A brief look at the flora of Beverley

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The Hull Natural History Society

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PREFACE

This document is a joint creation by four authors: Gabrielle Jarvis, Helen Kitson, Bill Dolling and Richard Middleton, the last being the editor, and presents the results of a year-long Hull Natural History Society project to record the flora of Beverley. Another Society member, John Killingbeck, has contributed a résumé of the trees. After a similar three-year botanical survey of Hull, we felt that we were ready for a project with a shorter timescale. Beverley was selected because of its proximity to Hull, its compact layout, the botanical interest of its ancient commons and a lack of published data on the plants of the urban and suburban core. It would be a snapshot survey to see what we could find in 2018, what was no longer present from the historical records and to lay a baseline for future studies. Gabrielle and Richard proposed the project at the Society's 2018 AGM with the intention that Gabrielle would arrange the field visits and Richard would oversee the IT element throughout.

Since our intention was to document what was growing unaided in Beverley, we took the view that it would be more useful to take a reasonably relaxed view to what species we recorded rather than ignoring non-native taxa. Deliberate herbaceous plantings, including vegetables and crops, were ignored but all garden escapes, discards and relics of cultivation were noted. Shrubs and trees were generally recorded when growing outside of private gardens. The scope of John's tree survey was, however, extended to include garden trees.

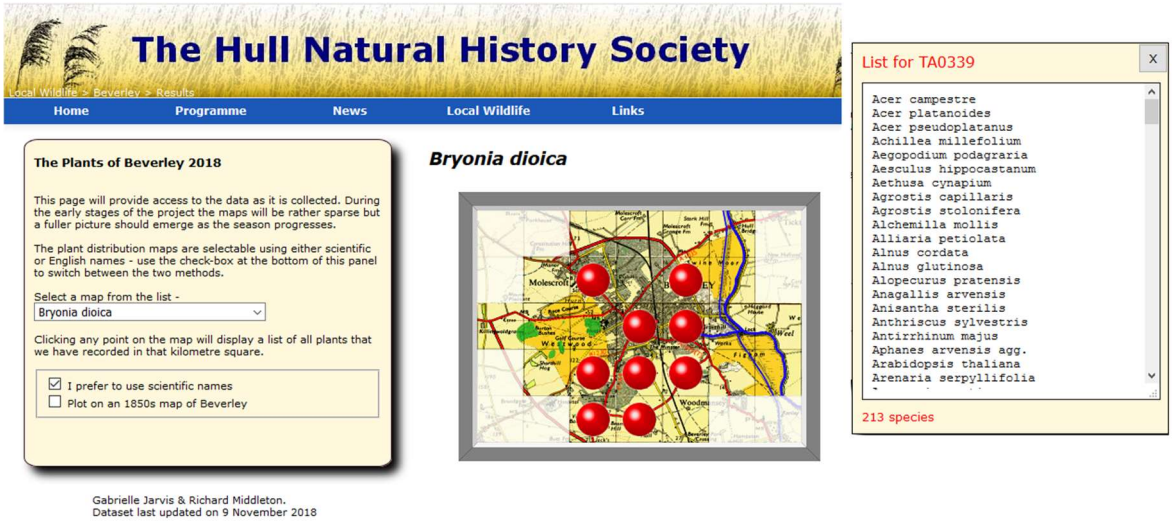

Figure 1: Screen-shots of the web page used to communicate the survey progress.

To ensure an even coverage it was considered appropriate to record at monad level. Accordingly, the town and adjacent area was divided into kilometre squares, 25 in all, based on the Ordnance Survey National Grid. For convenience each square was named from a prominent feature and its map reference, for example "Toll Gavel TA 0339". A programme of weekly field meetings was drawn up to ensure that each square was visited at least once in the course of the year. Anticipating that one examination might be insufficient, contributors were encouraged to make personal visits or even submit single additional records. The Society's web site was used to provide distribution maps for all species encountered and species lists for each square, with 145 updates being made to the database during the course of the project (Figure 1).

Several members of the Society attended the planned field meetings, some more than once and we were also joined by Bill Dolling who had already started making his own records of the flora of Swine

Moor. All now retired, we are, perhaps, an unlikely quartet for such a botanical project: an entomologist, an administrator/amateur local historian, a linguist turned botanist in retirement and an earth scientist, with our botanical experience ranging from BSBI recorder to neophyte, but we were united in our enthusiasm for botany and curiosity about the natural world. Some of us were quite happy to work alone, some looked for companionship with fellow botanists. One sought to get to know more about the local area, two of us were always keen to investigate new sites. It has been a learning time for us all. The result of our investigations is something that resembles a classic flora but with excursions along avenues we have often, as individuals, found diverting. We have all taken part in the process of writing and the final result with its variety of styles certainly reflects this …

It could be argued that one year is not long enough to carry out the fieldwork necessary for a thorough flora. This is true but our primary concern was to create a snapshot during a period of rapid change, so that the pressures on the environment caused by the town's explosive expansion can later be identified. A long period of fieldwork would result in a picture that was out of date before it was published. We are very conscious of historical legacy and hope that our efforts may be of some use for comparison in the future.

The task was undertaken partly for our own benefit and enjoyment and our only limitations have been those of time and weather. In 2018 we experienced the longest driest summer on record, which has undoubtedly affected our results.

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ACKNOWLEDGEMENTS

We would like to extend our thanks to the following Hull Natural History Society colleagues and friends who have helped by providing plant records or accompanying us in the field: Andrew Ashworth, Rob Atkinson, Lesley Ball, Andrew Chadwick, Val Fairhurst, Dr Katherine Glover, Dr Ray Goulder and Rohan Lewis. Particular thanks are also extended to John Killingbeck for his valuable insight into the Beverley treescape. Thanks are also due to Clare Brown, Curator of Natural Science at Leeds Museum for her help locating Henry Hewetson's specimens in their Herbarium.

We would also like to add our thanks to the people of Beverley who have largely tolerated our presence; we only managed to overstep our welcome on three occasions …

Some of the figures used in this document have been based on out of copyright Ordnance Survey maps. Updates have been added from a wide variety of resources but largely our own observations.

Part I: BEVERLEY AND ITS PLANTS

Bill Dolling
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1 The physical setting

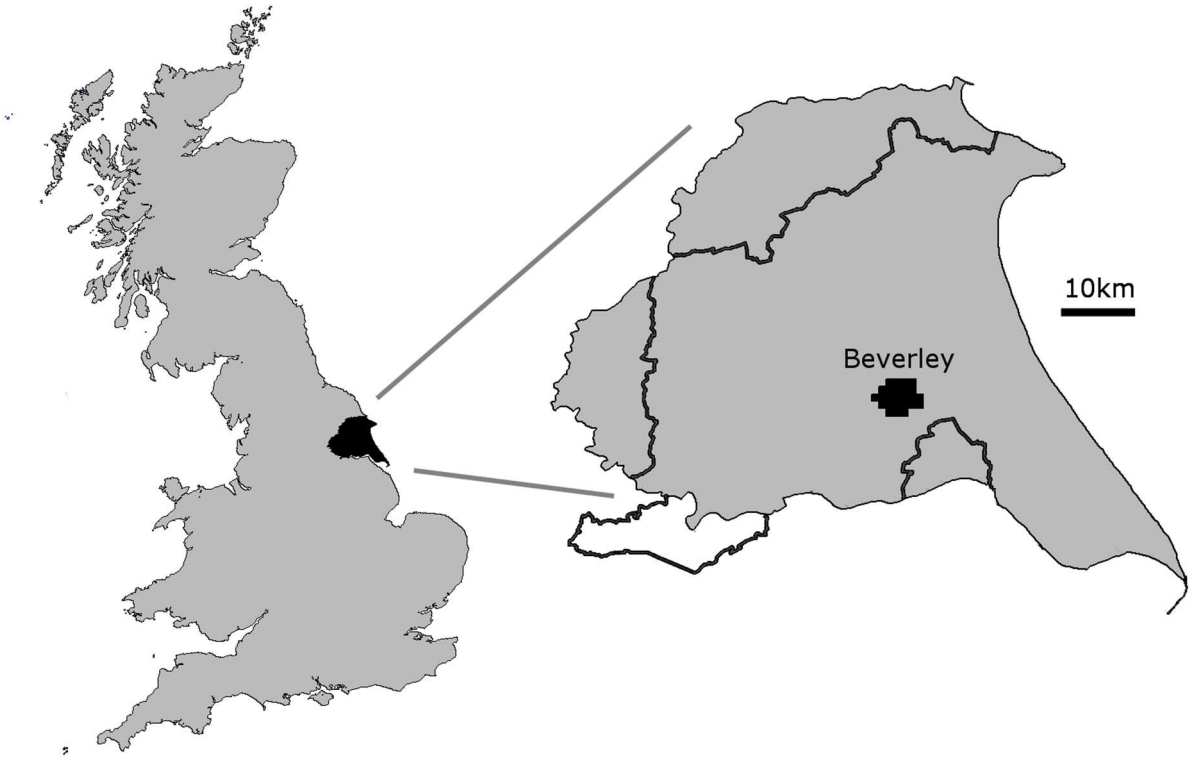

Figure 2: Situation of the study area within Great Britain and Watsonian vice-county 61 (South-east Yorkshire). The dark line shows the boundary of the administrative county of East Riding of Yorkshire where it differs.

The town of Beverley is situated on the very edge of the Yorkshire Wolds where they abut the Hull valley, 12km north of the river's confluence with the Humber at Kingston-upon-Hull. Its mediaeval centre and churches occupy dry-land overlooking the extensive wetlands of western Holderness and the river which, via an anciently canalised beck, gave access to trade along the River Hull and beyond. The area selected for this study consists of 25km^2 of land around this centre.

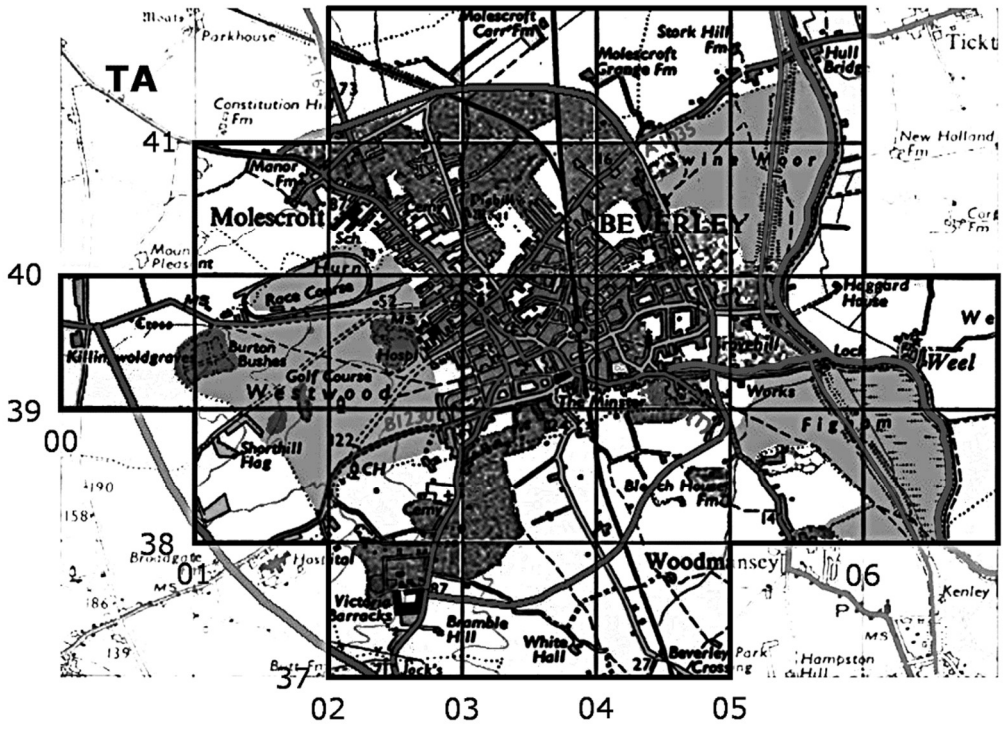

Figure 3: The 25 km squares of the study region. Based on the OS 1: 63360 map of 1962, major roads and urban areas updated to 2018. The three commons and their associated woodlands have been shaded.

2 Climate

The climate of the area is particularly well documented as a weather station at Leconfield, two kilometres north of the study area, forms part of the Met Office's Sar network and data may be viewed freely on their website. Over the period 1981 – 2010 the mean annual rainfall was 647mm with 123 days per year recording more than 1mm. This is significantly below the UK national (1154mm) and Northern England (970mm) averages. The coldest months were December to February with an average minimum temperature between 1 and 2 °C and there was an annual total of 45 days with frost. Maximum temperatures averaging 21°C occurred in July and August. Sunshine was recorded for a total of 1550 hours per year, a little above the national (1373 hours) and Northen England (1376 hours) averages. The length of the growing season over the same period is estimated to have been between 290 and 310 days per year.

3 Physical development

The underlying geology of the study area is in all places a fine-grained limestone of the Flamborough Chalk Formation (JNCC), deposited in a warm sea around 80 million years ago. By the beginning of the Quaternary period about 2.6 million years ago, uplift and erosion had formed the Chalk locally into a Wolds landscape similar to that seen at the present time. The most striking difference was that the

proto-Yorkshire coastline extended from Sewerby, through Driffield and Beverley, to Hessle. The plain of Holderness had yet to be formed and a chalk sea cliff ran north-south through Beverley. To the east of this cliff was a submerged wave-cut platform of Chalk dipping gently away from the cliff.

During the Quaternary period there was a series of cold glacial periods, interspersed with warmer interglacial periods. Little is known of how this affected the Beverley region but excavations into sediments banked against the ancient cliff line at Sewerby and Hessle have discovered bones of Rhinoceros and Straight-tusked Elephant (Boylan 1967) – a distinctly different fauna from the present. Investigations suggest that they date to the Ipswichian interglacial period over 100,000 years ago (Bateman and Catt 1996). The last major ice advance in our region during the Dimlington Stadial, around 18-13,000 years ago, saw an ice-sheet from the North Sea ride up over the ancient chalk cliff line and onto the lower slopes at the eastern edge of the Wolds, removing any traces of deposits left by any earlier advances.

By 12,000 years ago this great ice-sheet was melting, leaving its contained debris spread over the entire region. On the Wolds to the west of the ancient cliff-line the deposits were often just a few metres of clay with rock fragments, but to the east was a thick and uneven layer of clays, sands and gravels extending for tens of kilometres. This latter deposit became the Plain of Holderness.

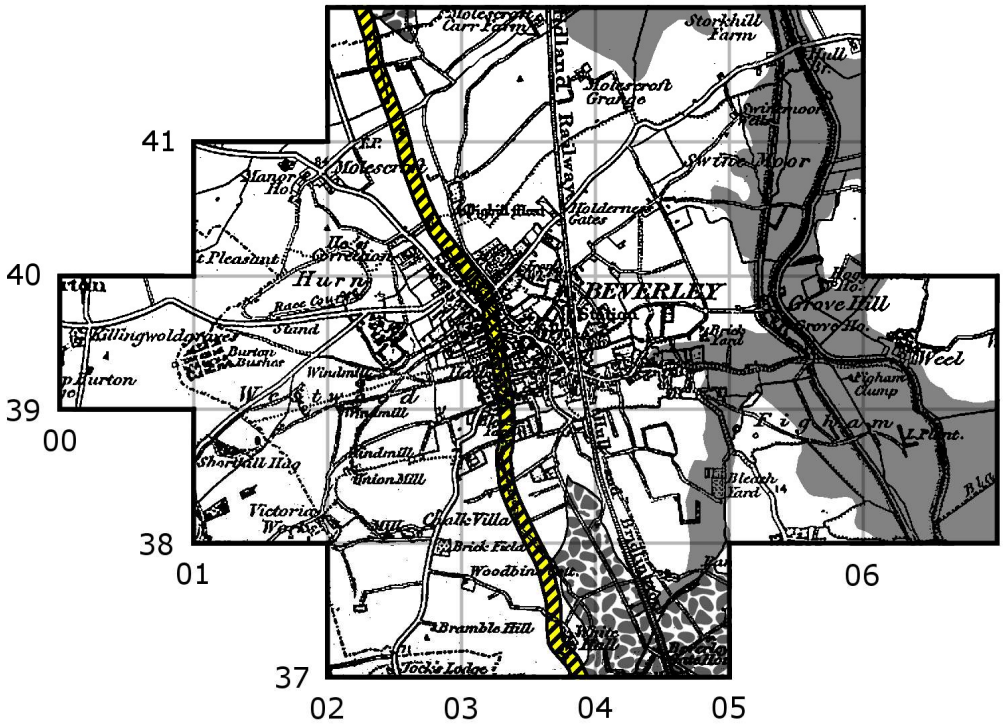

Figure 4: Simplified geology of the area superimposed on an 1859 OS map of the town. Alluvium is shaded and area of sands and gravel are patterned. The position of palaeo-cliff is inferred from the break of slope at about 10m. The Geological survey shows a more marked eastward bulge in the cliff-line near the town centre.

In early post-glacial times the River Hull developed, draining the eastern Wolds and parts of the newly-formed Holderness plain into a now re-established Humber Basin. At this period sea-level was many tens of metres below its present level and the river would be non-tidal and an aggressive agent of

erosion, removing large quantities of the soft new sediments. The valley was also occupied by more than one distinct channel, with the present-day Hull occupying the westernmost. By 6,000 years ago the progressive melting of the great northern ice-sheets had returned sea-level to around its current level and made much of the broad valley of the lower Hull tidal. The asymmetry of the tidal flow at this distance from the sea resulted in a more rapid inrush of silt-laden waters with the rising tide and a slow draining away on the ebb. The reduced carrying power of slow water led to an extensive natural "warping" of sediment in the lower Hull valley and the development of characteristic marshy carr-lands. As the valley silted-up any influence of salt water waned, although there is evidence for marine incursions in the Iron Age.

Although the current character of the eastern and western sides of the study area is visually very different, there are factors which produce more floral similarities than, perhaps, may have been expected. All ground-water in the region is strongly alkaline, whether it is derived from the chalk aquifer or from the chalky, glacial gravels. Even the River Hull waters are markedly alkaline and little, if any, saline influence on the flora was noticed; plants such as Wild Celery (*Apium graveolens*), Sea Aster (*Aster tripolium*) and Sea Club-rush (*Bolboschoenus maritimus*), commonly encountered on the Hull Banks at Kingswood, were not seen. The eastern Commons of Swine Moor and Figham are above an area of artesian springs which stretches extensively between the buried cliff and the River Hull contributing to their fenny rather than boggy nature. A spring (Old Norse *kelda*) arises directly from the chalk at Keldmarsh, resulting in a stream which drains east. Increased abstraction from the aquifer has lowered the water table significantly and spring-flows have been significantly reduced.

To the west of the buried cliff the Chalk, although never outcropping, is near enough to the surface to be exploited. The Westwood common has two areas where extensive quarrying in historical times has left deep depressions which are now wooded. Newbigin Pits, adjacent to the York Road, is heavily used for informal recreation but manages to retain vestiges of a woodland flora including Sanicle (*Sanicula europaea*) and Bluebell (*Hyacinthoides non-scripta*). Limekilns Wood on the Walkington Road is more remote from the town and supports Wood-sedge (*Carex sylvatica*) and Wood Speedwell (*Veronica montana*). The grassy spoil banks below Limekilns Wood are exceptional for their calcicole flora and support the county's largest colony of Dwarf Thistle (*Cirsium acaule*). Queensgate Quarry, on the south west edge of the town is still actively producing chalk for industrial purposes and is unique within the study area in that there are exposed chalk faces. A deep scrubby gulley next to the perimiter fence of the inaccessible site provided our only Ploughman's-spikenard (*Inula conyzae*) records. A further old quarry near Vinegar Hill is now built over.

Despite the predominantly basic nature of the area's soils, there are still patches of neutral and even slightly acid substrates being locally developed. Mat-grass (*Nardus stricta*) is known to have occurred recently on Swine Moor, although it was not seen during the 2018 survey, and the accumulation of leaf-litter in the wooded areas to the west has provided suitable conditions for Water-pepper (*Persicaria hydropiper*) and Wood-sorrel (*Oxalis acetosella*).

4 The original flora and its fate

After the last retreat of the ice-sheet, Britain became warm enough to be recolonised by both trees and people. For thousands of years the trees had the upper hand and summer forests of deciduous broadleaved trees clothed the landscape. The species-composition of forest on the Wolds may have resembled that of Burton Bushes, which was found by Boatman (1971) to be 50% Pedunculate Oak (*Quercus robur*), with substantial amounts of Downy Birch (*Betula pubescens*), Ash (*Fraxinus excelsior*), and Field Maple (*Acer campestre*). Holly (*Ilex aquifolium*), does well there, too. Ground flora in Burton Bushes and other remnants of woodland on the Westwood include Bluebell (*Hyacinthoides non-scripta*), Ramsons (*Allium ursinum*), Lords-and-Ladies (*Arum maculatum*), Enchanter's-nightshade (*Circaea lutetiana*), and Dog's Mercury (*Mercurialis perennis*). Some of these plants survive elsewhere in hedge-bottoms, along with the ubiquitous Common Ivy (*Hedera helix*).

From the Neolithic period farmers found that the light soils of the Wolds could easily be stripped of their forest cover and devoted to both arable production and stock-raising (Halkon 2013). Some woodland remained as a valuable source of timber and in places plantations were established on previously cleared land to meet the demand for building materials. In the twentieth century forestry ceased to be profitable with the rise of Hull as the country's main port of entry for sawn timber from continental Europe.

The floodplain of the river Hull and extensive tracts of very low-lying land to the east of it were once a patchwork of meres, fens and carrs – swamps dominated by various species of Willow (*Salix* spp.), with some Alder (*Alnus glutinosa*). Substantial numbers of Bay Willow (*Salix pentandra*), still occur at Pulfin Bend and other sites even further above the town. Grey Willow (*Salix cinerea*) is still frequent along drains and some Crack-willow (*Salix x fragilis*) and White Willow (*Salix alba*), were encountered during the survey. Downy Birch (*Betula pubescens*), a locally dominant element of many carr woodlands, was not encountered in this situation (although it was seen in the woodlands of the Westwood). The unmanaged wetlands supported a great variety of Sedges (*Carex* spp.), including some of the tussock-forming species. Frogbit (*Hydrocharis morsus-ranae*), Marsh Pea (*Lathyrus palustris*), Milk-parsley (*Thyselium palustre*), and Bogbean (*Menyanthes trifoliata*) survived long enough to be included in accounts of the local flora. Hull's 1829 lists recorded Round-leaved Sundew (*Drosera rotundifolia*), as a species then extant within the limits of the borough and its commons but it has not been reported by any other author. As late as 1882 the Yorkshier Naturalists' Union (YNU) were able to find a Bog Moss (*Sphagnum tenellum*), 'fruiting abundantly' near the town (Massee, 1882). The presence of these two species indicates the presence of rain-fed bog raised above the calcareous groundwater. No trace of it now remains.

