</i>	10					
<i>Juniperus communis</i>	Juniper	2	20				
<i>Knautia arvensis</i>	Field Scabious	20					
<i>Lathyrus aphaca</i>	Yellow Vetchling	6	9	10	19		
<i>Lathyrus linifolius</i>	Bitter Vetch	20					
<i>Lathyrus palustris</i>	Marsh Pea	2	7	9	10	20	
<i>Legousia hybrida</i>	Venus's-looking-glass	10					
<i>Lepidium campestre</i>	Field Pepperwort	20					
<i>Lepidium latifolium</i>	Dittander	9	15				
<i>Limosella aquatica</i>	Mudwort	9	15				
<i>Linaria vulgaris</i> x <i>purpurea</i>	Hybrid toadflax	8	10				
<i>Linaria x dominii</i>	<i>Linaria purpurea</i> x <i>repens</i>	10					
<i>Linaria x sepium</i>	<i>Linaria repens</i> x <i>vulgaris</i>	11					
<i>Linum bienne</i>	Pale Flax	11					
<i>Lithospermum arvense</i>	Field Gromwell	5	11	18			
<i>Lithospermum officinale</i>	Common Gromwell	11					
<i>Littorella uniflora</i>	Shoreweed	2					
<i>Logfia minima</i>	Small Cudweed	20					
<i>Luzula sylvatica</i>	Great Wood-rush	11					
<i>Lycopodiella inundata</i>	Marsh Clubmoss	2	9	18			
<i>Lycopodium clavatum</i>	Stag's-horn Clubmoss	11	19				
<i>Lythrum hyssopifolium</i>	Grass Poly	5	8	10	12	16	18
<i>Marrubium vulgare</i>	White Horehound	3	9				
<i>Medicago polymorpha</i>	Toothed Medick	9	11				
<i>Medicago sativa</i> nothosubsp. <i>varia</i>	Sand Lucerne	9	10				
<i>Medicago sativa</i> subsp. <i>falcata</i>	Sickle Medick	9	11				
<i>Melampyrum cristatum</i>	Crested Cow-wheat	2	6	9	18		
<i>Melampyrum pratense</i>	Common Cow-wheat	10	20				
<i>Melica nutans</i>	Mountain Melick	2					