By the early nineteenth century the Holderness wetlands had been utterly transformed by drainage in the interests of agricultural production. Oliver (1829) wrote that this vegetation type

> *'once presented a field of no inconsiderable extent, to the pursuits of the botanist. Since the extensive drainage of lands on its eastern side throughout the whole of Holderness, it has, however, been materially curtailed in the production of its bog plants.'*

5 Urban development and its effect on the botany

5.1 The current status

Beverley is a historic market town, a civil parish and the county town of the East Riding of Yorkshire. From 1974-1996 it was the administrative centre of a local government district, the borough of Beverley, but with the dissolution of Humberside the town regained the status of county town it had enjoyed since 1889. Beverley is the seat of the East Riding County Council and Quarter Sessions for the East Riding are held in Beverley at the Law Courts. A further grassroots tier of local government is the Beverley Town Council, set up in 1999, an elected body based on four urban wards, with a largely ceremonial mayor and a focus on tourism and housekeeping.

The population of Beverley's urban area (a little more than 7km^2) was 30,587 at the time of the 2011 census (East Riding Data Observatory ex. Office of National Statistics) of which almost 20% were aged over 65. Almost 72% of properties were owner occupied, with 26% of these being detached and 32% semi-detached (ibid).

The economy of the town is now largely based on agriculture and tourism, to which end it holds many festivals. The traditional industries having long vanished, the Swinemoor industrial estate was built in the 1960s to encourage light industry to the town, but manufacturing suffered severely in the recession of the late 1970s and early 1980s and today Beverley is largely a dormitory town for Hull.

5.2 Archaeology

On the Beverley pastures, largely saved from development since the 13th century, particularly Westwood, history can be seen with the naked eye. Here, the further one walks westwards from the town edge, past the more sterile area of Second World War ploughing, the more can be seen. There are three round Bronze Age barrows, unexcavated as far as we know, and there is likely to be a fourth under the Black Mill (English Heritage 2004). Nearby, there are the remains of up to thirteen square Iron Age barrows, forming a small cemetery overlooking the Newbald Valley. At least one of these was excavated in 1875 by Canon Greenwell who found a cart burial, now in the British Museum.

On the valley sides towards the western edge of Westwood are ditches and a trackway representing the remains of what is thought to be a Romano-British enclosure which may have been used for funnelling cattle, perhaps for breeding or slaughter, coming in to the nearby waterhole from the higher Wolds. Also visible across Westwood are hollow ways, trackways of indeterminate age, at least one of which, because of its sinuous course, is likely to follow ancient field systems. Some of these tracks are likely to be at least medieval, but some are probably older. One seems to lead towards the Minster from Bishop Burton, others are parallel to modern roads, such as those beside the Newbald Road, and some clearly lead towards the sites of filled-in ponds or mills, including Low Mill which was demolished in 1856.

Aerial photography has revealed three rectangular field systems, again probably Iron Age, including one in the centre of Burton Bushes. The English Heritage survey located the remains of seven ponds. The sites of some of these, such as that by the Golf Clubhouse, partially filled in to form a car park, is full of Cuckooflower (*Cardamine pratensis*) in a wet spring, as are many of the older quarry holes or hollows where tree stumps have been grubbed up. Two ponds lie in the Newbald Valley and have now been embanked as part of the golf course but are likely to have been dewponds before that and may be much earlier survivals related to the possibly Iron Age earthworks in the valley. Distinguishing what is truly historic and what is a more recent feature of the golf course can be challenging.

There are extant remnants of three of the five recorded windmills on Westwood, one incorporated into a private house on the southern edge, one forming part of the Beverley and East Riding Golf Clubhouse, and the iconic Black Mill at the highest point. There are remnants of rig and furrow ploughed areas, clearly visible in slanting light, particularly adjacent to York Road, south of the racecourse buildings, and again on both sides of the road west of the neatherd's house.

These interesting landscape features, where they have not been grazed and trampled, or mowed and enriched for golf course greens, offer a variety of habitats for plants, calcicoles on the steeper banks, and Harebell (*Campanula rotundifolia*) on some of the drier banks. In damper years than that of our survey, the western edges of Westwood are rich in waxcap fungi, always indicators of unimproved pasture.

The Hull Valley to the east and south of the town centre, was considered until recently to have been little colonised before extensive drainage began in the 18th century. However, work by Pete Didsbury (1990) and the Humber Wetlands Project (1992-2000), along with discoveries during building projects such as the Southern Relief Road (2015) and the Ganstead to Asselby gas pipeline (2006) have revealed that several mainly Iron Age features including roundhouses and stock enclosures existed around the current town. Several have been found around Shepherd Lane and Woodmansey, on an area of sand and gravel (See Fig. 1.3). This area became the medieval Beverley Parks, exchanged by Archbishop Sewall de Bovill in the 13th century for common rights to the Westwood, so he could create a deer park.

After the Reformation, most of the land south of the town was sold off to private landowners and is now intensively farmed or being consumed by new housing developments. Salad Burnet (*Poterium sanguisorba*) was found here as a fodder crop relic. However, there are a few seemingly old hedgerows south of the town – a colony of Sweet Violet (Viola odorata) survived in a ditch at the bottom of Shepherd Lane.

English Heritage undertook a survey of Swine Moor in 2004 which remains unpublished, which is unfortunate as the building of the East Riding Community Hospital in 2012 revealed some Iron Age artefacts, and there are unusual earthworks visible east of the neatherd's house, which may be remnants of Second World War buildings. There may be relics too of medieval flood defences here. The published survey of Figham (English Heritage 2004) suggested nothing before medieval times, but there is visible evidence of medieval ploughmarks in the southern part, and some ambiguous features suggesting enclosures. Since the name comes from the OE 'fegang' meaning 'cattle track', it is very likely that this area has been used for summer grazing since antiquity. Ditches and mounds were described by English Heritage as possible pillow mounds for rabbits, but this seems unlikely in view of the sogginess. However, these historical undulations have provided divers ditches in which flora has been able to survive.

There is no reason to suppose that the eastern carrs were not exploited as early as Mesolithic times. Their navigable waterways rich in wildfowl, fish, eels, reeds, rushes and peat, in a liminal landscape on the edge of higher ground to the west, is reminiscent of the landscape of the famous Star Carr site in North Yorkshire. But evidence of early exploitation is thin on the ground. The ARCHI UK database records four Mesolithic and fourteen Neolithic finds within 10k of Beverley, but there are 130 Bronze Age finds in the same area, indicating a more significant occupation of Beverley and its surrounding area from after 2500 BCE. Then, the climate was warmer and drier, population grew rapidly and farming would have flourished. The wetlands would have certainly been exploited for resources, including their supposed numinous qualities, as they were used extensively in the Hull Valley as elsewhere for the ritual deposition of weaponry and tools.

An archaeological mystery still is the number of Roman coins and hoards found in Beverley, leading some early archaeologists to suppose that Beverley was the site of the Roman Petuaria, until evidence overwhelmingly located this at Brough. The sand and gravel ridge north of Beverley, along which the settlements of Tickton, Leven and Brandesburton lie, have probably always been used as routeways, and Tickton is likely to have been a very early crossing point of the River Hull. There may even be a short stretch of a Roman road on Westwood.

5.3 From medieval to the 19th century

Although Beverley probably began as a monastery in a clearing (Inderauuda: 'in the wood of Deira'), made famous by the story of St John, there is little evidence of the importance of the town until the 10th century. After the success of King Athelstan at the Battle of Brunanburgh, attributed by some to his diversion for prayer at the shrine of St John in what was by then known as Beverlac (lake of the beavers), the town grew in stature. There were royal visits and charters, and the town was even spared the worst of the Harrying of the North in William's time due to the saint's reputation. By the 13th century it was the tenth largest town in the country after London, a thriving market town and home of a busy woollen and textile industry along with other medieval trades such as tanning, and brick and tile making. There were thirty-nine guilds at its height, and it was a major centre of pilgrimage to St John's tomb at Beverley Minster (East Riding of Yorkshire Council 2010).

The medieval granting of rights to the town keepers for use of the commons of Westwood, Swine Moor and Figham, from the 12th century onwards, ensured not only the preservation of these pastures for the people of the town, but also for their wildlife. Hence, despite centuries of grazing, timber cutting and other exploitation for resources and leisure, we have surviving floral remnants on the chalks and clays of Westwood, and in the former carr lands of Swine Moor and Figham.

On Westwood former quarries such as the Limekiln Pits, which had working limekilns until the last was demolished in 1818, harbour flowers of ancient woodland such as Sanicle (*Sanicula europea*) and Wood-sorrel (*Oxalis acetosella*). The slopes of the Limekiln Pits, consisting of chalky spoil from the old quarries and short-grazed by rabbits, hold colonies of calcicoles such as Thyme (*Thymus* sp.). It is only under the Hawthorns (*Crataegus monogyna*) here that Bitter-vetch (*Lathyrus linifolius*) was found.

Burton Bushes, now an SSSI, was probably saved by an archbishop's promise to keep part of the ancient woodland for pannage for his villagers at Bishop Burton. It harbours carpets of Bluebell (*Hyacinthoides non-scripta*), and Pedunculate Oak (*Quercus robur*) of probably three hundred years of age as well as trees such as Wild Cherry (*Prunus avium*). On its western boundary the old wood banks are preserved.

There are swathes of Wood Anemone (*Anemone nemorosa*) across parts of the open Westwood pastures; evidence, along with historical records and its very name, that it was once wooded. There are clumps of Gorse (*Ulex europaeus*) and Hawthorn (*Crataegus monogyna*) scattered around Westwood, probably planted as hazards for golfers, but crushed gorse was a useful fodder crop in medieval times and its high burning temperature made it a good fuel for baking.

Quarrying for clay and chalk have shaped the pitted surface of Newbegin Pits near the town, and this area does hold some species of ancient woodland but is well used today as an amenity area, although mountain biking here has decreased. There were several chalk quarries on the western edge of the town, now closed, but the remaining quarry has cut into land to the west of the town, including fields of Spring Crocus (*Crocus vernus*), recalled in the living memory of locals, but no longer there (Moody 2016).

These common lands shape the town centre today, which is linear from north to south, hemmed in by the commons to both west and east. Old walls, a few with original lime mortar, around the remnants of the Dominican Friary and the church of St Mary's support ferns such as Maidenhair Spleenwort (*Asplenium trichomanes*) and Wall-rue (*Asplenium ruta-muraria*). The streets in the town centre curve along the medieval water courses from ancient springs, now culverted, leading to the Beck and thence to the River Hull.

There is some evidence of open fields around Beverley in the Middle Ages, such as between the old Anglian village of Molescroft and the once sparsely populated 'suburb' of North Bar Without beyond the town ditch. However, it is thought that much of the land around the town, with its tofts and closes behind the residential areas, particularly to the east, was enclosed by the 14th century. Peat cutting took place on the eastern commons, and there are records of disputes about the rights of turbary from the 13th century. Toll records show that turves were a major export from Beverley Beck as late as the mid-18th century.

Beckside and the Grovehill area formed the port of Beverley in medieval times, thriving from the 12th century when the Beck was first canalised. Stone to build the Minster could then be brought to within half a mile of the church, and trade routes in wool and other goods opened throughout the navigable Humber catchment and abroad, particularly to the Low Countries.

By the time of the muster on Westwood for the Pilgrimage of Grace in 1536, Beverley was already in decline due to the growth of Hull and competition from the woollen industries of the West Riding. This decline sped up after the Reformation, when Beverley lost its friaries and the college of St John, and with it the income from pilgrimage. Times were hard for Beverley throughout the 17th century, with outbreaks of plague, and looting and skirmishes as it changed hands through the English Civil War. From Tudor times, there is evidence of rapacious clearance of Westwood for timber, accelerating into the 18th century, and in 1765 all the oaks left that were not 'improvable' were sold, leaving only Burton Bushes intact (ed. Allison 1989). The cash-strapped burgesses of the town seemed intent on selling off what they could. The avenues of trees we see today were planted in 1897 to celebrate Queen Victoria's Jubilee.

Beverley saw another revival by the 18th century. The Agricultural Revolution had enclosed the pasture and rabbit warrens of the Wolds and transformed the fortunes of the town, which became fashionable in Georgian times as a playground for the rich. Beverley got its own Assembly Rooms, the racecourse and theatres drew crowds, and what's now known as the Georgian Quarter to the north side of town showed off the town's modishness. North Bar Without and New Walk became a wide, planted avenue of trees for promenading, and tree-lined walks were even created in Burton Bushes. The ill-fated idea of a Swine Moor Spa was conceived to rival that of Harrogate.

Beckside and Grovehill also saw a revival in Georgian times, as receipts of river tolls suggest. Corn and lime were exported, and coal brought in. Victorian times brought industry back to Beverley, although its distance from natural resources of fuel and minerals was never going to make it a rival to the industrial towns of the West Riding. However, in the second half of the 19th century tanning, shipbuilding, engineering and milling were thriving on the eastern side of town. Beverley became the county town of East Yorkshire in 1892.

5.4 Drainage and the eastern commons

In the 14th century, the eastern commons included parts of the manor of Beverley's 'Water towns', such as Molescroft, Storkhill, Sandholme, Woodmansey and Tickton, so named because for much of the year they were islands in marshland. The drainage of the marshlands of the Hull Valley did not begin in earnest until the 18th century, due in part to the cost and the technical problems. This was a river sandwiched between the high land of the Wolds edged with powerful and unpredictable springs (locally known as 'naffers') and the undulating ridges of Holderness to the east, on a floodplain too low and sluggish to drain the spring-water and tidal flows effectively. Conflicting interests of navigation and drainage, trade and farming, and rivalry between Hull and Beverley and between different drainage and navigation companies, all played their part in the delayed implementation of drainage schemes. In 1798 the Beverley and Barmston Drainage Act was passed, and the Barmston Drain constructed, but it was not until 1880 that agreement was reached with Holderness Drainage to dredge the river, raise the embankments and install steam pumps. Regular flooding then ended, but the peats dried out, the River Hull became perched, and much of the wetland flora was lost.

The historical accident of Swine Moor and Figham being granted as commons has saved these areas from becoming fertile arable farms like most of the rest of the Hull Valley in the wake of major drainage projects. The 112 hectares of Swine Moor and 130 of Figham remain as wet pasture, and are wildlife corridors, with their winter pools a food source for waders, and their many ditches, drains and undulations havens for wildflowers, sedges and rushes. The only remaining carr lands are the tiny Keldmarsh Yorkshire Wildlife Trust (YWT) site and the larger YWT site to the north of our area at Pulfin.

Figham now has a less rich flora than Swine Moor, having been drier and adjacent to the industrial centre of Beckside, so is more exploited by humans. The area to the south of the Beck was in fact spread with sewage in the late 19th and 20th centuries and is covered in nettles. But Figham is by no means a botanical desert. In a small wooded patch towards the southern boundary, a patch of Adder's-tongue (*Ophioglossum vulgatum*) was found, there was a single patch of Water Horsetail (*Equisetum fluviatile*) and in one ditch a white variety of Bittersweet (*Solanum dulcamara*) was seen. Figham was the only place on our survey that Tufted Forget-me-not (*Myosotis laxa*) was recorded and Whorled Water-milfoil (*Myriophyllum verticillatum*), a scarce plant regionally, was found only in the Barmston Drain here. Of the many sedges found, the most interesting was a single specimen of Cyperus Sedge (*Carex pseudocyperus*) in a Figham drain. This was last recorded by YNU in 1920.

The western side of Swine Moor was exploited for clay for brick- and tile-making, but the moor still has quite a rich flora, although much of it dwarfed by grazing. In summer the ponds are bright with Water Forget-me-not (*Myosotis scorpioides*), and both Common Water-crowfoot (*Ranunculus aquatilis*) and Pond Water-crowfoot (*Ranunculus peltatus*). Lesser Spearwort (*Ranunculus flammula*) was noted as the most characteristic plant of Swine Moor. Some of the plants found only on Swine Moor were: Blinks (*Montia fontana* subsp. *chondrosperma*), Devil's-bit Scabious (*Succisa pratensis*), Common Spike-rush (*Eleocharis palustris*), Marsh Arrowgrass (*Triglochin palustris*), Common Yellow-sedge (*Carex demissa*), Sheep's-fescue (*Festuca ovina*), Marsh Pennywort (*Hydrocotyle vulgaris*), and Mare's-tail (*Hippuris vulgaris*), found in the wetter areas to the east of the Barmston Drain. A single specimen of Tubular Water-dropwort (*Oenanthe fistulosa*) was found on Swine Moor, possibly hard to detect because of the dry summer.

In both eastern commons were found Square-stalked St John's-wort (*Hypericum tetrapterum*), Tormentil (*Potentilla erecta*), Marsh Willowherb (*Epilobium palustre*), Bog Stitchwort (*Stellaria alsine*), Creeping-Jenny (*Lysimachia nummularia*), Marsh Speedwell (*Veronica scutellata*), an abundance of Marsh-bedstraw (*Galium palustre*) and Marsh Thistle (*Cirsium palustre*). Tall Melilot (*Melilotus*

altissimus) was noted as surprisingly uncommon and only found on the banks of some of the deeper drains on the eastern commons. Three Sweet-grasses were found: Plicate Sweet-grass (*Glyceria notata*), seen only once on Swine Moor, but Reed Sweet-grass (*Glyceria maxima*) and Floating Sweet-grass (*Glyceria fluitans*) were more extensive on both commons.

Although superficially quite different, the eastern pastures do share some plants in common with the Westwood - Sheep's Sorrel (*Rumex acetosella*), Eyebright (*Euphrasia* agg.), Lesser Hawkbit (*Leontodon saxatilis*), Heath Bedstraw (*Galium saxatile*), Fairy Flax (*Linum catharticum*), Mouse-ear-hawkweed (*Pilosella officinarum*) and Field Wood-rush (*Luzula campestris*) as well as Quaking-grass (*Briza media*).

The Barmston drain, which cuts both of the eastern commons and passes by syphon underneath the Beverley Beck, was found to be particularly rich in aquatic plants. Its size and depth ensures that there is always a plentiful supply of flowing water, unlike many of the smaller drains which dried out completely. It seems to have acted as a refuge for many plants which were once more widespread and abundant in the Hull Valley. It shares some aquatics with the now recovering Beverley Beck.

Arrowhead (*Sagittaria sagittifolia*) flowered well in 2018, especially in the eutrophicated Barmston Drain. Unbranched Bur-reed (*Sparganium emersum*) was only seen in flower in the Barmston Drain. Scarce in the East Riding, Whorl-grass (*Catabrosa aquatica*), loved by horses, was found in carpets on the drain, and Fan-leaved Water-crowfoot (*Ranunculus circinatus*) was frequent here too. Ivy-leaved Duckweed (*Lemna trisulca*) was abundant in some eutrophicated stretches of the Barmston Drain. The most abundant aquatic in the area was Nuttall's Waterweed (*Elodea nuttallii*), an established alien, but its floating flowers were visible only in the Barmston Drain this July, where a few Canadian Waterweed (*Elodea canadensis*) plants were also found. Horned Pondweed (*Zannichellia palustris*), Opposite-leaved Pondweed (*Groenlandia densa*) and Lesser Pondweed (*Potamogeton pusillus*) were occasional finds in the Barmston Drain, where both Fennel Pondweed (*Potamogeton pectinatus*) and Shining Pondweed (*Potamogeton lucens*) were abundant. Broad-leaved Pondweed (*Potamogeton natans*) was common in still waters and Curled Pondweed (*Potamogeton crispus*) was scattered but in quantity where found. Rigid Hornwort (*Ceratophyllum demersum*) was only found on the Barmston Drain in Swine Moor.

Branched Bur-reed (*Sparganium erectum*) was very common in eutrophic conditions, choking some drains. In most water, standing and flowing, we found at least two types of Water-starwort (*Callitriche* agg.), but without flowers or fruit further identification was not possible. Water-plantain (*Alisma plantago-aquatica*) was less abundant than expected, possibly because of the dry summer affecting some of the smaller drains. Least Duckweed (*Lemna minuta*), an introduction, was occasionally found, but Common Duckweed (*Lemna minor*) was ubiquitous in standing water and in some reedbeds.

Toad Rush (*Juncus bufonius*) was found in only a few locations by drains and shallow ponds. Only one specimen of Blunt-flowered Rush (*Juncus subnodulosus*) was found, not on the commons but by a drain south of Leconfield.

5.5 The 20th century and onwards

It was not until after the first World War that Beverley corporation started the process of town planning and building which brought into being the town we know today. Prior to that time, apart from a few wealthy residents of large town houses beyond the North Bar on a wide tree-lined avenue, and of a few mansions with extensive grounds (now mainly demolished or re-purposed), most people were housed in the old town. By 1901 according to the census, the population had risen to 13 183, most of it crammed into a small area between Lairgate and Old Walkergate with cottages and terraces filling up yards and alleys. People lived in insanitary conditions and the mortality rate was high.

All that remains now of this once overcrowded town centre is the compact layout of narrow medieval streets, merchant yards, snickets and rackets, which has become the commercial centre, mainly of interest botanically for old brick walls and pavement weeds. The most commonly found wall and pavement fern is Hart's-tongue (*Asplenium scolopendrium*) but plants of Black Spleenwort (*Asplenium adiantum-nigrum*), Maidenhair Spleenwort (*Asplenium trichomanes*), Wall-rue (*Asplenium ruta-muraria*), Male-fern (*Dryopteris filix-mas*) and even Intermediate Polypody (*Polypodium interjectum*) have been found on soft-mortared walls, behind leaking drainpipes, in gutters or odd corners, sometimes alongside Ivy-leaved Toadflax (*Cymbalaria muralis*). Persistent urban weeds are to be found in cracks and corners, wherever they can get a toehold - Butterfly-bush (*Buddleja davidii*), the alien Canadian Fleabane (*Conyza canadensis*) together with the unexplained and, here, as in Hull, fast-spreading, Black Nightshade (*Solanum nigrum*).

In 1920 land was bought at Grovehill between the town and Swine Moor and by 1926 the corporation had built 166 houses close to the industrial area, small terraced homes with little outdoor space. A further 119 were built in the grounds of the old Lairgate Hall, occupying much of the open space between the town and the Westwood. Slum clearance began in the thirties with the passing of the Housing Act 1930. Two new estates were laid out east of the town at Cherry Tree Lane (126 houses by 1933) and Mill lane (128 by 1938). In complete contrast to Grovehill these were planned estates with wide curving roads, outdoor space and houses with gardens. Whereas at Grovehill botanical interest centred on nearby waste ground, the only known site in the Beverley area for Hare's-foot Clover (*Trifolium arvense*) and White Melilot (*Melilotus albus*), in the two new council estates we found a surprisingly large number of plants, including garden escapes, such as Trailing Bellflower (*Campanula poscharskyana*), Mexican Fleabane (*Erigeron karvinskianus*) and two small Sorrels *(Oxalis spp.).* Pavement weeds included Thale Cress (*Arabidopsis thaliana*), Knotgrass (*Polygonum aviculare* agg.), Procumbent Pearlwort (*Sagina procumbens*), the ubiquitous Petty Spurge (*Euphorbia peplus*), the archaeophyte Feverfew (*Tanacetum parthenium*), the diminutive Wall Speedwell (*Veronica arvensis*) and Common Mallow (*Malva sylvestris*); managed grassland and verges included plants like Selfheal (*Prunella vulgaris*), Smooth Hawk's-beard (*Crepis capillaris*), Cat's-ear (*Hypochaeris radicata*), Lesser Trefoil (*Trifolium dubium*), Black Medick (*Medicago lupulina*), Common Bird's-foot-trefoil (*Lotus corniculatus*) and several small Geraniums. Some amenity trees, mainly small *Prunus* and *Betula* species with the occasional Rowan (*Sorbus aucuparia*) were noted.

Untended spaces such as tenfoots and entries were quite productive of the weeds typical of disturbed ground such as Oxeye Daisy *(Leucanthemum vulgare*), Mugwort (*Artemisia vulgaris*), Prickly Lettuce (*Lactuca serriola*), Yarrow (*Achillea millefolium*), Scentless Mayweed (*Tripleurospermum inodorum*), Broad-leaved Willowherb (*Epilobium montanum*) and American Willowherb (*Epilobium ciliatum*).

Beverley had long been seen as a desirable place to live for its clean air and commons and with the development of motor transport, which made commuting feasible, there was soon an influx of wealthier people, principally but not entirely, from Hull. But Beverley was squeezed between the commons. The areas west to the Westwood and east to Swine Moor from the historic centre were now filled, hence further expansion had to take place to the north. From 1950 on with large estates of private housing, the northern suburb of Molescroft was created and by 1969 much of the area between Molescroft Road and Woodhall Road was built up as a pleasant garden suburb. To us this proved to be less botanically productive as there appeared to be a somewhat competitive aspect to gardening and maintaining a pristine weed-free environment, but Caper Spurge (*Euphorbia lathyris*), Caucasian-stonecrop (*Sedum spurium*), Common Dog-violet (*Viola riviniana*) as escaped garden weed, Adria Bellflower (*Campanula portenschlagiana*), Yellow Corydalis (*Pseudofumaria lutea*) and Welsh Poppy (*Meconopsis cambrica*) were seen along with Autumn Hawkbit (*Scorzoneroides autumnalis*),

Small-flowered Crane's-bill (*Geranium pusillum*) on the grass verges along with a few mundane pavement weeds. Few amenity trees were noted other than Rowan (*Sorbus aucuparia*) and "Cherry" (*Prunus spp*.).

Space was by this time at a premium and town planning laws were ever more complicated. Attlee's 1947 Town and country Planning Act made planning permission compulsory and enabled compulsory purchase but included measures to protect trees and woodland. Powers were devolved to local authorities in 1990 and 1991 and a structure established whereby the county council was responsible for producing a development plan. With the dissolution of Humberside in 1996 Beverley became once again the county town, governed by the East Riding of Yorkshire County Council. More pertinently to our survey an Act of 1997 established a form of protection for hedgerows which would preserve many from destruction by developers. One such species-rich hedge is preserved in nearby Walkington and, whilst nothing of a comparable size or species-richness was evident in south Beverley, a tendency to preserve natural features emerged, though whether this was dictated by constraints of the terrain in an area with existing ditches is not altogether clear. A shortage of space, planning laws and the need to expand on to arable land to the south because of an increasing population were all factors in a new style of building. Existing trees and species-rich hedges were maintained, as were dikes and drains, and infill or pocket estates, small enclaves of tightly-clustered houses without gardens, often tiled to prevent plant growth or with carefully maintained formal planting, sometimes with a manicured communal "lawn" appeared. Species such as Slender Speedwell (*Veronica filiformis*) and Selfheal (*Prunella vulgaris*) managed to survive on the managed grass. One such infill estate had a carefully preserved flora including both native plants and possible garden escapes: Common Dog-violet (*Viola riviniana*), Winter Aconite (*Eranthis hyemalis*), Common Whitlowgrass (*Erophila verna* s.l.), Lesser Celandine (*Ficaria verna*) and Thyme-leaved Speedwell (*Veronica serpyllifolia*) but that was the exception. Of greater botanical interest usually were the hedges with ditches and we recorded many woody and woodland species. Of the woodland species Dog's Mercury (*Mercurialis perennis*) and Hard Shield-fern (*Polystichum aculeatum*) were the most noteworthy. However, where natural features had not been maintained, particularly in gentrified estates on a larger scale, such as the Housing Association estate near the Minster, there was little of interest to the botanist.
Along the streets throughout the town a significant number of garden escapees were seen and some have already been noted. Among the more commonly encountered were Red Valerian (*Centranthus ruber*), Purple Toadflax (*Linaria purpurea*), Shining Crane's-bill (*Geranium lucidum*), Snapdragon (*Antirrhinum majus*), Pot Marigold (*Calendula officinalis*), Garden Pansy (*Viola x wittrockiana*) and Columbine (*Aquilegia vulgaris*) which appeared to be seeding freely. Others noted included Cat-mint (*Nepeta cataria*), Creeping-Jenny (*Lysimachia nummularia*), Dusky Crane's-bill (*Geranium phaeum*), Sowbread (*Cyclamen hederifolium*), Garden Lady's-mantle (*Alchemilla mollis*), Greater Periwinkle (*Vinca major*), and Opium Poppy (*Papaver somniferum*).

5.6 River and Beck

Beverley Beck is now a charming waterway used by fishermen and strollers, with leisure craft moored by the lock beside a working boatyard. Towards the town lie gentrified 21st century housing, a restored Crane Hill Wharf and the Syntan, a barge once used by Hodgson's Tanneries to transport tanning products, now owned by the Beverley Barge Preservation Society and open as a floating museum. Since the area's redevelopment from 2004 the council has provided boards for the 'Heritage Walk' celebrating the 800-year-old industrial history of this evocative place.

There are still locals who remember this area as a working waterway, and its industrial past only came to an end in 1987. Now only the malodour of the Yorkshire Water Treatment Plant on the south side recalls less salubrious times. Within living memory, the Beck was noxious with industrial waste

particularly from the tanning works. There were milling and seed-crushing industries here too and the Beverley Gas Works was built nearby in 1824 to take advantage of the coal wharves. Tonnage trebled on the Beck between 1838 and 1905, when waterways elsewhere in the country were struggling. In 2004, when a major dredging programme began, hazardous waste, including heavy metals and hydrocarbons, had to be removed for safe disposal.

The Beck has not been a fully natural river course since the 13th century when efforts were first made to canalise it for the use of the Archbishop of York, and evidence of the importance of Beckside trade began. In medieval times there were two thriving settlements on drier knolls by the Waterhead: Barleyholme and North Beckside, and industries included those using leather, textiles, clay, wood and horn, all products of Beverley's agricultural base. These industries all needed water for processing and a navigable river for trade (which also provided taxation revenue for the archbishops).

The parish church of St Nicholas stood to the north surrounded by chalybeate springs considered as 'healing' by the populace. One of the names of the medieval beck was 'Ragbrook', so it may have been a site of rag offerings placed on thorns in the pre-Christian ceremonies still sometimes seen around wells and springs today (Smith 1923). Now, only the fishermen sit in devotional pose by the still waters on the forty fishing platforms built along the Beck.

St Nicholas Church was demolished in the 17th century, as Beckside declined along with the fortunes of the town. The site was used first to grow osiers and then as a market garden. The nearby Mintfields Road recalls the growing of peppermint here, where there were six mint distilleries during the Napoleonic Wars.

Efforts have been made since the Middle Ages to keep the Beck dredged and to shore up its banks. In 1802 an aqueduct had to be built to carry it over the new Beverley and Barmston Drain, and the beck itself was diverted to a new confluence with the River Hull. A lock had to be built to maintain a navigable depth (rebuilt in 1958), which stopped the tidal flow and created stagnation problems.

The diverse flora of the Beck today reflects something of its history of disturbance, and of clays and sands brought in to shore up the banks. It was no surprise to find Oxford Ragwort (*Senecio squalidus*) here and a variety of likely garden escapes. These included Greater Celandine (*Chelidonium majus*), Dusky Crane's-bill (*Geranium phaeum*), Pendulous Sedge (*Carex pendula*), Eastern Sowbread (*Cyclamen coum*) and an exotic surprise, Altar-lily (*Zantedeschia aethiopica*). A small patch near the flyover looked like a mini meadow including Common Knapweed (*Centaurea nigra*). There are some very striking clumps of introduced Greater Tussock-sedge (*Carex paniculata*) on the north side of the beck near the moorings and a stand of attractive White Poplar (*Populus alba*). Wild Angelica (*Angelica sylvestris*) was common here and by other water courses, but a single plant of Garden Angelica (*Angelica archangelica*) was found by the Beck. Biting and White Stonecrop (*Sedum acre and Sedum album*) were both found in the concrete cracks near the moorings and lock.

Along both the River Hull and Beckside are colonies of Purple-loosestrife (*Lythrum salicaria*), Meadowsweet (*Filipendula ulmaria*), Amphibious Bistort (*Persicaria amphibia*), Gypsywort (*Lycopus europaeus*), Water Figwort (*Scrophularia auriculata*), Common Valerian (*Valeriana officinalis*) and the lovely Marsh Woundwort (*Stachys palustris*). A single Wormwood (*Artemisia absinthium*) plant was found by the Beck, the only one found in our survey.

The White Water-lily (*Nymphaea alba*) is found in small quantity on Beverley Beck but may not be the true native taxon. Yellow Water-lily (*Nuphar lutea*) is abundant on the Beck and seen at Figham.

The Greater Duckweed (*Spirodela polyrhiza*), rare in East Yorkshire, was found in Beverley Beck; the commoner Spiked Water-milfoil (*Myriophyllum spicatum*) was also found in the Beck (and on pools on Swine Moor). Flat-stalked Pondweed (*Potamogeton friesii*) was confined to Beverley Beck.

The River Hull is now largely used for leisure craft, and occasional kayaking but was once the East Riding's main trading artery. There is evidence of a small settlement by a staithe on the river at Grovehill in the mid-12th century. This would have linked to the town by Grovehill Road and Trinity Lane. Towards the end of the 19th century, Grovehill area had an unlikely revival with the development of an iron shipbuilding industry, which peaked in the early 20th century as Hull became a leading world deep-sea fishing port. It must have been an astonishing sight to see trawlers launched sideways on from the slipway here. By 1963 shipbuilding was finished, defeated by the narrow winding river and the demand for huge trawlers. The Grovehill Industrial Estate is now here instead, and the river meanders in peace.

The river and its flood plain in our area were historically sources of exploitable resources: reeds and softer rushes ('seaves') for thatching and rush lighting, osier beds for baskets, peat for fuel, the good quality alluvial clay for bricks and tiles, the river and ponds for fish, eels and waterfowl, its poor quality 'carr hay' for fodder and wetlands for summer pastures. Reduced and shrunken by drainage, our section of the river is not very rich in flora, with Reed Canary-grass (*Phalaris arundinacea*), growing mainly on the western side and Common Reed (*Phragmites australis*) on the eastern bank, home to reed buntings, but some interesting finds were made.

One of the real treats of this warm summer was the amount of Flowering-rush (*Butomus umbellatus*) seen in full floral glory along the River Hull in patches from Swine Moor down to Figham. The scarce River Water-dropwort (*Oenanthe fluviatilis*) was found in four spots in the river on both commons and had not been previously recorded here. The toxic Hemlock Water-dropwort (*Oenanthe crocata*) was found by the River Hull and the eastern end of the beck, and Lesser Water-parsnip (*Berula erecta*) was frequent.

Common Meadow-rue (*Thalictrum flavum*), a regionally scarce native, was found by the river. Creeping Yellow-cress (*Rorippa sylvestris*) was found at high tide level on the River Hull and a specimen of Great Yellow-cress (*Rorippa amphibia*) was found near the lock. Wild Onion (*Allium vineale)* is still growing on the eastern embankment of the river beside Weel Road, where it has long been known.

5.7 Railways

A railway line linking Beverley with Hull and Bridlington was opened, with great ceremony, in October 1846, six years after the completion of the Hull-Selby line; the link between Bridlington and Filey (and thence to Scarborough) opening the following year. The corporation had supported the building of the line even though as owner of the beck it stood to lose by it. The line was built by York and North Midlands Railway, which also built the station at the end of Railway Street, which is still open with the same footbridges and crossings. Although fêted for its magnificence at the time the station, once home to an award-winning garden, now handles much less freight and the yards are in part overgrown with Butterfly-bush (*Buddleja davidii*), Brambles (*Rubus fruticusus* agg.) and Wild Teasel (*Dipsacus fullonum* s.l.). The Hull-Beverley line was initially single-track, but it was doubled in 1889 and its freight-handling capacity was significant. Up to WWI heavy goods such as cement, oilcake, grain and manure, and even livestock went by rail.

Although in 1847 George Hudson had taken the railway from York to Market Weighton, his business collapsed two years later and the line was not continued to join the Hull-Bridlington line at Beverley until 1865 (MacMahon).

By the late 1890s plans for a North Holderness Light Railway were mooted. This line, which would link Beverley with North Frodingham via Tickton, was enthusiastically supported by the Beverley Town Council. Responsibility for its construction was devolved to the North Eastern Railway Company and plans were made for a combined rail-vehicle-pedestrian river crossing at Grovehill. By 1901 the scheme was abandoned because of the "high price of iron and labour ..." but the advent of the internal combustion engine almost certainly played a part. It was not until 1953 that the current Grovehill bridge replaced the dilapidated pontoon crossing. Ironically the course of this ghost line is still shown on the ceramic-tile map of the rail-network displayed in Beverley station.

Rather than opening up Beverley to the outside world and acting as a catalyst for development as a manufacturing centre, the railways merely served to cement its ties to and dependence on neighbouring Hull. Whereas between 1801 and 1911 Hull expanded exponentially in terms of population and industry Beverley remained essentially a small market town serving the countryside around. There were still the traditional tanneries, breweries, brickyards and a business making and repairing agricultural implements in Beverley, but the town was stagnant, relying rather on income generated by its position as an administrative centre and its ability to extract a share of Hull's waterways trade.

The single-track line to Market Weighton and York was axed by Beeching in 1963 in favour of the current Hull-York via Selby route, the final train running in November 1965. Efforts have been made by enthusiasts to promote the re-establishment of the line but houses now block part of the route making re-opening unlikely. This disused railway track is now the 16km long footpath and cycle track known as the Hudson Way, with a car park at Kiplingcotes station. The section of track is designated as a Local Wildlife Site and Local Nature Reserve (see **7.2**) but the Beverley end holds less of botanical interest than the higher Wolds sections, containing typical plants of the tall herb community and coarse grasses. The hedges of Ash, thorns and Dog-rose (*Rosa canina* agg.) with occasional Black Bryony (*Tamus communis*) are notable mainly for fruit trees, mostly native *Prunus* species, but also a significant number of Apple trees (*Malus pumila*) originating from discarded apple cores. Once popular with birders it is now mainly used by dog walkers.

5.8 Roads

Perhaps the greatest driver of change in 20th century Beverley was the development of motor transport. It forged closer links with Hull and its port, facilitated links with neighbouring towns like Bridlington, Driffield and York, enabled residents of Beverley to work in Hull and vice versa. It also provided a market for the shock absorbers produced at Gordon Armstrong's Eastgate factory, now long gone. By the 1970s the pace of change was massive. Beverley was already a vital road junction. The building of the Humber Bridge, which opened to traffic in 1981, further increased its importance. Since that time the increase in population, building of new housing estates and greater volume of road traffic have necessitated massive changes in the infrastructure. Existing roads were widened to take the increased volume of traffic and new roads constructed to preserve the town's historic buildings.

To ease congestion, relief roads had been proposed and debated in the 60s and 70s, after the closure of the Beverley-York railway line and during the building of the Humber Bridge. It was proposed that outer bypasses to the south-east and south-west would take Hull traffic to York, Bridlington and a new industrial estate at Swinemoor. The south-eastern bypass running from Hull road at Figham to the junction of Grovehill road and Swinemoor lane opened in 1973. A south-western bypass, completely avoiding Westwood was delayed because of financial difficulties following the oil crisis of 1973 and only opened in 1981.

Proposals for inner relief roads encountered greater opposition, in which the Civic Society (formed in 1961) played a role, campaigning to avoid the destruction of many old houses and to preserve the street layout. In 1980 New Walkergate was built, allowing Toll Gavel and Butcher Row to become a pedestrian precinct. Parking is an ongoing problem.

Further bypasses were proposed to ease the flow of traffic through the centre. Work finished on the southern bypass in 2015; previously a northern bypass had been created when the A1035 was diverted north in 2007 to allow traffic from the A1079 to run straight through to Hornsea well clear of the Molescroft residential area.

The extensive network of roads provided a wide range of environments within the study area. These ranged from the harsh, salted verges of the main highways, the neatly managed suburban arteries and the shady urban by-ways; all readily accessible for botanical examination.

Notable was the large number of halophytes which appear in the salt-splash zone beside treated roads. Plants such as the Danish Scurvygrass (*Cochlearia danica*)*, which* often formed a snowy carpet along a verge in Spring, Lesser Sea-spurrey (*Spergularia marina*), Reflexed Saltmarsh-grass (*Puccinellia distans*) and Buck's-horn Plantain (*Plantago coronopus*)*,* were frequently encountered. Less often Grass-leaved Orache (*Atriplex littoralis*) and Spear-leaved Orache (*Atriplex prostrata*) were found too. A visit to the relatively new northern bypass in August yielded three salt-splash halophytes along with mundane salt-tolerant ruderal weeds, whereas the newly-widened Constitution Hill yielded no halophytes whatsoever. Apparently, they take a while to invade; presumably several years' worth of winter salting is necessary to prepare the ground for them.

Notable also were established colonies which provided a seasonal display by major roads: the native Lesser Celandine (*Ficaria verna*) along the Malton road, Cowslip (*Primula veris*) on a bank beside the south-west bypass, Bulbous Buttercup (*Ranunculus bulbosus*) on the Westwood beside the York road and, less familiar, perhaps, Hoary Cress (*Lepidium draba*) seen growing beside a new road.

Outside the built-up area typical ruderal species*,* along with coarse grasses, were common features of the taller herb communities; on shorter grass verges at Killingwoldgraves and minor roads to south and west, common arable weeds such as Field Penny-cress (*Thlaspi arvense*) and Sticky Mouse-ear (*Cerastium glomeratum*) were recorded. A typical umbellifer succession was to be found on verges*,* with Rough Chervil (*Chaerophyllum temulum*) found less commonly beneath shadier hedges on minor roads. Hemlock (*Conium maculatum*) was also recorded. Beside Long Lane to the south Dog's Mercury (*Mercurialis perennis*), normally found in woodland, was abundant under the hedge. Occasionally seen also were Red Campion (*Silene dioica*) and, by a woodland edge, the delicate Wall Lettuce (*Mycelis muralis*), though the latter is now more commonly seen in town as it is expanding rapidly into urban waste ground.

Lanes and cycle tracks yielded unexpected singletons, both native and alien, such as Greater Burnet-saxifrage (*Pimpinella major*) and the adventive Ragweed (*Ambrosia artemisiifolia*), the latter in a heap of garden waste. More than likely the *Pimpinella* arrived on the wheels of a motor vehicle, as perhaps did the ancestor of the colony of Shaggy Soldier (*Galinsoga quadriradiata*) lining the car park off New Walkergate. A single plant of Corn Spurrey (*Spergula arvensis*) was found growing in sandy soil in a newly-patched verge at Grovehill. The vigorous colony of the alien Caucasian Crosswort (*Phuopsis stylosa*) found beside Swinemoor Lane has escaped from old landscaping.

Unpaved lanes and tracks provided continuity of habitat for Swine-cress (*Lepidium coronopus*), reported by Baines (1840) in the streets of Beverley. Notable by roadsides was the appearance of two potentially invasive neophytes Narrow-leaved Ragwort (*Senecio inaequidens*) and the grass Water

Bent (*Polypogon viridis*) on roadsides, the latter now being particularly well established.

Mature trees along rural roads, whether self-seeded or planted, were mainly Pedunculate Oak (*Quercus robur*), Ash (*Fraxinus excelsior*) or Horse-chestnut (*Aesculus hippocastanum*) especially to the south, Lime (*Tilia x europaea*) and Hornbeam (*Carpinus betulus*) being found in addition to the north. The newly constructed roads yielded the occasional Ash or Oak left over from field edge and very new planting. In 1897 an avenue of Large-leaved Lime (*Tilia platyphyllos)* was planted on the Westwood along the Walkington Road to mark Queen Victoria's diamond jubilee. On the York road the planting was mainly Horse-chestnut (*Aesculus hippocastanum*) and Hornbeam (*Carpinus betulus*). Elwell Avenue, west of Lairgate was lined with Norway Maple (*Acer platanoides*).

In addition, Beverley streets have some memorable large trees, two *Sorbus* near Wednesday Market, others mainly in the New Walk area. Older native trees noted in the survey included several large Hornbeam (*Carpinus betulus*) on Seven Corners Lane, a veteran Sycamore (*Acer pseudoplatanus*), showing evidence of earlier pollarding, and a row of ageing Horse-chestnut (*Aesculus hippocastanum*) on New Walk. Many impressive non-native trees in the area, some planted as street trees but many in private gardens, were not recorded in the survey. Non-natives outnumbered planted native species.