Scientific (Kent/Stage)	Common	Codes				
<i>Mentha arvensis</i>	Corn Mint	20				
<i>Mentha pulegium</i>	Pennyroyal	5	9	12	16	17
<i>Menyanthes trifoliata</i>	Bogbean	10				
<i>Microthlaspi perfoliatum</i>	Perfoliate Penny-cress	2a	6	19		
<i>Minuartia hybrida</i>	Fine-leaved Sandwort	3	5	9	12	18
<i>Misopates orontium</i>	Weasel's-snout	3	6	19		
<i>Moenchia erecta</i>	Upright Chickweed	2	9			
<i>Montia fontana</i>	Blinks	11				
<i>Montia fontana</i> subsp. <i>chondrosperma</i>	Blinks	10				
<i>Myosotis secunda</i>	Creeping Forget-me-not	10				
<i>Myosotis x suzae</i>	<i>Myosotis laxa x scorpioides</i>	10				
<i>Myosurus minimus</i>	Mousetail	6	9	10	19	
<i>Myrica gale</i>	Bog Myrtle	2a	10	20		
<i>Myriophyllum alterniflorum</i>	Alternate Water-milfoil	10				
<i>Myriophyllum verticillatum</i>	Whorled Water-milfoil	6	9	11	20	
<i>Nardus stricta</i>	Mat Grass	20				
<i>Narthecium ossifragum</i>	Bog Asphodel	2				
<i>Nasturtium x sterile</i>	Hybrid Watercress	11				
<i>Neotinea ustulata</i>	Burnt Orchid	2	5	9	18	
<i>Neottia nidus-avis</i>	Bird's-nest Orchid	7	10	19		
<i>Nepeta cataria</i>	Cat-mint	6	11	19		
<i>Nymphaea alba</i>	White Water-lily	10				
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort	6	12	19		
<i>Oenanthe fluviatilis</i>	River Water-dropwort	2				
<i>Oenanthe lachenalii</i>	Parsley Water-dropwort	11	20			
<i>Oenanthe silaifolia</i>	Narrow-leaved Water-dropwort	3	7	9		
<i>Ononis spinosa</i>	Spiny Restharrow	20				
<i>Ophrys insectifera</i>	Fly Orchid	6	10	12	19	
<i>Oreopteris limbosperma</i>	Lemon-scented Fern	11				
<i>Ornithogalum pyrenaicum</i>	Spiked Star-of-Bethlehem	9	10			
<i>Orobanche hederæ</i>	Ivy Broomrape	10				
<i>Orobanche rapum-genistæ</i>	Great Broomrape	2	7	9	19	
<i>Osmunda regalis</i>	Royal Fern	2a	10			
<i>Oxalis acetosella</i>	Wood Sorrel	20				
<i>Oxybasis glauca</i>	Oak-leaved Goosefoot	6	14	19		
<i>Oxybasis urbica</i>	Upright Goosefoot	4	10			
<i>Parnassia palustris</i>	Grass of Parnassus	2	19			
<i>Pedicularis palustris</i>	Red Rattle	2	19			
<i>Pedicularis sylvatica</i>	Lousewort	3	10	19		
<i>Persicaria minor</i>	Small Water-pepper	6	9	15		
<i>Persicaria mitis</i>	Tasteless Water-pepper	6	9	19		
<i>Petroselinum segetum</i>	Corn Parsley	10				
<i>Pinguicula vulgaris</i>	Common Butterwort	3	10	19		
<i>Plantago media</i>	Hoary Plantain	20				
<i>Platanthera bifolia</i>	Lesser Butterfly-orchid	2	6			
<i>Platanthera chlorantha</i>	Greater Butterfly-orchid	7	11			
<i>Polygala serpyllifolia</i>	Heath Milkwort	14	20			
<i>Polygala vulgaris</i> subsp. <i>collina</i>	Common Milkwort	2				
<i>Polygonatum odoratum</i>	Angular Solomon's-seal	2	9			
<i>Polygonum rurivagum</i>	Cornfield Knotgrass	3	9	10		
<i>Polypogon monspeliensis</i>	Annual Beard-grass	9	15			
<i>Polystichum x bicknellii</i>	Hybrid Shield-fern	11				
<i>Potamogeton coloratus</i>	Fen Pondweed	9	11			
<i>Potamogeton compressus</i>	Grass-wrack Pondweed	2	5	9	18	