Large street trees of non-native origin included: an avenue of Deodar (*Cedrus deodara*) on Cedar Grove, a giant London Plane (*Platanus x hispanica*), an impressive Cider Gum (*Eucalyptus gunnii*) at Molescroft junction, a Roble (*Nothofagus obliqua*) and a Yellow Buckeye (*Aesculus flava*) on St Mary's Lane, host to nine bunches of Mistletoe (*Viscum album*). Smaller planted amenity trees included Grey Alder (*Alnus incana*), Almond (*Prunus dulcis*) and exotic Birch species such as Himalayan Birch (*Betula utilis*).

6 Current land management as it affects the flora

6.1 Urban expansion and recreation

The main effect of urban expansion on the flora in recent years has been to replace the plants of agricultural land, hedgerows and field margins with those characteristic of small urban gardens. Garden escapes and weeds from garden centres like Least Yellow-sorrel (*Oxalis exilis*) and Procumbent Yellow-sorrel (*Oxalis corniculata*) have added to the mix. As residential development spreads, more intensive management of road verges converts the tall-grass/herb communities to a more lawn-like flora through increased frequency of mowing. Roadside trees in the more rural areas are usually native species that have been allowed to grow in the hedgerows. Over the years, urbanisation will see their replacement by a greater variety of street trees, many of them alien species.

Population growth has led to an increased demand for leisure facilities and recreational pressures have had profound, though unintended, effects on ground flora. The more heavily walked areas, notably the Westwood and Burton Bushes, may no longer be able to sustain any orchids, for example. The golf course on the Westwood seems to have little effect on the flora except on the managed greens but in Hurn the grassland of the racecourse is lush and species-poor presumably due to re-seeding and the application of nutrients and selective herbicides. As the total value of rateable properties rises, the town will have greater revenues to spend for the benefit of townspeople and visitors. There are many competing interests to reconcile and floral diversity is only one of them.

6.2 Agricultural practices

Arable land made only a small contribution to the floral diversity of the area by 2018. Efficient spraying programmes employing the broad-spectrum herbicide glyphosate, among others, resulted in very nearly pure monocultures of the crops. Most local farms followed the commonplace rotation of autumn-sown Wheat, Barley and Oilseed Rape, with ploughing soon following the harvest. Cereal fields had occasional alien grasses as seed contaminants and also native Black-grass (*Alopecurus myosuroides*). Rape fields supported a few broadleaved weeds but the in the main it was headlands and unpaved tracks that contributed most to the flora, along with the tiny islands around the poles supporting power-lines, where ploughing and spraying were difficult. Exceptions to the three-species rotation were a field of Savoy cabbages and another of Brussels sprouts, but otherwise there was no sign of the extensive market-gardens that once supplied the town's vegetable markets. A number of small paddocks around the town were maintained by horse owners. The largest area of pasture other than the commons was an area of ridge-and-furrow land to the northwest of the Beverley Urgent Treatment Centre at the northern end of Swinemoor Lane, grazed by cattle and horses. The farmers trim their hedges (mainly of Hawthorn (*Crataegus monogyna*)) once a year, in late summer.

6.3 Road verges

In the residential areas it is customary to maintain grass verges and to mow them frequently. Along more rural lanes it is sufficient to mow the verges annually. Consequently, the species composition of their floras differs considerably, with White Clover (*Trifolium repens*), and rosette-forming lawn weeds like Dandelion (*Taraxacum* agg.) and Ribwort Plantain (*Plantago lanceolata*), predominating along urban roads and tall-grass floras with such plants as Common Knapweed (*Centaurea nigra*), Broad-leaved Dock (*Rumex obtusifolius*), Hogweed (*Heracleum sphondylium*) and Common Nettle (*Urtica dioica*), along the country lanes. Apart from Common Knapweed, these plants of rural waysides indicate eutrophication. Hedges alongside rural roads are trimmed only annually; garden escapes and throw-outs like *Cyclamen* species can prosper there. The land adjacent to the new bypass roads has

been planted with a mixture of broadleaf trees in an attempt to mitigate the effects of pollution by traffic fumes and noise and to soften the visual impact. Frequently the verges are sown with 'meadow mix' including low-productivity grasses and tall herbs including Oxeye Daisy (*Leucanthemum vulgare*), Musk-mallow (*Malva moschata*), White Campion (*Silene latifolia*), and Common Knapweed (*Centaurea nigra*). Trees of considerable size and age are a feature along many urban streets in the older parts of the town.

6.4 Waterways and drains

The farmers maintain the smaller drains on their land by mowing the vegetation on their banks in late summer down to the waterline or, if the drains have dried out, down to the bed. Larger drains are also in theory the responsibility of the riparian landowners but in practice the work of weed-cutting is organised by companies acting on behalf of the Environment Agency. The companies then bill the landowners in proportion to the length of drains that cross their land. The work is undertaken in the 'back end' of the year. The drains are now the last refuge of the once extensive local flora of marsh plants, among them Wild Angelica (*Angelica sylvestris*), Common Valerian (*Valeriana officinalis*), Meadowsweet (*Filipendula ulmaria*) and, in the larger drains, Arrowhead (*Sagittaria sagittifolia*). The broad Beverley & Barmston Drain, cut in 1802, crosses Figham Common and Swine Moor but is said to play no part in the drainage of the former. The largest body of fresh water in the area, it supports a diverse community of aquatic plants, as does the Beverley Beck. The Environment Agency maintains the embankments of the River Hull; in recent years there has been an extensive programme of raising and strengthening these banks. Browning (1920) noted that, *'On the high bank separating the Hull from the land are Sonchus arvensis, Galeopsis speciosa, Lathyrus pratensis, Vicia Cracca, Scabiosa succisa.'* Although all of these plants survive locally, none of them was encountered on Swinemoor Bank in 2018; they are probably casualties of reworking the river defences. Another duty of the Environment Agency is to maintain the navigable channel of the river and in the year of our survey it raised a number of abandoned, sunken vessels in the Grove Hill area, which it did with due regard to the interests of the otters that were living in some of the wrecks. There seemed to be little use of the river for navigation and all such use that was observed appeared to be recreational. The river channel supported rather few plants of which Unbranched Bur-reed (*Sparganium emersum*), was notable for its frequency and River Water-dropwort (*Oenanthe fluviatilis*), was remarkable for its bizarre anatomy and its recent arrival, having spread slowly downstream from Driffield since 1960.

6.5 The common land

The three grazing commons are an asset of the borough and are managed by the twelve Pasture Masters, whom the Borough's freemen with pasture rights elect annually from among their number, and paid staff working to them. The Pasture Masters control the numbers of beasts grazing and the times when their owners are permitted to turn them onto the pastures. The animals grazing the Westwood this year were all cattle but both beef cattle and horses were grazing Figham Common and Swine Moor. The horses for the most part appeared to be worthless screws, presumably kept as pets and playthings. It must be many years since swine were turned out on any of the commons.

Intervention of relevance to the flora in 2018 was largely confined to mowing Creeping Thistle (*Cirsium arvense*), on Swine Moor and Figham Common. A woman pulling Common Ragwort (*Senecio jacobaea*), on Swine Moor may have been the owner of a horse but the author of this note did not enquire. Heavy grazing resulted in dwarfing of many plants on Swine Moor, including Jointed Rush (*Juncus articulatus*), and the Sedges (*Carex* spp.). Despite attempts to drain the two wet commons, some boggy areas remained even in the exceptionally dry summer of 2018. These were home to some interesting plants including Marsh Arrowgrass (*Triglochin palustris*), Marsh Speedwell (*Veronica scutellata*) and Tubular Water-dropwort (*Oenanthe fistulosa*).

The Westwood is managed for amenity as well as for its value as pasture. The major leisure features there are the racecourse and the golf course but there is plenty of space for recreational walkers and runners. Keldgate Road, Walkington Road, Newbald Road and the stretch of York Road nearest the town are flanked by avenues of trees. The chalky soil in the Lime Kilns area has a range of plants typical of calcareous pasture.

6.6 Woodland

The trees on the Westwood are the property of the Borough and there are historical records of their being sold to raise revenue. There appears to be no commercial forestry on the Westwood today. Burton Bushes is scheduled by Natural England as a Site of Special Scientific Interest and its management currently is minimal. Smaller woodlands are maintained for amenity and as windbreaks. Swadgery Mere Wood and Shorthill Hag retain some interesting ground flora, suggesting long continuity of woodland at those sites.

6.7 Public open spaces

The overriding consideration in managing public open spaces other than the commons is clearly accessibility. The grassed spaces are usually managed in the same way as the verges of residential roads, with frequent mowing, to the satisfaction of dog-walkers and playing children. Some of these spaces are surrounded by hedges or have plantations of trees and shrubs that make for greater biodiversity. Churchyards and cemeteries were found to have at least some areas that were not intensively managed and these produced some notable plants. The uncommon plants, Green Field-speedwell (*Veronica agrestis*) and Grey Field-speedwell (*Veronica polita*), were found together on a single grave in the cemetery on North Bar Without.

6.8 Private land, gardens and allotments

We were unable to explore most private property intimately and had to content ourselves with looking in from the outside. Inspection of the front gardens of some empty houses awaiting new owners or tenants and visits to two areas of allotment gardens gave an insight into the floral composition of the guild of garden weeds including such familiar little plants as Groundsel (*Senecio vulgaris*), and Petty Spurge (*Euphorbia peplus*). Some plants, including escapes of cultivation, were found on the outside walls of private properties. The diversity and even the existence of a wild flora within the curtilage of dwellings depends greatly on the occupier's preferences. Chemical treatment and pressure-hosing rendered some areas of block paving virtually abiotic while others had an exuberance of ruderal plants, suggesting a more tolerant or less assiduous approach to weed control.

6.9 Derelict land

We encountered several derelict industrial sites including land awaiting redevelopment. Such areas were surprisingly varied in character. Some comprised large expanses of concrete, with cracks in the paving and young, moss-bound soils developing on their surfaces, and on partially demolished walls. One large site had regions where soil had been haphazardly dumped, with marked irregularities in topography and a correspondingly diverse flora. Several sites awaiting development were demolished dwellings and their gardens, with surviving shrubs like Butterfly-bush (*Buddleja davidii*), and Fig (*Ficus carica*). Although transient by their nature, derelict or recently developed sites made a considerable contribution to the total biodiversity of the town, supporting garden weeds, ruderals, ephemerals and relics of garden cultivation. Evening-primroses (*Oenothera* spp.), were found only on such land.

7 Legal protection

Within the 25 km^2 of the area considered there are sites on which the native plants enjoy varying levels of protection from adverse management or development. This ranges from the strong, national level, protection afforded to Sites of Special Scientific Interest (SSSIs), the county level planning system of designated Local Wildlife Sites (LWSs) (and tree-preservation orders) to nature reserves established by independent organisations. Additionally the strongly-regulated management of the three commons, with their complex legal history have provided a relatively stable management of around 475ha of land.

7.1 Sites of Special Scientific Interest

Burton Bushes, the only site in our area recognised as a SSSI on the basis of its flora, was first designated under the National Parks and Access to the Countryside Act, 1949 and later notified with a revised boundary in 1982 under Section 28 of the Wildlife and Countryside Act, 1981. The designation places an obligation on the planning authority to take make appropriate consultations before authorising any development which may be damaging, either directly or indirectly, to the site. Burton Bushes was designated because it is oak woodland known to be over 200 years old and it is "… *considered a good example of the woodland characteristic of Holderness Till soils* …".

Based on an observation by Boatman (1971), the 12ha site was fenced off from the rest of the Westwood in the autumn of 1980 in an attempt to exclude cattle which were considered to be inhibiting the natural regeneration of the trees. In recent decades there has been some planting of Pedunculate Oak (*Quercus robur*) and felling of non-native Sycamore (*Acer pseudoplatanus*). Although some young Oak is undoubtedly flourishing, the Bramble (*Rubus fruticusus* agg.) and Holly (*Ilex aquifolium*) have also benefitted from the lack of grazing pressure, possibly to the detriment of woodland herbs such as Bluebell (*Hyacinthoides non-scripta*).

7.2 Local Wildlife Sites

In addition to the nationally recognised SSSI there are several sites protected as Local Wildlife Sites. The system of LWSs is administered by the East Riding of Yorkshire Council (ERYC) and is intended to protect sites which, although not meeting national criteria, are regionally or locally important for their wildlife interest. To be included on the LWS list there must be clear evidence to demonstrate that a site meets agreed criteria. With those designated for their botanical interest this will usually involve demonstrating that they support a minimum number of species taken from a list of plants considered indicative of the particular habitat.

The current list of LWSs has its origins in the wider list of sites presented by the now defunct Humberside County Council (HCC) in the document *Conservation: the natural Environment. List of sites in Humberside*. This contained an eclectic mixture of sites collected from various sources but with no evidence presented for their value; indeed, it was admitted in the introduction that no attempt had been made to verify their current status. It was intended to provide support for HCC environmental policy (EN4) which, as well as acknowledging their responsibility to protect SSSIs, would ensure " … *Development that would adversely affect other defined areas of nature conservation interest will not normally be permitted. In all cases development will be restricted to minimise adverse effects on wildlife resources*".

This 1988 document lists several sites in the study area which, since the advent of the LWS system, no-longer enjoy a formal recognition of their botanical value. Original site boundaries were often vague but Shorthill Hag, the only site in which Wood Millet (*Milium effusum*) was seen, Killingwoldgraves Plantation, and Swadgery Mere Wood (known in the past for Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*)) are not now listed. The fields "south of the Westwood" may refer to the area near Victoria Quarry that once supported Spring Crocus (*Crocus vernus*). Other deleted sites include vague references to Walkington Road hedge, Scrub Wood Lane and Ings Road Field near the Hudson Way in TA0241.

Humberside County Council was abolished in 1996 and its responsibility for conservation was taken over in Beverley by the newly formed ERYC. It was recognised that the list was no longer fit for purpose and a scheme for the formal designation of Sites of Importance for Nature Conservation (SINCs) was instigated. In 2007 the ERYC formally launched a panel of *"experts representing key organisations"* to agree criteria which could be used to identify important Local Wildlife Sites (LWSs) in the county and to then apply these criteria objectively. Lists of qualifying sites are periodically presented to the Council for formal adoption whereupon they then become a formal part of the planning process. All applications for planning permission will be examined to determine their potential impact on these sites.

Unsurprisingly the eastern Commons of Figham and Swine Moor have been designated as LWSs in their entirety, although for some reason the latter did not feature on the original 1988 list. The Westwood common was considered too developed and improved to be listed as a single unit, but a botanically rich area of woodland and short turf near the limekilns facing Walkington Road and an area of grassland near Newbald Road, deemed to be of interest for its fungi, were designated. (Burton Bushes as a SSSI was ineligible for inclusion in this scheme.) The Hudson Way between Beverley and Kiplingcotes is also designated.

7.3 Nature Reserves

The only independently managed nature reserve in the study area is a 0.35ha site at Keldmarsh which was gifted to the Yorkshire Wildlife Trust in 1973. The site with its chalk springs still retains some botanical interest but now only survives as an oasis in an increasingly developed landscape. At the present time it lies on the south-eastern margin of the built area but the recent opening of the Southern Relief Road has created a 76ha block of land which has been allocated to provide 1820 dwellings, the largest single site allocated for housing in the East Riding Local Plan to 2029 (East Riding of Yorkshire 2016). The plan acknowledges the site's existence and suggests provision of a buffer zone and, surprisingly, improved access.

The ERYCC manages the Hudson Way as a Local Nature Reserve although their main priority appears to be the maintenance of the footpath and cycleway.

7.4 The Beverley Common Pastures

As already outlined in earlier sections, the three ancient commons of Beverley appear to have been carefully managed for almost 800 years. Their governance has been dictated by various acts of Parliament, Local Statutes and agreements which, although never intended to conserve the flora, have provided a great inertia with respect to change. Their continued conservative management has effectively prevented any housing or industrial development and now forces further urban expansion to the north or south of the town.

Although often disputed, the actual ownership of the commons has long been with the Beverley Town Council or its successor. In 1836 the Beverley Pastures Act assigned the management responsibility to an elected committee of 12 Pasture Masters. After a public inquiry in 1977 the ownership of the Beverley commons by the Beverley Borough Council (rather than the Pasture Masters) was legally confirmed. The pastures were then registered as common land (Baggs et al 1989). Figham, Swine Moor and Westwood (with the exception of parts of the race-course) are now also registered under the Countryside and Rights of Way Act 2000 (CROW Act) which permits open public access.

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Part II: HISTORICAL PLANT RECORDS

Richard Middleton
Bill Dolling

A history of botanical recording in Beverley

The records from Robert Teesdale's *Supplement to Plantae Eboracensae*, published in 1800, provide the earliest view we have of the plants growing around Beverley. Teesdale's work was essentially intended as a catalogue of Yorkshire plants, with examples of the places he had seen them, or had had reliable reports. The list is particularly useful as it was produced at a time when systematic drainage of the Hull valley was starting to modify and destroy vast tracts of ancient wetland habitat. This inventory makes specific mention of 46 plants growing, so far as can be ascertained, within the confines of the study region. Teesdale had been a gardener at Castle Howard and, although he cannot have known Beverley well, it is recorded that he was accompanied in his examination of our area by Major Christopher Machell. Machell was a Beverley resident and clearly a keen botanist as his portrait, which once hung at Crackenthorpe, depicts him with his "hortus siccus" (Wilkinson 1906). Christopher Machell (1747 – 1827) was the second son of Richard Machell of Crackenthorpe Hall, Westmorland. He had pursued a military career with the 15th Regiment of foot (later to become the East Yorkshire Regiment), losing his left arm in the American War of Independence, and it seems to be through his regiment that he became associated with our region. He married Ann Scott of Aldbrough in 1783 and settled in Hull and Beverley by 1790. He became head of the Machell family on the death of his unmarried elder brother Lancelot in 1788 but by then Crackenthorpe Hall had been sold to Lord Lonsdale to pay Lancelot's outstanding gambling debts. Christopher also well regarded as an artist, on his retirement from the army in 1789 with the rank of Major, became a founding member of the Beverley Banking concern of Machell, Pease & Liddell. He was active in local life and acted as Lieutenant-colonel and inspector of the Local Volunteer forces. Among the better known of Christopher's descendants are his eldest son Robert, who was the curate of Etton and Leconfield for almost 20 years, and his grandsons James Octavius and Thomas. Another grandson, Rev Richard Beverley Machell M.A. , is acknowledged by Wilkinson (1906) for providing him with biographical information regarding Christopher.

Teesdale and Machell's list, published by Poulson in 1829, contains several examples of plants which are now lost and others which are problematical as the nomenclature used does not correspond to modern taxonomy and some of the names may not correspond to the plant intended. These records were later presented by Baines in 1840.

Dr Thomas Hull (1775 – 1850), although not a native of the area, had a long and close association with Beverley. He was born in Chorley, Lancashire and it is tempting to think that he was a relative of the better known botanist Dr John Hull (1761 - 1843) of Poulton-le-Fylde. Thomas married Jane Moody of Retford, Nottinghamshire, where he was in medical practice, in Beverley in 1803. Of their large family of over a dozen children all but the eldest two were baptised in Beverley. This was his main residence until the death of his wife in 1843, sometime after which he retired to Lytham, Lancashire, where he died in 1850. Thomas Hull was a very well-known figure in early 19th century Beverley and in 1822 he was elected as its Mayor. Dr Hull was a respected and competent botanist and archaeologist who contributed a list of around 120 Beverley plants to Poulson's *Beverlac*, published in 1829. In the same year Oliver published *The history and antiquities of the town and minster of Beverley, in the county of York* and in this volume an identical list, along with a useful general description of the flora of the

vicinity is provided by Hull. This outline paints a vivid botanical picture of the area, still recognisable after almost two centuries.

In both Poulson and Oliver an extract is made of Teesdale and Machell's earlier Beverley plant records but in Oliver this is supplemented by Hull with a short list of more common plants supplied by Woodville and others. The identity of Woodville is not elucidated but it may well be a relative of the Quaker Woodvilles of Newcastle, descendants of Isaac Woodville the brother of Dr William Woodville.

Baines 1840 flora of Yorkshire was the first reasonably comprehensive flora of the county, followed in 1854 by Baker's supplement which provided additional information, particularly for the north eastern section. The former work includes many references to Beverley plants but closer examination shows there is very little other than repetition of Teesdale, Machell and Hull's earlier records. H. C. Watson's *New botanist's guide to the localities of the rarer plants of Britain* (1835) also provides a few Beverley records but little new.

At the time of the publication of Baines' flora, Henry Hewetson (1826 – 1909) was a scholar at Beverley Grammar School. His father John Hewetson was a wealthy business man with a residence at Newland House, Hull. The 1841 census shows Henry and his elder brother John lodging in Keldgate, Beverley with the school's headmaster Zachariah Shrapnel Warren. Henry had an early interest in botany and several very interesting specimens that he collected around Beverley at this time still exist in the herbarium of Leeds City Museum, arriving there via a rather convoluted route through the herbaria of Horrel and Sledge. Henry Hewetson was to be an intermittent resident of Beverley for a further two decades or more before finally settling, after a period in Leeds, in Scarborough in 1876. After school in Beverley, Hewetson followed a brief undergraduate career at Edinburgh University where be partook of botanical expeditions with Professor J H Balfour. He did not complete his studies in Edinburgh or to have later followed any profession (his brother John was a clergyman) other than for a brief period as a gentleman farmer in Barton on Humber. He remained a fellow of the Botanical Society of Edinburgh until old age but is better known through his eldest son Dr Henry Bendelack Hewetson (1850 -1899) of Leeds, a naturalist with who he is often confused or conflated.

The first meeting of a newly formed Beverley Natural History Society was held at the Temperance Hall on 5 January 1859 and the *Beverley and East Riding Recorder* for the following Saturday reported that "*many of our most intelligent fellow townsmen took part in the proceedings …*". W W Boulton, Esq, surgeon, was elected to the chair, John Stephenson, Esq., of Hull Bridge was elected treasurer, Mr McEnnes, Secretary, and W. W. Boulton, Esq, Mr F Wilson, Mr J D Shaw, Mr F Richardson and Mr Aston as members of the Executive Committee. By the end of their first year they had assembled an impressive list of "patrons", headed by Lord Londesborough, and procured a "large private room, in Eastgate". The committee were intent upon forming a museum and issued a call for the donation of books, specimens "in any branch of Natural History", and cash. Ladies were admitted as members and reduced rates were offered to youths and apprentices. Despite their laudable aims, they seem to have struggled financially and by March of 1861 were desperate for funding and seem to have disbanded soon after.