Scientific (Kent/Stage)	Common	Codes					
<i>Potamogeton friesii</i>	Flat-stalked Pondweed	7	9	11	19		
<i>Potamogeton gramineus</i>	Various-leaved Pondweed	11	20				
<i>Potamogeton lucens</i>	Shining Pondweed	11					
<i>Potamogeton obtusifolius</i>	Blunt-leaved Pondweed	11					
<i>Potamogeton polygonifolius</i>	Bog Pondweed	11					
<i>Potamogeton praelongus</i>	Long-stalked Pondweed	3	7	9	18		
<i>Potamogeton trichoides</i>	Hairlike Pondweed	9	10				
<i>Potamogeton x angustifolius</i>	Long-leaved pondweed	10					
<i>Potamogeton x cooperi</i>	<i>Potamogeton perfoliatus x crispus</i>	2					
<i>Potamogeton x nitens</i>	<i>Potamogeton gramineus x perfoliatus</i>	3	10				
<i>Potamogeton x salicifolius</i>	<i>Potamogeton lucens x perfoliatus</i>	10					
<i>Potamogeton x sparganifolius</i>	<i>Potamogeton natans x gramineus</i>	2					
<i>Potentilla argentea</i>	Hoary Cinquefoil	7	9	20			
<i>Potentilla erecta</i>	Tormentil	20					
<i>Pyrola minor</i>	Common Wintergreen	2	20				
<i>Pyrola rotundifolia</i> subsp. <i>rotundifolia</i>	Round-leaved Wintergreen	7	9	10			
<i>Radiola linoides</i>	All-seed	2	7				
<i>Ranunculus arvensis</i>	Corn Buttercup	4	9	10	12	18	
<i>Ranunculus baudotii</i>	Brackish Water-crowfoot	9	11				
<i>Ranunculus flammula</i>	Lesser Spearwort	19					
<i>Ranunculus hederaceus</i>	Ivy-leaved Crowfoot	11					
<i>Ranunculus lingua</i>	Greater Spearwort	2a					
<i>Ranunculus omiophyllus</i>	Round-leaved Crowfoot	10					
<i>Ranunculus parviflorus</i>	Small-flowered Buttercup	9	15				
<i>Rhinanthus angustifolius</i>	Greater Yellow-rattle	2	8	16			
<i>Rhinanthus minor</i> subsp. <i>stenophyllus</i>	Yellow-rattle	10					
<i>Ribes alpinum</i>	Mountain Currant	9	15				
<i>Roemeria argemone</i>	Prickly Poppy	6	9	18			
<i>Rorippa x armoracioides</i>	Walthamstow Yellow-cress	10					
<i>Rosa caesia</i> s.s.	Northern Dog-rose	11					
<i>Rosa micrantha</i>	Small-flowered Sweet-briar	2					
<i>Rosa mollis</i>	Soft Downy-rose	2					
<i>Rosa stylosa</i>	Short-styled Field-rose	11					
<i>Rosa vosagiaca</i>	Glabrous Dog-rose	11					
<i>Rosa x andegavensis</i>	<i>Rosa stylosa x canina</i>	10					
<i>Rosa x irregularis</i>	<i>Rosa arvensis x canina</i>	10					
<i>Rosa x rothschildsii</i>	<i>Rosa canina x sherardii</i>	10					
<i>Rosa x sabinii</i>	<i>Rosa spinosissima x mollis</i>	2					
<i>Rubus x pseudoidaeus</i>	<i>Rubus caesius x idaeus</i>	11					
<i>Rumex pulcher</i>	Fiddle Dock	2					
<i>Rumex x dufftii</i>	<i>Rumex obtusifolius x sanguineus</i>	2					
<i>Rumex x heteranthos</i>	<i>Rumex crispus x palustris</i>	10					
<i>Rumex x knafii</i>	<i>Rumex conglomeratus x maritimus</i>	10					
<i>Rumex x schulzei</i>	<i>Rumex conglomeratus x crispus</i>	10					
<i>Rumex x steinii</i>	<i>Rumex obtusifolius x palustris</i>	10					
<i>Rumex x wirtgenii</i>	<i>Rumex conglomeratus x palustris</i>	10					
<i>Sagina maritima</i>	Sea Pearlwort	10					
<i>Sagina nodosa</i>	Knotted Pearlwort	11	19				
<i>Salix aurita</i>	Eared Willow	11					
<i>Salix myrsinifolia</i>	Dark-leaved Willow	2	9	10			
<i>Salix repens</i>	Creeping Willow	10	20				
<i>Salix x calodendron</i>	Holme Willow	11					
<i>Salix x forbyana</i>	Fine Osier	11					
<i>Salix x fruticosa</i>	Shrubby Osier	10					