1881 saw the founding of the Beverley Field Naturalists' and Scientific Society and the preliminary meeting of this new society was held on 29 September in the Beverley Assembly Rooms, Norwood. Despite the inclemency of the weather a "*gratifying*" number of prospective members was enrolled. Mr J. D. Butterell was to act as secretary and Mr F. Mills, the hon. secretary.

In May 1882 the Yorkshire Naturalists' Union (YNU) held their open meeting in Beverley and although the area covered was wide, the botanists present crossed the Westwood, Swine Moor and Figham Common where they recorded some interesting plants.

The Yorkshire Naturalists' Union held their 24th Annual Meeting at Beverley in March 1886 when the *Bridlington Free Press* reported membership of the Beverley Field Naturalists' and Scientific Society to be eighty. Unfortunately, the conversazione organised for this event left the society £8 out of pocket, a blow from which they do not seem to have recovered. By early 1888 the YNU reported, at their annual meeting in Malton, that the *'Beverley Natural Society'* (sic) had ceased to exist.

James Fraser Robinson (1857 - 1927) was born in South Charlton, Northumberland, but moved from Newcastle to Hull as an Elementary School headmaster in 1885. He was a member of what was to become the Hull Natural History Society, a founding member of the Hull Geological Society in 1888 and an early mentor to the illustrious Thomas Sheppard. He was also an active member of the YNU. He is perhaps best known, in botanical circles, for producing in 1902 the first flora devoted to the East Riding of Yorkshire. From the point of view of our study this flora is somewhat disappointing, with very few direct contemporary references to specific Beverley plants. He repeats the records of Teesdale and Hull but few of these carry any indication that he knew the plant still to be present. The work is, however, useful in that it provides an idea of the contemporary status of taxa in the county but it can provide little other than a general picture.

On 31 July 1920 the YNU visited Beverley; on the final day of this meeting the botanists were led by T Stainforth and F Boyes but seemed to find little of interest when crossing Swine Moor on their way to Pulfin, although there seem to have been good finds by the River Hull.

A range of specimens in the Hull University Herbarium (**HLU)** collected by Prof Good and his associates, mainly during the 1950s, provides unequivocal evidence for over 50 Beverley plants. This collection now also incorporates a sprinkling of 1930s specimens, mainly collected by A K Wilson and A E Wray, some of which arrived in **HLU** from the Hull Technical College collection (**HLL**) after Good's retirement. Good's extensive herbarium of East Yorkshire plants was built at a time when the Botanical Society of the British Isles (BSBI – now Botanical Society of Britain and Ireland) was collecting data in earnest for the *Atlas of the British Flora* (Perring and Walters 1962). The authors of this landmark work actually credit Professor Good with the publication of the first "dot map" of a British plant in 1936 (*Himantoglossum hircinum*). The herbarium also formed a basis for an unpublished *Hand-list of the flora of the East Riding of Yorkshire*, produced in conjunction with Eva Crackles. Crackles (1990) made little mention of the fate of this manuscript other than that the specific localities mentioned had been incorporated into her flora.

1966 saw the founding of the Beverley Naturalists Society which coincided with the anonymous publication by The Beverley Civic Society of a pamphlet about the Beverley Westwood. This contained a short plant list for Burton Bushes.

Since its publication in 1990, Crackles' *Flora of the East Riding of Yorkshire* has been the standard reference work on the distribution of plants within the vice-county. Its author, Dr Florence Eva Crackles MBE (1918 – 2007) was a native of Hull and first became associated with the Hull Natural History Society (Then the Hull Scientific and Field Naturalists' Society) in 1941 and the YNU in 1943 (Cook 2008). She served terms as President of both of these bodies and soon developed a deep and consuming interest in botany, becoming an associate of Prof W S Sledge and Prof R D'O Good. She was the BSBI recorder for vc61 from the 1950s until 1998 and was elected an honorary life member of the Society in 2000 (*ibid*). In 1992 she was made a Member of the Order of the British Empire.

The record cards used by Crackles during the preparation of this flora still exist and were available for analysis. These cards, usually one per tetrad but occasionally more, are those produced by the BSBI for field recording, taxa present being indicated by striking through the name. Six tetrads map reasonably well onto the core of this project; TA03J, TA03P, TA04F and TA04K are completely covered by our survey and TA03E and TA04K in part. With TA03E the SW corner does not form part of this survey and with TA03U only the western half has been re-surveyed but the annotation of the card shows that all records were from the west of the river anyway.

The records here have the advantage that they were assembled with the intention of recording all of the plants present, even those which may be considered "mundane". Hull's list of 1829, by his own admission, only contains a selection of the more interesting plants of Beverley. In all, Crackles' lists provide evidence for 334 taxa and, although falling short of the 570 recorded in our survey, does provide a reasonable point of comparison.

A note of caution must be sounded. These cards were often updated over a long period of time, some containing the combined results of several surveys with added "spot" records. The surveys are credited to various groups (especially the Hull Natural History Society) and individuals; the distressed state of some suggests that they had even been taken into the field. It is not usually possible to determine the date associated with an individual record. The flora was finally published in 1990 and most of the records on these cards relate to surveys made in the 1970s and 1980s. In the Flora, Crackles admits that some of the data used for the distribution maps may extend back to 1950 (the "hand-list") so it is possible that some of this earlier data may have found its way onto the cards. If this is the case the time slice represented will be rather broad, i.e. 1950-1990.

In 2013 Barbara English produced a booklet about the Beverley Pastures for the Beverley Civic Society. This volume incorporates a substantial section on the physical environment written by Kieran Sheehan. In addition to comprehensive phase 1 habitat maps it includes plant lists for the three main commons. The lists for Swine Moor and Figham Common are of particular interest as they include records for some of the rarer elements of the flora that were not encountered in this study. As our study was executed during the hottest recorded English summer, we are acutely aware of the limitations imposed on us by the drying out of many parts of these commons which also imposed a greater than normal grazing pressure on the remaining vegetation.

The Hull Natural History Society (HNHS), founded in 1880, has a long history of field excursions to Beverley and, as already noted, many of the records subsumed by Crackles (1990) will have been contributed by members. Since 2009 the plant lists compiled by the HNHS have been published on the internet via their website, eight of these have been used in this study. Some earlier records of visits are represented among the personal records of Richard Middleton. Records of the now defunct East Yorkshire Botany Club's visits to Beverley have been contributed from the personal records of Gabrielle Jarvis.

During the last decade the East Riding of Yorkshire Council has designated Swine Moor, Figham Common and the Limekilns area of Beverley Westwood as Local Wildlife Sites. The designations were based on professional botanical surveys, each site reaching or exceeding the required number of qualifying species for its particular habitat type. A survey of Beverley Barracks Pit was also made but the site failed to qualify.

Part II References and sources

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The following published sources giving plant lists for the Beverley area have been located –

Published sources:

1800	Beverley area	Robert Teesdale 1800
1829	Beverley	Thomas Hull (in Oliver 1829, Baines 1829)
1829	Beverley	Woodville (in Oliver 1829)
1966	Burton Bushes	Anon. Beverley Civic Society
2013a	Westwood and Hurn	Sheehan, K. et al. (in English 2013)
2013b	Swine Moor	Sheehan, K. et al. (in English 2013)
2013c	Figham and Lund	Sheehan, K. et al. (in English 2013)

2019	Beverley Beck	Goulder, R. 2019

Web sources – Hull Natural History Society (HNHS): (www.hullnats.org.uk/pdf/)

2009 June 14	Swine Moor	2009/plants/swinemoor140609.pdf
2010 June 8	Westwood – Limekilns area	2010/plants/beverleylimekilns080610.pdf
2011 April 26	Swine Moor	2011/plants/swinemoor260411.pdf
2012 August 14	Figham and Beverley Beck	2012/plants/figham140812.pdf
2014 May 6	Swine Moor	2014/plants/swinemoor060514.pdf
2015 May 5	Swine Moor	2015/plants/swinemoor050515.pdf
2016 July 19	Westwood	2016/bwestwood190716.pdf
2017 May 30	Figham and Beverley Beck	2017/figham300517.pdf

Manuscript sources:

pre 1990	TA03E recording card	Crackles 1990 – cumulative list for TA03E
pre 1990	TA03J recording card	Crackles 1990 - cumulative list for TA03J
pre 1990	TA03P recording card	Crackles 1990 - cumulative list for TA03P
pre 1990	TA03U recording card	Crackles 1990 - cumulative list for TA03U
pre 1990	TA04F recording card	Crackles 1990 - cumulative list for TA04F
pre 1990	TA04K recording card	Crackles 1990 - cumulative list for TA04K

1998 September 15	Barmston Drain, Hull Bridge	W R Dolling (ex F E Kenington) , personal records
2017 June 11	Grovehill towpath TA0539	W R Dolling, personal records

2017a August 20	Beverley Beck TA0539	Dr Ray Goulder, personal records
2017b August 20	Beverley Beck TA0439	Dr Ray Goulder, personal records

2011 May 25	Lime Kilns and Burton Bushes	Gabrielle Jarvis, personal records (for East Yorkshire Botany Club)
2014 July 14	Swine Moor	Gabrielle Jarvis, personal records (for East Yorkshire Botany Club)

1989 July 4	Burton Bushes	Richard Middleton, personal records
1997 June 10	Swine Moor	Richard Middleton, personal records
1994 May 31	Swine Moor (HNHS)	Richard Middleton, personal records
2000 August 22	Beverley Beck	Richard Middleton, personal records
2001 July 5	Limekilns (Foot & Mouth year)	Richard Middleton, personal records
2006 June 6	Swine Moor	Richard Middleton, personal records
2007 May 29	Westwood & Burton Bushes	Richard Middleton, personal records
2008a May 27	Figham	Richard Middleton, personal records
2008b August 31	Grove Hill Industrial Estate	Richard Middleton, personal records
2014a June 24	Swine Moor Lane TA0440	Richard Middleton, personal records
2014b August 4	Beverley north TA04F	Richard Middleton, personal records

East Riding of Yorkshire Local wildlife site survey records:

2008a June 16	Beverley Westwood	G. Wilmore
2008b June 17	Figham Pastures (GW)	G. Wilmore
2008 August 7	Beverley Barracks Pit (KS)	K. Sheehan
2010 August 5	Swine Moor (GW & KM)	G. Wilmore & K McDowell

Early 19th century records

Robert Teesdale (1800) produced the earliest lists containing references to Beverley plants. A few extra plants relate to Teesdale & Machell in Poulson (1829). The following seem to relate to our Beverley study region.

	Recorded as		
Aquilegia vulgaris		Columbine	
Myriophyllum verticillatum		Whorled Water-milfoil	
Vicia lathyroides		Spring Vetch	
Lathyrus palustris		Marsh Pea	
Salix pentandra		Bay Willow	
Salix purpurea		Purple Willow	
Salix aurita		Eared Willow	
Salix repens	*Salix fusca*	Creeping Willow	
Epilobium tetragonum		Square-stalked Willowherb	
Rorippa sylvestris	*Sisymbrium sylvestre*	Creeping Yellow-cress	
Armoracia rusticana	*Cochlearia armoracia*	Horse-radish	
Stellaria palustris	*Stellaria media*	Marsh Stitchwort	
Myosoton aquaticum	*Cerastium aquaticum*	Water Chickweed	
Hottonia palustris		Water-violet	Teesdale & Machell
Blackstonia perfoliata	*Chlora perfoliata*	Yellow-wort	
Melampyrum pratense		Common Cow-wheat	
Carlina vulgaris		Carline Thistle	
Helminthotheca echioides	*Picris echioides*	Bristly Oxtongue	
Lactuca virosa		Great Lettuce	
Crepis paludosus	*Leontodon palludosum*		
Dipsacus pilosus		Small Teasel	Risby? (Crackles 1990)
Smyrnium olusatrum		Alexanders	
Pimpinella saxifraga	*Pimpinella dissecta*	Burnet-saxifrage	
Apium repens	*Sium repens*	Creeping Marshwort	
Thyselium palustre		Milk-parsley	
Lemna gibba		Fat Duckweed	
Baldellia ranunculoides	*Alisma ranunculoides*	Lesser Water-plantain	
Alisma plantago-aquatica	*Alisma lanceolata*	Water-plantain	
Butomus umbellatus		Flowering-rush	Teesdale & Machell
Stratiotes aloides		Water-soldier	Teesdale & Machell
Potamogeton natans		Broad-leaved Pondweed	
Dactylorhiza	*Orchis latifolia*	A Marsh Orchid?	
Sparganium natans		Least Bur-reed	
Luzula campestris	*Juncus campestris*	Field Wood-rush	
Eriophorum angustifolium	*Eriophorum polystachion*	Common Cottongrass	
Eleocharis quinqueflora	*Scirpus pauciflorus*	Few-flowered Spike-rush	
Carex x pseudoaxillaris	*Carex remota x otrubae*	A hybrid sedge	
Carex arenaria		Sand Sedge	Is this *C. disticha*?

Carex lasiocarpa	*Carex filiformis*	Slender Sedge
Carex pseudocyperus		Cyperus Sedge
Carex vesicaria		Bladder-sedge
Carex hostiana	*Carex fulva*	Tawny Sedge
Carex acuta		Slender Tufted-sedge
Schedonorus pratensis	*Festuca loliacea*	Meadow Fescue
Vulpia myuros	*Festuca myurus*	Rat's-tail Fescue
Bromus racemosus		Smooth Brome

The list of Beverley plants provided by Dr Thomas Hull in Oliver (1829) was marred by many typographical errors. The fact that these are not present in the identical list that he is credited with in Baines' volume (1829) suggests that the problem was with Oliver and his publisher rather than incompetence on Hull's part. In the following table the scientific names are those used in the list given in Baines. The list in Oliver is, however, more interesting as it gives vernacular names too.

	Recorded as		**Hull's vernacular**
Nuphar lutea	*Nymphea lutea*	Yellow Water-lily	Yellow water lily
Papaver rhoeas		Common Poppy	Common poppy
Pseudofumaria lutea	*Fumaria caprioides*	Yellow Corydalis	Wall fumitory
Caltha palustris		Marsh-marigold	Marsh marigold
Ranunculus lingua		Greater Spearwort	Great spearwort
Ranunculus flammula		Lesser Spearwort	Less spearwort
Ranunculus aquatilis		Common Water-crowfoot	Water crowfoot
Saxifraga granulata		Meadow Saxifrage	White saxifrage
Saxifraga tridactylites		Rue-leaved Saxifrage	Rueleaved saxifrage
Myriophyllum spicatum		Spiked Water-milfoil	Spiked water milfoil
Astragalus glycyphyllos		Wild Liquorice	Wild liquorice
Anthyllis vulneraria		Kidney Vetch	Kidney vetch
Lotus corniculatus		Common Bird's-foot-trefoil	Bird's foot clover
Lathyrus pratensis		Meadow Vetchling	Tare everlasting
Lathyrus sylvestris		Narrow-leaved Everlasting-pea	Wild lathyrus
Lathyrus aphaca		Yellow Vetchling	Yellow lathyrus
Ononis spinosa		Spiny Restharrow	Thorny restharrow
Genista tinctoria		Dyer's Greenweed	Dyer's weed
Polygala vulgaris		Common Milkwort	Milkwort
Filipendula vulgaris	*Spirea filipendula*	Dropwort	Dropwort
Potentilla argentea		Hoary Cinquefoil	Silvery cinquefoil
Potentilla reptans	*Tormentilla reptans*	Creeping Cinquefoil	Creeping tormentil
Comarum palustre		Marsh Cinquefoil	Marsh cinquefoil
Geum urbanum		Wood Avens	Common avens
Agrimonia eupatoria		Agrimony	Agrimony
Alchemilla vulgaris agg.		Lady's-mantle	Ladies' mantle
Humulus lupulus		Hop	Wild hop
Parietaria judaica		Pellitory-of-the-wall	Pellitory of the wall
Bryonia dioica		White Bryony	Red berried bryony
Oxalis acetosella		Wood-sorrel	Wood sorrel
Linum perenne		Perennial Flax	Perennial flax
Linum catharticum		Fairy Flax	Purging flax
Hypericum perforatum		Perforate St John's-wort	St. John's wort

Hypericum tetrapterum	*Hypericum quadrangulare*	Square-stalked St John's-wort	St. Peter's wort
Geranium pratense		Meadow Crane's-bill	Meadow cranesbill
Erodium cicutarium agg.	*Geranium cicutarium*	Common Stork's-bill	Hemlock cranesbill
Lythrum salicaria		Purple-loosestrife	Purple willow herb
Malva moschata		Musk-mallow	Musk mallow
Daphne laureola		Spurge-laurel	Mezereon
Reseda luteola		Weld	[?]Woad
Persicaria bistorta	*Polygonum bistorta*	Common Bistort	Great bistort
Persicaria maculosa	*Polygonum persicaria*	Redshank	Spotted snakeweed
Drosera rotundifolia		Round-leaved Sundew	Roundleaved sundew
Agrostemma githago		Corncockle	Corncockle
Silene vulgaris	*Cucubalus behen*	Bladder Campion	Spattling poppy
Silene dioica	*Lychnis dioica*	Red Campion	Red flowered campion
Silene flos-cuculi	*Lychnis flos cuculi*	Ragged-Robin	Meadow pink
Hottonia palustris		Water-violet	Water violet
Lysimachia nummularia		Creeping-Jenny	Moneywort
Anagallis tenella		Bog Pimpernel	Bog pimpernel
Galium odoratum	*Aspemia odorata*	Woodruff	Sweet woodroof
Galium uliginosum	*Galium uliginosum*	Fen Bedstraw	Marsh goosegrass
Galium palustre		Marsh-bedstraw	White lady's bedstraw
Galium album	*Galium mollugo*	Hedge Bedstraw	Madder goosegrass
Centaurium erythraea	*Chironia centaurium*	Common Centaury	Less centaury
Gentianella campestris	*Gentiana campestie*	Field Gentian	Field gentian
Gentiana pneumonanthe		Marsh Gentian	Calthean violet
Lithospermum officinale		Common Gromwell	Gromwell
Lithospermum arvense		Field Gromwell	Corn gromwell
Echium vulgare		Viper's-bugloss	Common vipergrass
Anchusa arvensis	*Lycopsis arvensis*	Bugloss	Wild bugloss
Hyoscyamus niger		Henbane	Henbane
Datura stramonium		Thorn-apple	Thorn apple
Solanum dulcamara		Bittersweet	Bitter sweet
Digitalis purpurea		Foxglove	Foxglove
Cymbalaria muralis	*Antirrhinum cymbalaria*	Ivy-leaved Toadflax	Ivyleaved snapdragon
Linaria vulgaris	*Antirrhinum linaria*	Common Toadflax	Wad flax
Verbascum thapsus		Great Mullein	Great mullein
Scrophularia nodosa		Common Figwort	Great figwort
Limosella aquatica	*Scrophularia aquatica*	Mudwort	Bastard plantain
Betonica officinalis		Betony	Wood betony
Lamiastrum galeobdolon	*Galeobdolon luteum*	Yellow Archangel	Yellow archangel
Ajuga reptans		Bugle	Corn bugle
Euphrasia agg.	*Euphrasis officinalis*	Eyebright	Common eyebright
Odontites vernus	*Euphrasia odontites*	Red Bartsia	Red eyebright
Pedicularis sylvatica		Lousewort	Common lousewort
Pinguicula vulgaris		Common Butterwort	Common butterwort
Utricularia minor		Lesser Bladderwort	Less hooded milfoil
Campanula glomerata		Clustered Bellflower	Clustered bellflower
Campanula trachelium		Nettle-leaved Bellflower	Canterbury bells
Menyanthes trifoliata		Bogbean	Marsh trefoil
Carduus tenuiflorus		Slender Thistle	Slender flowered thistle
Cirsium eriophorum	*Carduus eriophorus*	Woolly Thistle	Wooly headed thistle
Centaurea cyanus		Cornflower	Blue bottle
Cichorium intybus		Chicory	Wild succory
Lactuca virosa		Great Lettuce	Stinking lettuce
Pilosella officinarum	*Hieracium pilosella*	Mouse-ear-hawkweed	Mouse ear hawkweed
Antennaria dioica	*Gnaphalium dioicum*	Mountain Everlasting	Mountain catsfoot
Hieracium ?	*Hieracium villosum*		Hairy hawkweed

Hieracium ?	*Hieracium subaudum*		Shrubby hawkweed
Inula helenium		Elecampane	Elecampane
Pulicaria dysenterica	*Inula dysenterica*	Common Fleabane	Fleabane
Bidens tripartita		Trifid Bur-marigold	Trifid doubletooth
Eupatorium cannabinum		Hemp-agrimony	Hemp agrimony
Dipsacus fullonum		Wild Teasel	Teasel
Succisa pratensis	*Scabiosa succisa*	Devil's-bit Scabious	Devil's bit scabius
Scandix pecten-veneris		Shepherd's-needle	Shepherd's needle
Myrrhis odorata	*Scandix odorata*	Sweet-cicely	Sweet Cicely
Oenanthe fistulosa		Tubular Water-dropwort	Water dropwort
Oenanthe crocata		Hemlock Water-dropwort	Hemlock dropwort
Aethusa cynapium	*Aethusa sinapium*	Fool's Parsley	Fool's parsley
Conium maculatum		Hemlock	Common hemlock
Cicuta virosa		Cowbane	Water hemlock
Sagittaria sagittifolia		Arrowhead	Arrowhead
Baldellia ranunculoides	*Alisma ranunculoides*	Lesser Water-plantain	Less thumbwort
Alisma plantago-aquatica	*Alisma plantago*	Water-plantain	Water plantain
Butomus umbellatus		Flowering-rush	Flowering rush
Potamogeton perfoliatus		Perfoliate Pondweed	Perfoliate pond weed
Potamogeton compressus		Grass-wrack Pondweed	Flatstalked pondweed
Platanthera bifolia	*Orchis bifolia*	Lesser Butterfly-orchid	Butterfly orchis
Pseudorchis albida	*Satyrium albidum*	Small White Orchid	White satyrion
Dactylorhiza fuchsii	*Orchis maculata*	Common Spotted-orchid	Spotted orchis
Orchis anthropophora	*Ophrys anthropofora*	Man Orchid	Green man orchis
Anacamptis morio	*Orchis morio*	Green-winged Orchid	Meadow orchis
Ophrys insectifera	*Ophrys muscifera*	Fly Orchid	Fly orchis
Ophrys apifera		Bee Orchid	Bee orchis
Allium ursinum		Ramsons	Ramsons
Eriophorum angustifolium	*Eriophorum polystachion*	Common Cottongrass	Peduncled cotton grass
Eriophorum vaginatum		Hare's-tail Cottongrass	Single headed cotton grass
Eleocharis quinqueflora	*Scirpus pauciflorus*	Few-flowered Spike-rush	Sparing clubrush
Carex paniculata		Greater Tussock-sedge	Panicled seg
Carex remota		Remote Sedge	Remote seg
Carex hirta		Hairy Sedge	Hairy seg
Carex pulicaris		Flea Sedge	Flea seg
Avena fatua		Wild-oat	Bearded oat
Melica nutans		Mountain Melick	Mountain melica

Additionally, in Oliver (1829) Hull presents a list of 22 more common plants provided by “Woodville.”

	Recorded as		**Woodville’s vernacular**
Ficaria verna	*Ranunculus ficaria*	Lesser Celandine	Pilewort
Sempervivum tectorum		House-leek	Greater house leek
Potentilla anserina		Silverweed	Silver weed
Rosa canina agg.	*Rosa canina*	Dog-rose	Dog's rose
Malva sylvestris		Common Mallow	Common Mallow
Nasturtium officinale agg.	*Sisymbrium masturtium*	Water-cress	Water cresses
Cardamine pratensis		Cuckooflower	Ladysmock
Sisymbrium officinale	*Erysimum officinale*	Hedge Mustard	Hedge Mustard

Alliaria petiolata	*Erysimum alliaria*	Garlic Mustard	Sauce alone
Rumex acetosa		Common Sorrel	Sorrel
Anagallis arvensis		Scarlet Pimpernel	Pimpernell
Galium aparine		Cleavers	Cleavers
Glechoma hederacea		Ground-ivy	Ground ivy
Prunella vulgaris		Selfheal	Self heal
Taraxacum agg.	*Leontodon taraxacum*	Dandelion	Dandelion
Artemisia absinthium		Wormwood	Wormwood
Achillea ptarmica		Sneezewort	Sneezewort yarrow
Achillea millefolium		Yarrow	Common yarrow
Leucanthemum vulgare	*Crysanthemum leucanthemum*	Oxeye Daisy	Oxeye
Oenanthe aquatica	*Phellandrium aquaticum*	Fine-leaved Water-dropwort	Water hemlock
Daucus carota		Carrot	Wild carrot
Arum maculatum		Lords-and-Ladies	Wakerobin

The following are given in Watson, H. C. 1835. The new botanist's guide to the localities of the rarer plants of Britain. Volume 1 England and Wales. It is likely that the locality of Beverley was used in a wide sense and will include parts of the Hull valley north of our recording area.

taxon	**locality**	**notes**
Nasturtium sylvestre = Rorippa sylvestre	Marshes and sides of ditches at Beverley	
Camelina sativa	Among clover at Esk, near Beverley.	
Lathyrus palustris	Marshes near Beverley, abundantly.	
Myriophyllum verticillatum	Ditches about Beverley.	
Helosciadium repens = Apium repens	Ditches about Beverley [B.G.]	A problematical entry for this extremely rare plant, although it's hybrid *with Apium nodiflorum* (*A. x riddellsdelii*) was found near Hornsea Mere by F E Crackles in 1975 (Crackles 1975).
Peucedanum palustre	Marshes near Beverley, abundantly.	Milk Parsley
Dipsacus pilosus	Woods near Beverley.	
Chlora perfoliata = Blackstonia perfoliata	On the wolds near Beverley.	
Rumex maritimus	Woodmansey, near Beverley.	
Salix purpurea	About Beverley.	
Salix pentandra	Near Beverley.	
Stratiotes aloides	Near Beverley.	
Sparganium natans	Ditches in Swinemoor at Beverley.	
Potamogeton gramineus	Beverley [Winch, add.]	
Potamogeton rufescens = Potamogeton alpinus	Marshy ground, near Beverley. [Eng. Fl.]	

Eleocharis pauciflora = Eleocharis quinqueflora	… and marshes near Beverley. [B.G]	
Carex Davalliana =Carex dioica	Marshy ground near Beverley. [B.G.]	
Carex teretiuscula =Carex diandra	Arram Car, near Beverley, abundantly.	
Carex axillaris =Carex x pseudoaxillaris	Sides of ditches at Beverley.	The hybrid between *Carex otrubae* and *Carex remota*
[?Carex extensa] = ?Carex demissa	Wet pastures, near Beverley. Teesale [B.G.]	Watson suggests that this is a mistake for *Carex Oederi*
Carex fulva = Carex appropinquata	Near Beverley.	
Carex recurva, Micheliana	Wet ground near Beverley.	This is now considered to be *Carex flacca*
Carex filiformis = Carex lasiocarpa	In all the watery marshes about Beverley, very common.	

Notes:

B. G. = Turner and Dillwyn 1805.
Eng. Fl. = Smith. English Flora.
Winch, add. = based on an annotated copy of Flora Britannica lent to Watson by N. J. Winch.

Herbarium specimens

Specimens held in the Hull University Herbarium (HLU)

182	***Dryopteris carthusiana***	Burton Bushes	Good R D'O	25/05/1953
820	***Papaver dubium***	Beverley	Wilkins D A	26/07/1952
527	***Ranunculus auricomus***	Beverley	Good R D'O	24/05/1957
533	***Ranunculus auricomus***	Beverley	Good R D'O	24/05/1951
556	***Ranunculus flammula***	Figham, East Yorkshire	Wilkins D A	04/06/1952
4479	***Lathyrus linifolius***	Beverley	Good R D'O	26/06/1957
15485	***Rubus caesius***	Beverley Parks Lane	Wilson A K	25/05/1938
4400	***Potentilla erecta***	Westwood, Beverley	Good R D'O	19/07/1951
4708	***Rosa arvensis***	Beverley	Good R D'O	19/07/1951
4754	***Rosa canina***	Beverley	Good R D'O	19/07/1957
6797	***Quercus robur***	Beverley	Good R D'O	25/05/1953
6190	***Bryonia dioica***	Beverley	Good R D'O	18/07/1951
6191	***Bryonia dioica***	Beverley	Good R D'O	18/07/1951
1805	***Viola riviniana***	Beverley	Good R D'O	24/05/1951
1837	***Viola reichenbachiana***	Between Bishop Burton and Burton Bushes	Good R D'O	13/03/1938
3227	***Geranium pratense***	Beverley	Good R D'O	13/07/1950
3337	***Geranium molle***	Beverley	Good R D'O	10/06/1934
3495	***Acer campestre***	Burton Bushes	Good R D'O	25/05/1953
2525	***Stellaria graminea***	Westwood	Good R D'O	19/07/1951

2303	***Silene noctiflora***	Between Bishop Burton and Burton Bushes	Good R D'O	22/07/1956
7274	***Hottonia palustris***	Figham Common	Wilson A K	00/00/1937
7290	***Lysimachia nemorum***	Burton Bushes	Wilkins D A	04/06/1952
9937	***Galium palustre***	Figham Common	Wilson A K	00/00/1930
9984	***Galium aparine***	Beverley	Wilkins D A	04/06/1952
8427	***Veronica montana***	Burton Bushes	Good R D'O	28/05/1953
8193	***Antirrhinum majus***	Beverley	Good R D'O	07/07/1958
5590	***Callitriche obtusangula***	Beverley	Wilson A K	00/06/1939
5601	***Callitriche hamulata***	Figham Common	Wilson A K	21/06/1939
9166	***Clinopodium acinos***	Beverley	Good R D'O	28/07/1951
9121	***Thymus polytrichus***	Beverley	Good R D'O	28/07/1951
9123	***Thymus polytrichus***	Beverley	Good R D'O	28/07/1951
9062	***Lycopus europaeus***	Hull Bank, Beverley	Wilson A K	00/00/1938
3504	***Ilex aquifolium***	Burton Bushes	Good R D'O	25/05/1953
9723	***Campanula rotundifolia***	Beverley	Good R D'O	28/07/1951
11218	***Cirsium palustre***	River Hull, Beverley	Wilson A K	00/00/1951
11550	***Crepis vesicaria***	Figham Common	Wilkins D A	04/06/1952
10692	***Pulicaria dysenterica***	Beverley	Good R D'O	13/08/1957
10914	***Anthemis arvensis***	Beverley	Wilkins D A	04/06/1952
11052	***Leucanthemum vulgare***	Figham Common	Wilkins D A	04/06/1952
11013	***Matricaria recutita***	Beverley	Wilkins D A	04/06/1952
10232	***Senecio aquaticus***	Beverley	Wilson A K	00/00/1951
10233	***Senecio aquaticus***	Beverley	Wilson A K	00/00/1932
10881	***Eupatorium cannabinum***	Beverley	Wilson A K	00/08/1951
5668	***Sanicula europaea***	Beverley	Good R D'O	19/07/1951
13130	***Anacamptis pyramidalis***	Beverley	Good R D'O	28/07/1951
12823	***Coeloglossum viride***	Beverley	Sisley	03/06/1952
13009	***Dactylorhiza fuchsii***	Beverley	Wilson A K	22/07/1937
12931	***Anacamptis morio***	Beverley	Wilkins D A	03/06/1952
12653	***Crocus vernus***	Beverley	Hewetson H	00/04/1861
12654	***Crocus vernus***	Beverley	Hewetson *Dr* H	00/04/1861
12401	***Juncus articulatus***	Beverley	Wilson A K	22/07/1937
13666	***Carex rostrata***	Figham Common	Wilson A K	21/06/1939
14494	***Cynosurus cristatus***	Beverley	Wilkins D A	04/06/1952
14589	***Poa compressa***	Beverley	Good R D'O	07/07/1958
14486	***Dactylis glomerata***	Beverley	Wilson A K	00/00/1951
14487	***Dactylis glomerata***	Beverley	Wilkins D A	04/06/1952
14985	***Holcus mollis***	Beverley	Wilson A K	00/07/1953
15297	***Anthoxanthum odoratum***	Beverley	Wilkins D A	04/06/1952
15315	***Phalaris arundinacea***	Beverley	Wilson A K	00/00/1951
14391	***Glyceria maxima***	Beverley	Wilson A K	00/00/1951
14405	***Glyceria fluitans***	Beverley	Wilkins D A	04/06/1952

Specimens held in the Hull Technical College herbarium HLL (Now housed with HLU)

100021	***Ranunculus circinatus***	Beverley	Wilson A K	25/05/1938
100300	***Rubus caesius***	Beverley Parks Lane	Wilson A K	25/05/1938
100410	***Vinca minor***	Beverley	Wilson A K	00/00/1933
100593	***Myosotis scorpioides***	Figham Common	Wilson A K	00/00/1932

100598	***Symphytum uplandicum***	Beverley Parks Lane	Wilson A K	00/05/1938
100669	***Scutellaria galericulata***	Beverley Parks Lane	Wray A E	00/00/1932
101228	***Berula erecta***	Beverley Parks Lane	Wray A E	18/08/1933

Specimens held in the Leeds Museum Herbarium (LDS)

17725	***Viola riviniana***	Beverley	Hewetson H	05/1840
17726	***Viola riviniana***	Beverley	*Hewetson H	04/1861
17863	***Viola reichenbachiana***	Beverley	*Hewetson H	04/1861
17873	***Viola canina***	Beverley	Hewetson H	05/1841
16682	***Capsella bursa-pastoris***	Beverley	*Hewetson H	05/1861
16490	***Raphanus raphanistrum***	Beverley	*Hewetson H	05/1861
19306	***Agrostemma githago***	Near Beverley	Hewetson H	1847
12558	***Epipactis palustris***	Near Beverley	Hewetson H	08/1840
12571	***Epipactis helleborine***	Near Beverley	Hewetson H	08/1840
12801	***Anacamptis pyramidalis***	Near Beverley	Hewetson H	1840
12728	***Anacamptis morio***	Beverley	Hewetson H	05/1840
12764	***Dactylorhiza maculata***	Beverley	Hewetson H	06/1861
12782	***Dactylorhiza praetermissa***	Beverley	Hewetson H	07/1840
12743	***Orchis mascula***	Beverley	*Hewetson H	05/1861

***** indicates that the specimen may have been collected by Henry Bendelack Hewetson**.**

Other herbaria:

A search of the Herbaria at Home database for Beverley, East Yorkshire sheets, reveals only seven specimens, of these *Potamogeton polygonifolius*, collected by Charles Avery in 1939 can be ruled out as being from Beverley Brook, south-west London and the *Lathyrus palustris*, W A Sledge 1937 July 22 is actually from Pulfin Bog to the north of Beverley. Charles Waterfall's specimens of *Mentha arvensis* and *Mentha x verticillata* var. *paludosa* 1899 August, (**K** , Watson Botanical Exchange Club specimens) from "Bank of the River Hull, nr. Hull Bridge", are local and possibly from within the survey area. The three remaining sheets - *Sanicula europaea*, *Geum rivale* and *Fragaria vesca* , collected by M Patten 1879 May 16 (**SLBI**) – are likely to be from vc61.

The herbarium of the Yorkshire Museum, York (**YRK**) is frequently mentioned in the early literature as a source for Teesdale's and Machell's records. It has not been possible in this study to examine this collection but it seems reasonable to expect that Robinson and Crackles, who cite this source in their respective floras, were familiar with its contents. Robinson (1903) notes specimens of Potamogeton acutifolius labelled "Beverley, Yorkshire, Mr. R. Teesdale, July, 1798". in the herbarium of sir J. E. Smith (fide Mr. Ar. Bennett). Could this also have been at York rather than the Linnean Society (**LINN**), as stated by Crackles (1990)? Crackles cites the herbarium of the British Museum (**BM**) for Teesdale's 1794 specimen of *Potamogeton gramineus*.

The herbaria of Hull Museums (**HLMA**) and Scarborough Museums (**SCAR**) do not contain any pertinent material.

Plants previously recorded for Beverley but not found in 2018

Plants specifically mentioned in Crackles' 1990 flora as being known from Beverley or marked on her manuscript data cards as being recorded in TA03 EJPU or TA04 FK are annotated with *.

References to herbarium material are indicated by the standard abbreviations e.g. (**HLU**, **HLL**, etc**.)** followed by the year of collection.

The reference given is that which provides the most recent report. Where this is the only record it will be presented in **bold type**.

CAVEAT: It is inevitable that some of the plants on the following list will be based on confusion or mistaken identifications. It is likely that in some instances (indicated with ?) the locality "Beverley" may have been used in a wider sense than in our definition. Care should be exercised in its interpretation.

SELAGINELLACEAE

?*Selaginella selaginoides* (L.) P. Beauv. Lesser Clubmoss **1805 Turner & Dillwyn**

OPHIOGLOSSACEAE

?*Botrychium lunaria* (L.) Sw. Moonwort **YNU 1882**

EQUISETACEAE

?*Equisetum telmateia* Ehrh. Great Horsetail **YNU 1882**

ASPLENIACEAE

Asplenium ceterach L. Rustyback **T Audas** in **Robinson 1902**

SALVINIACEAE

**Azolla filiculoides* Lam. Water Fern Dolling 1998

DRYOPTERIDACEAE

Dryopteris carthusiana* (Vill.) H.P. Fuchs Narrow Buckler-fern **HLU: Good 1953

RANUNCULACEAE

Ranunculus lingua L. Greater Spearwort Sheehan et al. 2013b

**Ranunculus penicillatus* (Dumort.) Bab. Stream Water-crowfoot

**Ficaria verna* triploid hybrid

GROSSULARIACEAE

Ribes nigrum L. Black Currant **HNHS 2009**

SAXIFRAGACEAE

Saxifraga granulata L.	Meadow Saxifrage	**Hull 1829**
Saxifraga tridactylites L.	Rue-leaved Saxifrage	**Hull 1829**
**Chrysosplenium oppositifolium* L.	Opposite-leaved Golden-saxifrage	

CRASSULACEAE

Sempervivum tectorum L.	House-leek	**Woodville 1829**

FABACEAE

Astragalus glycyphyllos L.	Wild Liquorice	**Hull 1829**
Anthyllis vulneraria L.	Kidney Vetch	**Hull 1829**
Vicia lathyroides L.	Spring Vetch	**Teesdale 1800**
Lathyrus palustris L.	Marsh Pea	**Teesdale 1800**
Lathyrus sylvestris L.	Narrow-leaved Everlasting-pea	**Hull 1829**
Lathyrus aphaca L.	Yellow Vetchling	**Hull 1829**
Ononis spinosa L.	Spiny Restharrow	**Hull 1829**
Melilotus officinalis (L.) Pall.	Ribbed Melilot	**Sheehan 2008**
**Trifolium campestre* Schreb.	Hop Trefoil	
Genista tinctoria L.	Dyer's Greenweed	**Hull 1829**

ROSACEAE

Cotoneaster lacteus W.W. Sm.	Late Cotoneaster	**Sheehan 2008**
**Filipendula vulgaris* Moench	Dropwort	(Hull 1829)
Potentilla argentea L.	Hoary Cinquefoil	**Hull 1829**
Comarum palustre L.	Marsh Cinquefoil	**Hull 1829**
Geum rivale L.	Water Avens	**Sheehan et al. 2013b**
**Agrimonia eupatoria* L.	Agrimony	**Hull 1829**
**Sanguisorba officinalis* L.	Great Burnet	

FAGACEAE

Quercus petraea (Matt.) Liebl.	Sessile Oak	**BCC 1966**
Quercus rubra L.	Red Oak	**Sheehan et al. 2013c**

SALICACEAE

Salix pentandra L.	Bay Willow	**Teesdale 1800**
Salix purpurea L.	Purple Willow	**Teesdale 1800**
Salix aurita L.	Eared Willow	**Teesdale 1800**
Salix repens L.	Creeping Willow	**Teesdale 1800**

VIOLACEAE

Viola canina L.	Heath Dog-violet	**LDS: Hewetson 1841**

LINACEAE

Linum usitatissimum L.	Flax	**Middleton 2014a**
Linum perenne L.	Perennial Flax	**Hull 1829**

HYPERICACEAE

Hypericum humifusum L.	Trailing St John's-wort	**Sheehan 2008**

ONAGRACEAE

Epilobium obscurum Schreb.	Short-fruited Willowherb	**Sheehan et al. 2013b**

MALVACEAE

Tilia platyphyllos Scop.	Large-leaved Lime	**Sheehan et al. 2013c**

THYMELAEACEAE

Daphne laureola L.	Spurge-laurel	**Hull 1829**

CISTACEAE

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

BRASSICACEAE

**Erysimum cheiri (L.) Crantz*	Wallflower	
Barbarea stricta Andrz.	Small-flowered Winter-cress	**Middleton 2008a**
**Rorippa palustris* (L.) Besser	Marsh Yellow-cress	
Cardamine amara L.	Large Bitter-cress	**Sheehan et al. 2013b**
**Sisymbrium altissimum* L.	Tall Rocket	
**Sisymbrium orientale* L.	Eastern Rocket	Middleton 2014a

POLYGONACEAE

Persicaria bistorta (L.) Samp.	Common Bistort	**Hull 1829**
**Rumex hydrolapathum* Huds.	Water Dock	

DROSERACEAE

Drosera rotundifolia L.	Round-leaved Sundew	**Hull 1829**

CARYOPHYLLACEAE

Stellaria palustris Ehrh. ex Hoffm.	Marsh Stitchwort	?YNU 1882
Myosoton aquaticum (L.) Moench	Water Chickweed	HNHS 2009 (J Dews)
Agrostemma githago L.	Corncockle	Hewetson 1847
?*Silene noctiflora* L.	Night-flowering Catchfly	**HLU: Good 1956**

AMARANTHACEAE

Chenopodium bonus-henricus L.	Good-King-Henry	**Sheehan 2008**

BALSAMINACEAE

Impatiens glandulifera Royle	Indian Balsam	**Middleton 1989**

PRIMULACEAE

**Hottonia palustris* L.	Water-violet	HLU: Wilson 1937
Anagallis tenella (L.) L.	Bog Pimpernel	**Hull 1829**
Samolus valerandi L.	Brookweed	**Middleton 2008**

RUBIACEAE

Galium uliginosum L.	Fen Bedstraw	**Hull 1829**

GENTIANACEAE

Centaurium erythraea Rafn	Common Centaury	**Hull 1829**
**Gentianella campestris* (L.) Börner	Field Gentian	(Hull 1829)
Gentiana pneumonanthe L.	Marsh Gentian	**Hull 1829**

APOCYNACEAE

Vinca minor L.	Lesser Periwinkle	**HLL 1933**

BORAGINACEAE

Lithospermum officinale L.	Common Gromwell	**Hull 1829**
Lithospermum arvense L.	Field Gromwell	**Hull 1829**
Echium vulgare L.	Viper's-bugloss	**Hull 1829**
**Symphytum officinale* L.	Common Comfrey	
Anchusa arvensis (L.) M. Bieb.	Bugloss	**Hull 1829**

CONVOLVULACEAE

**Calystegia pulchra* Brummitt & Heywood	Hairy Bindweed	(1977)

SOLANACEAE

**Atropa belladonna* L.	Deadly Nightshade	(**Whytehead C.17)**
Hyoscyamus niger L.	Henbane	**Hull 1829**
**Datura stramonium* L.	Thorn-apple	**Hull 1829**

VERONICACEAE

Chaenorhinum minus (L.) Lange	Small Toadflax	**Middleton 2014a**

CALLITRICHACEAE

Callitriche platycarpa Kütz.	Various-leaved Water-starwort	Wilmore & McDowell 2010
Callitriche obtusangula		**HLU: Wilson 1939**
Callitriche brutia subsp. *hamulata* (Kütz. ex W.D.J. Koch) O. Bolòs & Vigo	Intermediate Water-starwort	**HLU 1939**

SCROPHULARIACEAE

Limosella aquatica L.	Mudwort	**Hull 1829**

LAMIACEAE

**Betonica officinalis* L.	Betony	Jarvis 2011
**Galeopsis speciosa* Mill.	Large-flowered Hemp-nettle	
**Galeopsis tetrahit* L.	Common Hemp-nettle	
**Scutellaria galericulata* L.	Skullcap	
Clinopodium acinos (L.) Kuntze	Basil Thyme	**HLU: Good 1951**
Thymus pulegioides L.	Large Thyme	**Sheehan et al. 2013c**
Mentha x piperita L.	Peppermint	**Sheehan et al. 2013b**

OROBANCHACEAE

Melampyrum pratense L.	Common Cow-wheat	**Teesdale 1800**
**Rhinanthus minor* L.	Yellow-rattle	
Pedicularis sylvatica L.	Lousewort	**Hull 1829**