Scientific (Kent/Stage)	Common	Codes				
<i>Salix x leiophylla</i>	<i>Salix triandra x purpurea</i>	2				
<i>Salix x meyeriana</i>	<i>Salix pentandra x fragilis</i>	10				
<i>Salix x rubra</i>	Green-leaved Osier	11				
<i>Salix x stipularis</i>	Eared Osier	2				
<i>Salix x subsericea</i>	<i>Salix cinerea x repens</i>	3	10			
<i>Salvia verbenaca</i>	Wild Clary	11	20			
<i>Sambucus ebulus</i>	Danewort	10				
<i>Sanicula europaea</i>	Wood Sanicle	20				
<i>Scandix pecten-veneris</i>	Shepherd's-needle	4	9	11	12	18
<i>Schoenus nigricans</i>	Black Bog-rush	10				
<i>Scleranthus annuus</i>	Annual Knawel	5	12	18		
<i>Sedum telephium</i>	Orpine	10				
<i>Selinum carvifolia</i>	Cambridge Milk-parsley	2	6	8		
<i>Senecio x baxteri</i>	<i>Senecio squalidus x vulgaris</i>	10				
<i>Senecio x londonensis</i>	<i>Senecio squalidus x viscosus</i>	11				
<i>Silene conica</i>	Striated Catchfly	2	6			
<i>Silene flos-cuculi</i>	Ragged Robin	20				
<i>Silene gallica</i>	Small -flowered Catchfly	9	10	12	18	
<i>Silene noctiflora</i>	Night-flowering Catchfly	6	9	10	19	
<i>Silene nutans</i>	Nottingham Catchfly	2	7	9	20	
<i>Silene uniflora</i>	Sea Champion	10				
<i>Sium latifolium</i>	Greater Water-parsnip	3	9	10	18	
<i>Solidago virgaurea</i>	Goldenrod	11	20			
<i>Sparganium natans</i>	Floating Bur-reed	2				
<i>Spergula arvensis</i>	Corn Spurrey	6	19			
<i>Spiranthes spiralis</i>	Ladies' Tresses	2	7	20		
<i>Stachys arvensis</i>	Field Woundwort	7	14	20		
<i>Stellaria nemorum</i> subsp. <i>nemorum</i>	Wood Stitchwort	10				
<i>Stellaria palustris</i>	Marsh Stitchwort	6	12	19		
<i>Stratiotes aloides</i>	Water Soldier	2a	7	9	15	
<i>Succisa pratensis</i>	Devil's-bit Scabious	20				
<i>Teesdalia nudicaulis</i>	Shepherd's Cress	7	9	15	20	
<i>Thelypteris palustris</i>	Marsh Fern	2	9			
<i>Thymus pulegioides</i>	Large Thyme	10				
<i>Tilia platyphyllos</i>	Large-leaved Lime	9	15			
<i>Torilis arvensis</i>	Spreading Hedge-parsley	5	9	10	12	18
<i>Trichophorum germanicum</i>	Deer-grass	2				
<i>Trifolium fragiferum</i>	Strawberry Clover	19				
<i>Trifolium ochroleucon</i>	Sulphur Clover	2	7	9	19	
<i>Trifolium striatum</i>	Knotted Clover	20				
<i>Triglochin maritima</i>	Sea Arrow-grass	2				
<i>Triglochin palustris</i>	Marsh Arrow-grass	15	20			
<i>Tripolium pannonicum</i>	Sea Aster	10				
<i>Turritis glabra</i>	Tower Mustard	2	5	9	18	
<i>Typha x glauca</i>	<i>Typha angustifolia x latifolia</i>	11				
<i>Umbilicus rupestris</i>	Navelwort	10				
<i>Urtica dioica</i> subsp. <i>galeopsifolia</i>	Fen Nettle'	11				
<i>Utricularia minor</i>	Lesser Bladderwort	2	19			
<i>Utricularia vulgaris</i> sensu lato	Greater Bladderwort	2				
<i>Vaccinium myrtillus</i>	Bilberry	11				
<i>Vaccinium oxycoccus</i>	Cranberry	2				
<i>Vaccinium vitis-idaea</i>	Cowberry	2				
<i>Valeriana dioica</i>	Marsh Valerian	14	20			
<i>Valerianella dentata</i>	Narrow-fruited Cornsalad	5	9	11	18	

Scientific (Kent/Stage)	Common	Codes				
<i>Verbascum lychnitis</i>	White Mullein	9	10			
<i>Verbascum pulverulentum</i>	Hoary Mullein	2	9			
<i>Verbascum x duernsteinense</i>	<i>Verbascum thapsus x speciosum</i>	10				
<i>Veronica officinalis</i>	Heath Speedwell	20				
<i>Veronica scutellata</i>	Marsh Speedwell	15	20			
<i>Veronica triphyllos</i>	Fingered Speedwell	5	8	17		
<i>Vicia bithynica</i>	Bithynian vetch	2	6			
<i>Viola canina</i> subsp. <i>canina</i>	a heath dog-violet	7	14	19		
<i>Viola canina</i> subsp. <i>montana</i>	a heath dog-violet	2	5			
<i>Viola lutea</i>	Mountain Pansy	2	20			
<i>Viola palustris</i>	Marsh Violet	10				
<i>Viola persicifolia</i>	Fen Violet	2	5	8	16	17
<i>Viola tricolor</i> subsp. <i>tricolor</i>	Heartsease	7	20			
<i>Viola x bavarica</i>	<i>Viola riviniana x reichenbachiana</i>	10				
<i>Viola x intersita</i>	<i>Viola riviniana x canina</i>	10				
<i>Viola x scabra</i>	<i>Viola odorata x hirta</i>	11				
X <i>Dactylodenia heinziana</i>	<i>Gymnadenia conopsea x Dactylorhiza fuchsii</i>	10				