LENTIBULARIACEAE

Pinguicula vulgaris L.	Common Butterwort	**Hull 1829**
Utricularia minor L.	Lesser Bladderwort	**Hull 1829**

CAMPANULACEAE

Campanula glomerata L.	Clustered Bellflower	**Hull 1829**
**Campanula latifolia* L.	Giant Bellflower	
Campanula trachelium L.	Nettle-leaved Bellflower	**Hull 1829**

MENYANTHACEAE

Menyanthes trifoliata L.	Bogbean	**Hull 1829**

ASTERACEAE

Carlina vulgaris L.	Carline Thistle	**Teesdale 1800**
Cirsium eriophorum (L.) Scop.	Woolly Thistle	**Hull 1829**
Centaurea cyanus L.	Cornflower	**Hull 1829**
Filago vulgaris Lam.	Common Cudweed	**Dolling 2018**
Antennaria dioica (L.) Gaertn.	Mountain Everlasting	**Hull 1829**
**Anthemis arvensis* L.	Corn Chamomile	**HLU: Wilkins 1956**
Senecio aquaticus Hill	Marsh Ragwort	**HLU: Wilson 1951**
**Senecio erucifolius* L.	Hoary Ragwort	Middleton 2006
Helianthus annuus L.	Sunflower	**Middleton 2006**
**Bidens tripartita* L.	Trifid Bur-marigold	(M Hugill 1970)

CAPRIFOLIACEAE

Leycesteria formosa Wall.	Himalayan Honeysuckle	**Sheehan 2008**

DIPSACACEAE

Dipsacus pilosus L.	Small Teasel	**Teesdale 1800**

APIACEAE

Scandix pecten-veneris L.	Shepherd's-needle	**Hull 1829**
Pimpinella saxifraga L.	Burnet-saxifrage	**Teesdale 1800**
Oenanthe aquatica (L.) Poir.	Fine-leaved Water-dropwort	**Woodville 1829**
Apium repens (Jacq.) Lag.	Creeping Marshwort	**Teesdale 1800**
Apium inundatum (L.) Rchb. f.	Lesser Marshwort	**Sheehan et al. 2013b**
Cicuta virosa L.	Cowbane	**Hull 1829**
Thyselium palustre (L.) Raf.	Milk-parsley	C Machell in **Teesdale 1800**
Daucus carota L.	Carrot	**Woodville 1829**

LEMNACEAE

**Lemna gibba* L.	Fat Duckweed	(M. Clark 1969)

ALISMATACEAE

Baldellia ranunculoides (L.) Parl.	Lesser Water-plantain	Hull 1829
Alisma lanceolatum With.	Narrow-leaved Water-plantain	**Teesdale 1800**

HYDROCHARITACEAE

Stratiotes aloides L.	Water-soldier	(C. Machell) **1805 Turner & Dillwyn**
Egeria densa Planch.	Large-flowered Waterweed	(2003) **Goulder 2019**
Lagarosiphon major (Ridl.) Moss ex V.A. Wager	Curly Waterweed	**Middleton 2000**

POTAMOGETONACEAE

Potamogeton gramineus L.	Various-leaved Pondweed	**BM: Machell 1794**
Potamogeton alpinus Balb.	Red Pondweed	**Teesdale 1800**
Potamogeton perfoliatus L.	Perfoliate Pondweed	**Hull 1829**
Potamogeton compressus L.	Grass-wrack Pondweed	**Hull 1829**
Potamogeton acutifolius Link	Sharp-leaved Pondweed	?**LINN: Teesdale 1798**

ORCHIDACEAE

Epipactis palustris (L.) Crantz	Marsh Helleborine	Hewetson 1840
Epipactis helleborine (L.) Crantz	Broad-leaved Helleborine	**Hewetson 1840**
Coeloglossum viride	Frog Orchid	**Sisley 1952**
Platanthera bifolia (L.) Rich.	Lesser Butterfly-orchid	**Hull 1829**
Pseudorchis albida (L.) Á. & D. Löve	Small-white Orchid	**Hull 1829**
Ophrys anthropophora (L.) All.	Man Orchid	**Hull 1829**
Anacamptis pyramidalis (L.) Rich.	Pyramidal Orchid	HLU: Good 1951
Anacamptis morio (L.) R.M. Bateman, Pridgeon & M.W. Chase	Green-winged Orchid	HNHS 2009 (J Dews)
Dactylorhiza fuchsii (Druce) Soó	Common Spotted-orchid	Sheehan 2008
Dactylorhiza maculata (L.) Soó	Heath Spotted-orchid	**LDS: Hewetson 1861**
Dactylorhiza incarnata (L.) Soó	Early Marsh-orchid	**Teesdale 1800**
Dactylorhiza praetermissa (Druce) Soó	Southern Marsh-orchid	**LDS: Hewetson 1840**
Orchis mascula (L.) L.	Early-purple Orchid	**LDS: Hewetson 1861**
Ophrys insectifera L.	Fly Orchid	**Hull 1829**
Ophrys apifera Huds.	Bee Orchid	**Hull 1829**

IRIDACEAE

**Crocus vernus* (L.) Hill	Spring Crocus	1930s

TYPHACEAE

Sparganium natans L.	Least Bur-reed	**Teesdale 1800**

JUNCACEAE

Juncus acutiflorus Ehrh. ex Hoffm.	Sharp-flowered Rush	**Wilmore 2008b**

CYPERACEAE

Eriophorum angustifolium Honck.	Common Cottongrass	Hull 1829
Eriophorum vaginatum L.	Hare's-tail Cottongrass	**Hull 1829**
Eleocharis acicularis (L.) Roem. & Schult.	Needle Spike-rush	**Browning 1920**
Eleocharis quinqueflora (Hartmann) O. Schwarz	Few-flowered Spike-rush	Hull 1829

CYPERACEAE cont..

Isolepis setacea (L.) R. Br.	Bristle Club-rush	**HNHS 2009** (J Dews)
Carex x pseudoaxillaris K. Richt.		C Machell in **Teesdale 1800**
Carex arenaria L.	Sand Sedge	**Teesdale 1800**
Carex leporina L.	Oval Sedge	**Wilmore 2008a**
Carex lasiocarpa Ehrh.	Slender Sedge	**Teesdale 1800**
**Carex rostrata* Stokes	Bottle Sedge	
Carex vesicaria L.	Bladder-sedge	**Teesdale 1800**
Carex hostiana DC.	Tawny Sedge	**Teesdale 1800**
Carex acuta L.	Slender Tufted-sedge	**Teesdale 1800**
Carex pulicaris L.	Flea Sedge	**Hull 1829**

POACEAE

**Nardus stricta* L.	Mat-grass	**Middleton 1994**
**Lolium multiflorum* Lam.	Italian Rye-grass	
Poa nemoralis L.	Wood Meadow-grass	**Middleton 1989**
**Koeleria macrantha* (Ledeb.) Schult.	Crested Hair-grass	
Holcus mollis L.	Creeping Soft-grass	Jarvis 2011
**Phleum bertolonii* DC.	Smaller Cat's-tail	
**Glyceria declinata* Bréb.	Small Sweet-grass	(M. Clark 1969)
Melica uniflora Retz. (as *M. uniflora*)	Wood Melick	**Hull 1829**
Bromus racemosus L.	Smooth Brome	**Teesdale 1800**
Hordeum secalinum Schreb.	Meadow Barley	**Middleton 2001**
**Danthonia decumbens* (L.) DC.	Heath-grass	HNHS 2009

Part III: ANNOTATED CHECKLIST OF PLANTS FOUND IN 2018

Bill Dolling
Gabrielle Jarvis
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This section lists all of the plants we found in our survey, listed in the standard taxonomic order and with the same nomenclature as used in Stace (2010). Brief notes are added as we thought fit.

Each entry takes the following form:

***Scientific name* and authority** English name (number of monads seen in) **[environments]**

List of the environmental codes used

Aquatic environments	General	**A**
[Open water and riparian environments]	Barmston Drain	**Ab**
	Smaller land drains	**Ad**
	Figham Common	**Af**
	Beverley Beck	**Ak**
	River Hull	**Ah**
	Swine Moor	**As**
Cultivated areas and broken ground		**C**
Grassland	General	**G**
	Figham Common	**Gf**
	Managed grassland	**Gm**
	Swine Moor	**Gs**
	Westwood	**Gw**
Urban and suburban	General	**U**
	Industrial areas	**Ui**
	Roadside & Railway	**Ur**
Woodland		**W**
	Hedgerows	**Wh**

OPHIOGLOSSACEAE

Ophioglossum vulgatum L. Adder's-tongue (1) [**Gf**]

A single patch was found in a Hawthorn thicket on Figham Common by WRD. A scarce native plant in East Yorkshire and confirmation of an old record.

EQUISETACEAE

Equisetum fluviatile L. Water Horsetail (1) [**Gf**]

A single colony found on Figham Common; native.

Equisetum arvense L. Field Horsetail (20) [**C, G, U**]

Very common throughout although not seen on the Westwood; native.

Equisetum palustre L. Marsh Horsetail (3) [**Gs**]

Found only in the wetter areas of Swine Moor; native.

DENNSTAEDTIACEAE

Pteridium aquilinum (L.) KuhnBracken (3) [**Gw, Ur**]

Found on the higher ground to the north of Beverley and on the sandier soils on the Westwood; native.

Asplenium scolopendrium L. Hart's-tongue (10) [**Ad, Wh, U**]

Frequently seen, most commonly on older walls in the urban and industrial areas but more luxuriant plants occasionally found in hedge bottoms and on ditch-sides. Native and increasing.

Asplenium adiantum-nigrum L. Black Spleenwort (4) [**U**]

Found alongside other *Aspleniums* on soft-mortared walls, mainly in the old town. Also seen on the brick bridge crossing the Barmston Drain on Swine Moor. Native and increasing.

Asplenium trichomanes L. Maidenhair Spleenwort (3) [**U**]

Found growing alone or with other *Aspleniums* on older walls; native.

Asplenium ruta-muraria L. Wall-rue (4) [**U**]

Usually found growing in small clumps on walls and bridges, particularly abundant in Spark Mill Lane and on Figham Beck bridge; native.

WOODSIACEAE

Athyrium filix-femina (L.) Roth Lady-fern (1) [**W**]

A single plant found in Burton Bushes; native.

DRYOPTERIDACEAE

Polystichum aculeatum (L.) Roth Hard Shield-fern (3) [*U*, **Wh**]

Uncommon, usually single plants with the exception of a colony on a ditch side in TA0438; native.

Dryopteris filix-mas (L.) Schott Male-fern (16) [**U, W, Wh**]

Frequently encountered in shady places in woodland, ditches and the urban environment. Stunted specimens commonly seen on old brick and stone walls, particularly alongside leaky drainpipes; native.

Dryopteris dilatata (Hoffm.) A. Gray Broad Buckler-fern (4) [**W, Wh**]

Found in shady places in the west and south of the area where it was sometimes abundant; native.

POLYPODIACEAE

Polypodium interjectum Shivas Intermediate Polypody (1) [**U**]

Noted only alongside a leaky drainpipe in North Bar Within and the walls of the Registry Office garden. In Hull it is to be found growing at roof-top level on older buildings so some plants may have been missed; native.

PINACEAE

Larix decidua Mill. European Larch (2) [**W**]

Found as a component of small plantations; introduced.

Larix x marschlinsii Coaz Hybrid Larch (1) [**W**]

Only seen on the east side of the River Hull; introduced.

Larix kaempferi (Lamb.) Carrière Japanese Larch (1) [**W**]

Planted near the new southern by-pass; introduced.

Pinus sylvestris L. Scots Pine (6) [**W**]

Scattered occurrences outside the urban centre. A native but all specimens seen were considered to be recent or older plantings.

Pinus nigra J.F. Arnold [Pinus nigra] (2) [**U**]

Seen as single planted specimen trees only; introduced.

TAXACEAE

Taxus baccata L. Yew (7) [**U, W**]

To be found in urban cemeteries and the woodland fragments of the Westwood; native but often planted. More frequent in the drier western side of the area.

NYMPHAEACEAE

Nymphaea alba L. White Water-lily (1) [**Ak**]

Seen only towards the eastern end of Beverley Beck. Although originally a native of the area it is likely that this colony is a deliberate introduction and may not be the true native taxon.

Nuphar lutea (L.) Sm. Yellow Water-lily (3) [**Ah, Ak**]

Abundant in the Beverley Beck and also seen in the River Hull at Figham; native.

CERATOPHYLLACEAE

Ceratophyllum demersum L. Rigid Hornwort (2) [**Ab**]

Only noted in the Barmston Drain at Swine Moor; native.

PAPAVERACEAE

Papaver somniferum L. Opium Poppy (9) [**Ur**]

Usually seen on newly disturbed ground by roads, sometimes as single plants. Introduction; possibly some self-sustaining populations augmented with garden escapes.

Papaver rhoeas L. Common Poppy (14) [**C**]

The plan has long association as an annual agricultural weed, now scarcer. Intensive cultivation (with herbicide spraying) around Beverley meant that plants were usually found only in small numbers. There was a fine display in a field of cabbages in TA0438 just north of the Southern Relief Road, in an area likely to be developed for housing. Native.

Papaver dubium L. Long-headed Poppy (5) [**C**]

Scarce, occasional plants on the edge of cultivation, often found with *P. rhoeas*; native.

Meconopsis cambrica (L.) Vig. Welsh Poppy (4) [**U, Wh**]

Usually a garden escape, found near housing and hedges in damp soil, increasing. Not considered native to East Yorkshire.

Chelidonium majus L. Greater Celandine (2) [**Wh**]

Scarce and probably declining, found near hedges and damp places. It was formerly grown for herbal use and known as 'tetterwort' (for skin problems); established garden escape.

Eschscholzia californica Cham. Californian Poppy (1) [**U**]

A scarce garden escape probably benefitting from the survey year's hot, dry summer; casual.

Pseudofumaria lutea (L.) Borkh. Yellow Corydalis (4) [**U**]

Scattered on walls. Perennial, long established garden escape.

Fumaria officinalis L. Common Fumitory (3) [**C]**

Annual agricultural weed, declining and scarce here, found on field edges and waste ground; native.

BERBERIDACEAE

Berberis darwinii Hook. Darwin's Barberry (1) [**Wh**]

A garden escape found only under Hawthorn on Swine Moor.

Mahonia aquifolium (Pursh) Nutt. Oregon-grape (1) [**Wh**]

A garden escape or relic of cultivation.

RANUNCULACEAE

Caltha palustris L. Marsh-marigold (6) [**Ah, Ad, Af, As**]

Frequent along the River Hull and occasional at water margins elsewhere, this native plant may also occur as a garden escape or deliberate introduction at some of its sites. A large-flowered cultivar was seen in the new drainage pond alongside Long Lane.

Helleborus foetidus L. Stinking Hellebore (3) [**Wh**]

Regarded by Crackles (1990) as an introduction in the East Riding, it seems to be established, at least temporarily, in semi-natural hedgerow habitats.

Helleborus sp. Hellebore (2) [**U**]

Two plants were found as self-sown escapes from urban gardens. Both were probably cultivars of *H. argutifolius* or its hybrids with *H. lividus* and/or Christmas Rose, *H. niger*.

Eranthis hyemalis (L.) Salisb. Winter Aconite (1) [**W**]

One established colony of this popular, winter-flowering ornamental.

Nigella damascena L. Love-in-a-mist (1) [**U**]

A single occurrence; a self-sown garden escape.

Anemone nemorosa L. Wood Anemone (5) [**W**]

On the low Wolds West of the town, where it is certainly native.

Clematis vitalba L. Traveller's-joy (2) [**Wh**]

At or perhaps beyond the northern limit of its native distribution in our area, it most typically grows as a straggling hedgerow plant as in the Grove Hill area but a liana reaching the woodland canopy was encountered in Burton Bushes.

Ranunculus acris L. Meadow Buttercup (19) [**G**]

Widespread in both the Hull valley and on the higher ground of the Wolds, this is one of our most familiar native plants.

Ranunculus repens L. Creeping Buttercup (25) [**G**]

A ubiquitous native, occurring in both wet and dry grassland, tolerant of shading, mowing and grazing and often a serious weed of gardens.

Ranunculus bulbosus L. Bulbous Buttercup (9) [**G**]

One of the three common native buttercups but recorded less frequently than either Meadow or Creeping Buttercup. Responsible for the spectacular spring displays alongside the eastern end of York Road.

Ranunculus sardous Crantz Hairy Buttercup (1) [**C**]

An infrequent native found only once during the survey year, alongside a track near Swadgery-Mere Wood.

Ranunculus auricomus L. Goldilocks Buttercup (3) [**W**]

Native to wooded parts of the Westwood but scarce even there.

Ranunculus sceleratus L. Celery-leaved Buttercup (9) [**Ad, Af, As**]

A characteristic native plant of shallow water and a familiar sight in ponds, shallow drains and flooded wheel-ruts on the commons of the Hull valley.

Ranunculus flammula L. Lesser Spearwort (6) [**Af, As**]

Native in marshy grassland, perhaps the most characteristic plant of Swine Moor.

Ranunculus trichophyllus Chaix Thread-leaved Water-crowfoot (1) [**Ad**]

Found by GJ in a single drain beside Long Lane.

Ranunculus aquatilis L. Common Water-crowfoot (3) [**As**]

Found only on Swine Moor, where it is native in the shallow pools.

Ranunculus peltatus Schrank Pond Water-crowfoot (4) [**As**]

Less frequent than *R. aquatilis* on Swine Moor but can be abundant where it does occur, most notably on the West side of the Moor where it is a striking sight when in flower. Native.

Ranunculus circinatus Sibth. Fan-leaved Water-crowfoot (5) [**Ab, Af, As**]

Found on both commons in the Hull valley, it is particularly frequent in the Beverley and Barmston Drain, where it is the last of the native crowfoots to flower; native.

Ficaria verna Huds. Lesser Celandine (21) [**W, G**]

A ubiquitous native, found in deep shade, partial shade and open grassland, both wet and dry. No systematic attempt was made to record the two subspecies but subspecies ***verna*** appeared to be by far the commoner; subspecies ***fertilis*** occurred in deep shade in a plantation east of the river.

Aquilegia vulgaris L. Columbine (3) [**U**]

Once native on the Wolds, this species was encountered only as a garden escape.

Thalictrum flavum L. Common Meadow-rue (2) [**Ah**]

A regionally scarce native, seen beside the River Hull.

GROSSULARIACEAE

Ribes rubrum L. Red Currant (1) [**Wh**]

Scarce, most likely a bird-sown garden escape.

Ribes sanguineum Pursh Flowering Currant (2) [**Wh**]

Deliberately planted or a garden escape.

CRASSULACEAE

Crassula helmsii (Kirk) Cockayne New Zealand Pigmyweed (3) [**As**]
An alien species now well established in shallow pools on Swine Moor, perhaps becoming a threat to some of the native flora.

Sedum spurium M. Bieb. Caucasian-stonecrop (1) [**U**]
A scarce garden escape.

Sedum acre L. Biting Stonecrop (5) [**U**]
A well established plant with origins as a garden escape, characteristic of shallow, wind-blown soils.

Sedum album L. White Stonecrop (2) [**U**]
Similar origins to ***Sedum acre*** but less frequent.

HALORAGACEAE

Myriophyllum verticillatum L. Whorled Water-milfoil (1) [**Ab**]
Reported from 'ditches about Beverley' by Teesdale (1800) and from 'deep ditches' on Figham Common by Browning (1920), the East Yorkshire Rare Plant Register has only six sites for this 'Regionally Scarce' native plant, two of them in the Beverley and Barmston Drain at Figham, where it was found near the bridge in 2018.

Myriophyllum spicatum L. Spiked Water-milfoil (3) [**Ak, As**]
A fairly frequent native of the East Riding, it was encountered in shallow pools on Swine Moor and also in the Beverley Beck (Dr R Goulder).

FABACEAE

Robinia pseudoacacia L. False-acacia (1) [**U**]
A rare street tree in Beverley; introduced.

Lotus corniculatus L. Common Bird's-foot-trefoil (22) [**G, U**]
A very common plant on grassland and verges and some industrial sites. Native but augmented with introduced fodder varieties.

Lotus pedunculatus Cav. Greater Bird's-foot-trefoil (3) [**G**]
Infrequent, mainly on wet grassland; native.

Vicia cracca L. Tufted Vetch (8) [**G, U**]
Equally at home on grassland, verges, and urban and industrial sites; native.

Vicia hirsuta (L.) Gray Hairy Tare (1) [**Ui**]
A plant of grassy waste ground, easy to miss, probably under-recorded in this survey; native.

Vicia tetrasperma (L.) Schreb. Smooth Tare (2) [**Ui**]

Fairly abundant in a similar community to ***Vicia hirsuta*** on a couple of sites, but may also be under-recorded; native.

Vicia sepium L. Bush Vetch (7) [**Ui, Ur, Wh**]

A common plant of verges, waste ground and hedgerows; native.

Vicia sativa L. Common Vetch (12) [**G, U, Wh**]

Frequently found in all but the wettest habitats; native. No attempt was made to differentiate the sub-species.

Vicia faba L. Broad Bean (2) [**C**]

Usually as single plants on field edges, a relic of cultivation.

Lathyrus linifolius (Reichard) Bässler Bitter-vetch (2) [**Gw**]

An uncommon plant seen only under Hawthorn on the Westwood; native.

Lathyrus pratensis L. Meadow Vetchling (11) [**G, Gf, Gw**]

Common in grassy places often amongst tall grasses; native.

Melilotus altissimus Thuill. Tall Melilot (2) [**Gf, Gs**]

Surprisingly uncommon, found only on banks of deep ditches on Figham and Swine Moor; native.

Melilotus albus Medik. White Melilot (1) [**Ui**]

A single rare find at the edge of Grovehill industrial estate on waste ground; native.

Medicago lupulina L. Black Medick (21) [**G, U**]

A common plant of short turf in urban, suburban, roadside and industrial areas; native.

Trifolium repens L. White Clover (25) [**G, U**]

Found in all monads, anywhere with grass, but generally preferring short turf; native.

Trifolium hybridum L. Alsike Clover (3) [**C, Ur**]

In fields and in an area sown with wild-flowers beside a newly-built road; usually introduced?

Trifolium dubium Sibth. Lesser Trefoil (15) [**G, Gm, U]**

A very common plant of short turf or on bare patches; native.