Appendix II: Recorders

The list below includes all of those recorders who have contributed records (modern and historic) to this register.

Code	Surveyor	Code	Surveyor	Code	Surveyor
AB	A. Burroughs	Hu	Mr Hurt	NS	N. Sanders
ABL	A.B. Loy	IB	I. Butterfield	NW	N. White
AC	A. Chick	IBu	I. Bussey	NWi	N. Willby
AG	A. Gilbert	IH	I. Hunt	NWT	Nottinghamshire Wildlife Trust
AI	A. Irvine	IW	I. Weston	NYS	N.Y. Sandwith
AJW	A.J. Worland	Jacobs	Jacobs Consulting	PA	P. Acton
ARH	A.R. Horwood	JA	J. Alder	PAC	P.A. Candlish
AS	A. Stuart	JB	Rev. J. Becher	PD	P. Duchemin
BDW	Unknown	JBn	J. Brown	PK	P. Kirby
BF	B. Featherstone	JBr	J. Branscombe	PO	P. Oxley
BES	British Ecological Society	JC	J. Carruthers	POI	P. Olko
BG	B. Gough	JCl	J. Clough	PMc	P. McCormick
BH	B. Konuklugil	JCo	J. Coales	PMW	P.M. Wade
BHe	B. Hedley	JCr	J. Carter	PP	P. Palmer
BMH	B.M. Howitt	JED	J.E. Dandy	PPr	P. Precey
BWB	British Waterways Board	JF	J. Fraser	PR	P. Rice
CBW	C.B. Waite	JH	J. Hodgson	PS	P. Shepherd
CC	C. Cornish	JM	J. Marsh	PSm	P. Smith
CD	C. Deering	JMC	J.M. Croft	RAF	R. Frost
CDB	Unknown	JMHS	J.M.H. Shaw	RAJ	R.A. Johnson
CES	Rev. C.E. Shaw	JMW	J.M. Way	RBa	R. Barker
CGC	C.G. Coppock	JOM	J.O. Mountford	RB	R. Bulley
CIS	C.I. Sandwith	JR	Rev. J. Roffey	RC	R. Cobb
CJ	C. Joyce	JS	J. Szczur	RCLH	R.C.L. Howitt
CK	C. Kennedy	JSh	J. Shanklin	RDM	R.D. Meikle
CL	C. Levy	Jshi	J. Shirland	REGC	R.E.G. Cole
CN	Unknown	JSi	J. Simpson	RG	R. Goulding
CDP / CP	C.D. Preston	JSt	J. Steele	RGS	R.G. Smith
CDP	C.D. Pigott	JT	J. Thompson	RGW	R.G. Williams
CR	C. Ryder	JTH	Unknown	RPL	R.P. Libbey
CS	Christopher Smith	JWC	J.W. Carr	RM	R. Maskell
CS(1)	Claire Smith	JWH	J.W. Hopkinson	RMe	R. Melville
CW	C. Waite	Kbu	K.L. Buckley	RMP	R.M. Payne
DA	D. Alston	KB	K. Balkow	RN	R. Nickerson
DaS	D. Shaw	KLJ	K.L. Jeffries	RP	R. Penson
DL	D. Little	KRS	Unknown	RS	R. Smith
DC	D. Cassell	KW	K. Widdowson	RT	R. Tratt
DCW	D.C. Wood	LA	L. Allen	RVL	R.V. Lansdown
DK	D. Knight	LC	L. Chilton	RW	R. Wilson
DKe	D. Kershaw	LCo	L. Coe	Sa	Mrs Sandwith
DM	D. McClintock	LF	L. Farrell	SA	S. Alton
DO'G	D. O'Grady	LH	L. Hicks	SAi	S. Aitken
DP	D. Peterson	LHi	L. Hill	SB	S. Band
DPe	D. Pearman	MAP	M.A. Palmer	SC	S. Clifton
DRC	Derbyshire Records Centre	MAV	M.A. Vincent	SD	S. Dempster
DS	D. Sanders	MB	M. Bostock	SFW	S. Woodward
DW	D. Whiteley	MBr	M. Bryce	SG	S. Gallagher
EC	E. Charter	MCr	M. Crittenden	SH	S. Hammond
EG	E. Gilbert	MC	M.S. Carr	SHB	S.H. Bickham
EHM	E.H. Mullins	MEP	M.E. Pearce	SHe	S. Heathcoate
EJL	E.J. Lowe	MF	M. Featherstone	Sho	S. Horne
ELS	E.L. Swann	MG	M. Grace	SM	S. Matthews
EMMJ	E.M. Marsden-Jones	MGi	M. Gibbons	SMW	S.M. Walters
EMP	E.M. Pearce	MH	M. Harding	SP	S. Peacock
EP	E. Palmer	MM	M. Miller	SW	S. Wright
ES	E. Shirland	MP	M. Palmer	TG	T. Gent
GC	G. Coles	MS	M. Smith	TGCR	T. Rich
GES	G.E. Smith	MT	M. Thompson	TJ	T. Jowett
GG	G. Garratt	MW	M. Woods	TO	T. Ordoyno
GHB	G.H. Battershall	MWh	M. White	VL	V. Leather
GH	G. Howitt	NBGR	Notts Biological Records Centre	Woll.	Wollaton Hall Museum Staff

Code	Surveyor	Code	Surveyor	Code	Surveyor
GL	G. Levy	NC	N. Crouch	VD	V. Dale
GS	G. Smith	NCC	Nature Conservancy Council Staff	VH	V. Heyes
GT	Dr. G. Taylor	NDS	N.D. Simpson	VPDB	Vascular Plant Database
GW	G. Walley	NDo	N. Dodd	VW	V. Wilkin
Gwa	G. Watkinson	NFS	N.F. Stewart	WH	W. Heeney
GWi	G. Wilson	NH	N. Holmes	WM	W. Martin
GWW	G.W. Wheeldon	NJH	N.J. Hunter	WJH	W. Heyes
HF	H. Friend	NNDS	North Notts Drains Survey	ZH	Z. Harris
HF _i	H. Fisher	NP	N. Pinder	ZW	Z. Ward
HR	H. Radford	NRL	N.R. Lewis		

Appendix III: Supplementary Geological Information

Availability of geological maps and memoirs

The county of Nottinghamshire is covered by twelve Geological Survey maps at scales of either one-inch to the mile (1:63 360, indicated by #) or 1:50 000. Sheet boundaries are outlined in red on figs. 1 and 2. Of these twelve maps, sheets 100 (Sheffield) and 102 (Market Rasen) merely clip the western and eastern edges respectively of the county and can be ignored. Maps are usually available in either flat or folded form, except sheets 101 East Retford and 113 Ollerton, which are currently only available in flat form. Maps are usually described as 'solid and drift' (of older usage) or 'bedrock and superficial deposits'. Most maps are accompanied by Memoirs (M), Sheet Descriptions (SD) or brief Sheet Explanations (SE).

88 Doncaster (1969#) M

101 East Retford (1967#) M

112 Chesterfield (2012) M

113 Ollerton (1966#) M

114 Lincoln (1973)

125 Derby (1972) M

126 Nottingham (1996) M

127 Grantham (1996) M

141 Loughborough (2001) SE, SD

142 Melton Mowbray (2003) SE, SD

It is now possible to access the geological map of Britain as a free smartphone App (iGeology) that allows the user to view the 1:50 000 scale geology of any location simply by tapping in a place name or postcode, or using your phone's in-built GPS. Go to <http://www.bgs.ac.uk/igeology/>.