Trifolium pratense L. Red Clover (19) [**G**]

Frequent in fields and on the commons where it can survive competition from taller grasses; native.

Trifolium medium L. Zigzag Clover (2) [**G**]

An infrequent, but perhaps overlooked grassland native.

Trifolium arvense L. Hare's-foot Clover (1) [**Ui**]
Growing in abundance on one site at the edge of Grovehill industrial estate; native.

Laburnum anagyroides Medik. Laburnum (2) [**U, Wh**]
Infrequent and usually planted but some may have grown from "escaped" seed.

Ulex europaeus L. Gorse (10) [**G, Gw, Ur**]
As clumps on heathy, scrubby sites, mostly on the Westwood side. Some almost certainly planted; native.

POLYGALACEAE

Polygala vulgaris L. Common Milkwort (1) [**Gw**]
A scarce component of the short calcareous turf of Limekiln Bank, Westwood; native.

ROSACEAE

Prunus dulcis (Mill.) D.A. Webb Almond (2) [**Ur**]
Introduced flowering almond, scarce, planted as ornamental around urban spaces. A Mediterranean native.

Prunus cerasifera Ehrh. Cherry Plum (3) [**Ur, Wh**]
An introduced but hardy naturalised species, scarce but planted beside Long Lane and other roads and Beverley Beck. A Mediterranean native.

Prunus spinosa L. Blackthorn (23) [**Wh**]
Common in hedgerows especially in some of the older surviving hedgerows around the town; native.

Prunus domestica L. Wild Plum (3) [**Wh**]
Scarce in hedgerows south of Beverley. Originally planted but now naturalised.

Prunus avium (L.) L. Wild Cherry (14) [**W, Wh**]
Frequent denizen of roadsides and amenity areas, sometimes in groups. Most records are for domesticated varieties but some, particularly those in Burton Bushes, are for the true native taxon.

Prunus padus L. Bird Cherry (1) [**W**]
A single specimen found in a copse west of Westwood. Almost certainly an introduction.

Pyrus communis L. Pear (1) [**Ur**]
Uncommon in this area, a single roadside tree.

Malus sylvestris **s.l.** (L.) Mill. Crab Apple (3) [**Wh**]
Scarce, scattered in older hedges; native. Some trees may be derived from apple-core seedlings.

Malus pumila Mill. Apple (10) [**Wh**]

Scattered in hedgerows mainly on roadsides. A cultivar but many trees arising from discarded apple cores.

Sorbus aucuparia L. Rowan (11) [**Ur**]

Often seen planted in amenity areas and on roadsides, usually on sandier soil in newer suburbs north and south of the town. Occasionally bird-sown; a British native.

Sorbus intermedia (Ehrh.) Pers. Swedish Whitebeam (6) [**Ur, Wh**]

Scattered by roadsides, usually planted. Introduced from northern Europe but naturalised.

Sorbus aria (L.) Crantz Common Whitebeam (4) [**Ur**]

A few roadside plantings, rare in the wild, a native of southern Britain. Commoner in the west of the country where the berries, known as chess apples, can be eaten when nearly rotten.

***Cotoneaster horizontalis* agg.** Decne. Wall Cotoneaster (3) [**U**]

Occasional escapes in urban areas, often on old walls. Originally introduced from W China, naturalises easily.

***Cotoneaster* sp.** [Cotoneaster sp.] (7) [**Ur**]

Scattered garden escapes of the many cultivated species seen in urban areas and by watercourses. Introduced from western Asia but easily naturalises by being bird-sown.

Crataegus monogyna Jacq. Hawthorn (25) [**Wh**]

Very common, found abundantly in hedgerows in all squares. Native but undoubtedly boosted in quantity during the enclosure period.

Filipendula ulmaria (L.) Maxim. Meadowsweet (14) [**A**]

Common on the wetter clay soils east of Beverley, along drains and watercourses, and in the water collection ponds created around new housing and road developments; native.

Rubus idaeus L. Raspberry (3) [**Wh**]

Scattered, in hedgerows, mainly to the south of Beverley; native but perhaps also bird-sown from cultivated plants.

Rubus caesius L. Dewberry (6) [**Wh**]

Scattered in hedgerows around the outskirts of town, native.

***Rubus fruticosus* agg.** Bramble (23) [**Wh, W, Ur**]

Common in hedgerows, waste places and by roads and railway lines. Frequently bird-sown in urban situations; native. No attempt was made to differentiate between the many different micro-species.

Potentilla anserina L. Silverweed (17) [**U, C, Af, As**]

Common on bare ground and verges where it can spread by runners. Also forming carpets around some of the seasonal ponds on the eastern commons; native.

Potentilla erecta (L.) Raeusch. Tormentil (4) [**Gs, Gw**]

A component of the short turf on Swine Moor and Westwood commons; native.

Potentilla reptans L. Creeping Cinquefoil (17) [**C, G, U**]

Common in most waste and grassy areas; native.

Potentilla sterilis (L.) Garcke Barren Strawberry (2) [**W**]

Occasionally found in remnant wooded areas of Westwood; native.

Fragaria vesca L. Wild Strawberry (2) [**W**]

Occasional by woodland edges on Westwood; native.

Fragaria ananassa (Duchesne) Duchesne Garden Strawberry (2) [**U**]

Uncommon garden escape. A hybrid cultivar from a cross between Chilean and North American species.

Geum urbanum L. Wood Avens (25) [**W, Wh**]

Common in hedgerows and most shady places; native.

Poterium sanguisorba L. Salad Burnet (2) [**C, Gw**]

Native in the short turf of Limekiln Bank, Westwood but also found as a relic of a fodder crop to the south of the town.

Alchemilla vulgaris **agg.** Lady's-mantle (3) [**Gs, Gw**]

Reported rarely in short turf on two of the commons. *Alchemilla filicaulis* subsp. *vestita* was recorded on Swine Moor (WRD) and Limekiln Bank (RM) and *Alchemilla xanthochlora* near Newbigin Pits (GJ). Native.

Alchemilla mollis (Buser) Rothm. Garden Lady's-mantle (4) [**U**]

Generally found as a garden-discard in urban areas.

Aphanes arvensis **agg.** L. Parsley-piert (7) [**C**]

An inconspicuous plant found on disturbed ground in a variety of situations; native.

Rosa arvensis Huds. Field-rose (1) [**W**]

Found only in an ancient woodland relic to the south of Westwood (WRD); native.

Rosa rugosa Thunb. Japanese Rose (2) [**U**]

Frequently planted in urban situations and occasionally escaping; introduced.

Rosa canina **agg.** L. Dog-rose (25) [**Wh**]

An almost ubiquitous component of older hedgerows; native.

RHAMNACEAE

Rhamnus cathartica L. Buckthorn (1) [**Wh**]

A single plant in a hedge to the South of the town may have been native.

ULMACEAE

Ulmus glabra Huds. Wych Elm (2) [**Wh**]

Probably under-recorded, less susceptible to Dutch Elm disease; native.

Ulmus procera Salisb. English Elm (6) [**Wh**]

Still widespread and fairly frequent as a small native tree in hedges but much affected by Dutch Elm disease and not seen fruiting as the disease kills the suckers before they reach flowering size.

Ulmus minor Mill. Elm (2) [**Wh**]

A scarce native, also afflicted by Dutch Elm disease.

CANNABACEAE

Humulus lupulus L. Hop (3) [**Wh**]

In rural hedges to the South of the town, a British native regarded by Crackles (1990) as being introduced in the East Riding. The cultivar 'Aureus' was seen in gardens in the town itself but not in the countryside.

MORACEAE

Ficus carica L. Fig (2) [**U**]

A relic of cultivation in two derelict gardens.

URTICACEAE

Urtica dioica L. Common Nettle (25) [**C, G, U, W**]

Flourishing in nutrient-rich soils everywhere, in shade and sun and in wet and dry habitats, this common native can withstand grazing but not repeated mowing.

Urtica urens L. Small Nettle (8) [**C, U**]

A native annual weed, rarely in sufficient quantity to be a nuisance, in all kinds of broken ground.

Parietaria judaica L. Pellitory-of-the-wall (5) [**U**]

Most usually encountered growing on old walls and therefore predominantly urban; native.

Soleirolia soleirolii (Req.) Dandy Mind-your-own-business (6) [**U**]

Confined to shady sites such as damp pathways (e.g. North Bar Within), churchyards, where competition from taller plants is reduced by shade, trampling and mowing. A naturalised escape from domestication.

FAGACEAE

Fagus sylvatica L. Beech (16) [**U, Wh**]

Widely planted but not usually self-seeding in the Beverley area. Native to southern Britain, where it is often grown for its timber but grown only as an ornamental here. Popular for hedging.

Quercus cerris L. Turkey Oak (2) [**Wh**]

Some planted trees were growing strongly; not native to Britain but naturalised in southern England.

Quercus x rosacea Bechst. Hybrid Oak (1) [**W**]

A single large tree of unknown origins was seen on the outer edge of Burton Bushes.

Quercus robur L. Pedunculate Oak (17) [**W, Wh. Ur**]

A much-loved native tree whose frequency has been augmented by planting. Some large trees are planted or permitted to grow in hedgerows; most numerous in Burton Bushes.

JUGLANDACEAE

Juglans regia L. Walnut (2) [**Ur**]

An introduced tree, planted for shade or as an ornamental.

Juglans nigra L. Black Walnut (1) [**Ur**]

Introduced, planted as an ornamental.

BETULACEAE

Betula pendula Roth Silver Birch (19) [**W, Ur**]

Native and much planted on roadsides for its graceful appearance**.** Several exotic species of the genus are also grown in gardens and public spaces.

Betula pubescens Ehrh. Downy Birch (1) [**W**]

Noted by us only at Burton Bushes, where it is apparently native.

Alnus glutinosa (L.) Gaertn. Alder (12) [**Wh, Ur**]

Native in the Hull valley, a survivor of the primal swamp-forest (carr), but also widely planted there and elsewhere.

Alnus incana (L.) Moench Grey Alder (7) [**Ur**]

A continental species, widely planted for amenity.

Alnus cordata (Loisel.) Duby Italian Alder (4) [**Ur**]

Native to Italy but often planted for amenity. Some fine trees on the Westwood.

Carpinus betulus L. Hornbeam (5) [**W, Ur**]

Naturalised on in Burton Bushes but more recently planted elsewhere, both as standard trees and for hedging. A few very fine old trees on Seven-corners Lane. Not generally considered native to northern Britain.

Corylus avellana L. Hazel (15) [**W, Wh, Ur**]
Native as a woodland and hedgerow shrub and extensively planted for amenity.

CUCURBITACEAE

Bryonia dioica Jacq. White Bryony (9) [**Wh**]
Frequent on the low Wolds despite being otherwise scarce in East Yorkshire. Also growing abundantly at the Leisure Centre on Flemingate; native.

CELASTRACEAE

Euonymus europaeus L. Spindle (5) [**Wh**]
Native to the region but probably planted in most of its sites around Beverley.

Euonymus japonicus Thunb. Evergreen Spindle (1) [**Wh**]
Occasionally seen planted; a Japanese native.

OXALIDACEAE

Oxalis corniculata L. Procumbent Yellow-sorrel (7) [**U**]
Often seen established as a weed of lawns; introduced.

Oxalis exilis A. Cunn. Least Yellow-sorrel (7) [**U**]
Often established as a lawn weed; introduced.

Oxalis articulata Savigny Pink-sorrel (2) [**U**]
Occasional urban wayside plants noted; garden escapes.

Oxalis acetosella L. Wood-sorrel (3) [**W**]
Found in shady wooded areas of the western common and forming patches in Burton Bushes. A native plant considered to be an ancient woodland indicator.

EUPHORBIACEAE

Mercurialis perennis L. Dog's Mercury (12) [**W, Wh**]
A characteristic native of old hedge bottoms, not infrequently seen in extensive patches. Often the only survivor of the earlier woodland ground flora.

Euphorbia helioscopia L. Sun Spurge (17) [**C, U**]
A native weed of cultivated ground, usually as single plants or in small quantity.

Euphorbia lathyris L. Caper Spurge (3) [**C, U**]
Persisting as a relic of garden cultivation, on allotments and in a cemetery. Believed to be a British native but an introduction in our area.

Euphorbia peplus L. Petty Spurge (19) [**C, U**]
Native, an almost ubiquitous weed of gardens.

SALICACEAE

Populus alba L. White Poplar (2) [**Ur**]

Occasional large roadside trees planted for amenity; introduced.

Populus x canescens (Aiton) Sm. Grey Poplar (1) [**Ur**]

A cultivar grown as an ornamental.

Populus tremula L. Aspen (1) [**W**]

Only found at one site on the Westwood, where it was likely planted; native.

Populus nigra L. Black Poplar. (1) [**Ur**}

Several trees by the Black Mill on the Westwood appeared to be of the wild type (examined by WRD) but were presumably planted.

Populus nigra **var. 'Italica'** Lombardy-poplar (1) [**Ur**]

A cultivated variant of the native Black Poplar, surprisingly rarely planted around Beverley.

Populus x canadensis Moench Hybrid Black-poplar (6) [**Ur**]

A cultivar widely planted for amenity and apparently valued for its quick growth into a large tree.

Salix x fragilis L. Crack-willow (12) [**Ah, Af, As, Wh**]

Beside and near water mainly in the Hull valley. Possibly planted at some of its other sites; native.

Salix alba L. White Willow (7) [**Ah, Wh**]

Occasional on the banks of the river Hull and beside small drains elsewhere; sometimes planted. An ancient introduction to Britain.

Salix x sepulcralis Simonk. Weeping Willow (5) [**Ur**]

A cultivar widely planted for amenity in gardens and at roadsides.

Salix viminalis L. Osier (7) [**Ah, Af, As, Ur**]

Possibly native along the river Hull but planted elsewhere.

Salix caprea L. Goat Willow (6) [**Wh**]

Occasional in hedges south of the town, rare elsewhere; native.

Salix cinerea L. Grey Willow (13) [**W, Wh**]

Widespread and frequent in hedges in the countryside all around Beverley. A native survivor of the carr woodlands on the Hull floodplain.

VIOLACEAE

Viola odorata L. Sweet Violet (7) [**W, Wh, U**]

Commonly found in open woodland and hedge banks, particularly on Long Lane and near the Westwood, also introduced and naturalised in churchyards; native.

Viola riviniana Rchb. Common Dog-violet (12) [**Gw, W, Wh, U**]
The most common violet, abundant in wooded areas of the Westwood and in hedge banks, but also frequent in the urban environment as a garden weed and escapee. Native.

Viola reichenbachiana Jord. ex Boreau Early Dog-violet (2) [**Gw, W**]
Found more rarely, usually growing with ***Viola riviniana*** in shady wooded areas of the Westwood; native.

Viola x wittrockiana Gams ex Kappert Garden Pansy (4) [**U**]
Found on waste areas and street margins, either discarded or self-seeded from garden Pansies.

Viola arvensis Murray Field Pansy (8) [**C**]
A fairly common weed of field edges and other broken ground; native.

LINACEAE

Linum catharticum L. Fairy Flax (2) [**Gs, Gw**]
Confined to short, grazed grassland on the Westwood and the drier parts of Swine Moor; native.

HYPERICACEAE

Hypericum androsaemum L. Tutsan (6) [**U**]
A popular and tough garden plant, persisting in derelict gardens, as an escape or throw-out.

Hypericum perforatum L. Perforate St John's-wort (7) [**G, U**]
Generally rather small populations at both undisturbed and disturbed waysides; native.

Hypericum tetrapterum Fr. Square-stalked St John's-wort (4) [**G, Gf, Gs**]
A few, scattered plants in damp places where grazing and mowing were light or absent; native.

GERANIACEAE

Geranium endressii J. Gay French Crane's-bill (3) [**U, G**]
Occasional garden escapes or throw-outs; popular in flower gardens.

Geranium rotundifolium L. Round-leaved Crane's-bill (2) [**U**]
Scarce on disturbed ground in the town and beside a newly constructed bypass; native but perhaps accidentally introduced here.

Geranium pratense L. Meadow Crane's-bill (5) [**G**]
Occasional plants at waysides and on road verges where these are not regularly mown. A native but its distribution may be augmented by its use as a garden ornamental.

Geranium dissectum L. Cut-leaved Crane's-bill (18) [**C, U**]
Often abundant on all kinds of disturbed ground; native.

Geranium pyrenaicum Burm. f. Hedgerow Crane's-bill (4) [**G, Wh, U**]
Infrequent at waysides. Perhaps native but some may have garden origins.

Geranium pusillum L. Small-flowered Crane's-bill (14) [**C, G, U**]
A common plant of roadsides and a weed of flowerbeds and vegetable plots, always on disturbed ground; native.

Geranium molle L. Dove's-foot Crane's-bill (18) [**C, G, U**]
Frequent on roadsides and all kinds of disturbed ground; native.

Geranium lucidum L. Shining Crane's-bill (10) [**Ur**]
Scattered but may be fairly numerous as transient populations; characteristic of paths. Native to Britain but a well naturalised alien in the Beverley area.

Geranium robertianum L. Herb-Robert (24) [**U, Wh**]
Common and widespread, a characteristic plant of hedgerows and of disturbed ground in the town; native.

Geranium phaeum L. Dusky Crane's-bill (2) [**Ur, G**]
Occasional plants at waysides; a garden escape, popular with flower gardeners.

***Erodium cicutarium* agg.** (L.) L'Hér. Common Stork's-bill (7) [**G, U**]
In small quantity on thin, sandy or chalky soils. Native but probably introduced with turf or building materials at many of its sites.

LYTHRACEAE

Lythrum salicaria L. Purple-loosestrife (5) [**Ab, Af, Ah, Ak, As**]
Occasional waterside clumps along the river and Beverley Beck; native.

ONAGRACEAE

Epilobium hirsutum L. Great Willowherb (25) [**A, G**]
Often abundant in damp grassland, marshes and at the margins of standing water; native.

Epilobium parviflorum Schreb. Hoary Willowherb (18) [**C, G, U**]
Frequent on disturbed ground of all kinds, including very shallow soils over paving and the like and also in wet grassland; native.

Epilobium montanum L. Broad-leaved Willowherb (15) [**C, U**]
A ubiquitous weed of cultivation, in town gardens and farm fields; native.

Epilobium tetragonum L. Square-stalked Willowherb (12) [**C, U**]
Usually in smaller quantity than *E. montanum*, in similar situations; native.

Epilobium ciliatum Raf. American Willowherb (17) [**C, U**]
At waysides and on disturbed ground, frequent; originally from North America but now well established as a garden weed.

Epilobium palustre L. Marsh Willowherb (2) [**Gs**]
Infrequent, beside ditches and the Beverley and Barmston Drain on Swine Moor; native.

Chamerion angustifolium (L.) Holub Rosebay Willowherb (21) [**G, Wh, Ui, Ur**]
In waste places and on waysides, sometimes in large stands; native.

***Oenothera* agg.** Evening-primrose (5) [**Ur, Ui**]
Occasional plants on waste places in the town, of garden origins. It was rarely possible to make a certain diagnosis to species level but the following were reported - ***Oenothera glazioviana*** (GJ), ***Oenothera biennis*** (WRD) and ***Oenothera cambrica*** (KMG).

Circaea lutetiana L. Enchanter's-nightshade (10) [**W, Wh, U**]
Sometimes as extensive patches under trees, scattered beneath hedges and in shady places in the town; native.

SAPINDACEAE

Aesculus hippocastanum L. Horse-chestnut (17) [**Ur**]
Found as a street tree and in other amenity plantings but self-sown seedlings were also encountered near the parent trees. An ancient introduction.

Acer platanoides L. Norway Maple (12) [**Ur**]
Widespread as an amenity planting in and around the town; introduced and apparently not naturalised in our area.

Acer campestre L. Field Maple (18) [**W, Wh, Ur**]
A common hedgerow tree of natural occurrence but augmented by amenity plantings. Some big trees seen in Burton Bushes. Native but some plantings are probably not of native stock.

Acer pseudoplatanus L. Sycamore (20) [**W, Wh, Ur**]
Widely planted for amenity, well established and seeding freely as a component of semi-natural woodland. A long-naturalised alien.

MALVACEAE

Malva moschata L. Musk-mallow (2) [**U**]
Occasional plants as garden escapes and persisting in a sown grassland from meadow seed mix. A British native but probably only as escaped cultivars in Beverley.

Malva sylvestris L. Common Mallow (17) [**G, U**]
A familiar wayside plant in both urban and rural habitats with a preference for disturbed ground, seldom in quantity; native.

Malva neglecta Wallr. Dwarf Mallow (2) [**Ur**]
In a couple of places as an urban casual; native.

Tilia x europaea L. Lime (11) [**Ur**]

Frequent in amenity plantings at roadsides and elsewhere. Neither parent of this horticultural hybrid between Broad-leaved lime ***Tilia platyphyllos*** and Small-leaved lime ***T. cordata*** is considered native to the Beverley area, though both are British natives.

Tilia cordata Mill. Small-leaved Lime (1) [**Ur**]

In an amenity planting; native to Britain but obviously planted here.

RESEDACEAE

Reseda luteola L. Weld (13) [**G, U**]

Sometimes abundant in disturbed ground in town and country; native.

Reseda lutea L. Wild Mignonette (1) [**Ui**]

A few plants in an urban wasteland; native but found also as a cultivar.

BRASSICACEAE

Arabidopsis thaliana (L.) Heynh. Thale Cress (9) [**C, Ur**]

Thinly spread on disturbed ground including gardens and roadsides. The plant is difficult to find after midsummer and may be under-recorded; native.

Capsella bursa-pastoris (L.) Medik. Shepherd's-purse (21) [**C, U**]

Frequent on farmland and in gardens as well as by urban roads; native.

Barbarea vulgaris W.T. Aiton Winter-cress (9) [**Gf, Gs, Gw**]

Here and there on all the commons; native.

Rorippa sylvestris (L.) Besser Creeping Yellow-cress (4) [**Af, Ah, As**]

Beside the river around high tide level; native.

Rorippa amphibia (L.) Besser Great Yellow-cress (1) [**Ah**]

Beside the river near Beverley Lock; native.

Nasturtium officinale **agg.** W.T. Aiton Water-cress (10) [**Ab, Ad, Af, As**]

Locally frequent in marshy places and in still, shallow water; native. Most occurrences were recorded as the aggregate but samples from four monads were found to belong **to *N. officinale* sensu stricto** (WRD).

Armoracia rusticana P. Gaertn., B. Mey. & Scherb. Horse-radish (5) [**Ur**]

Occasional plants by the roadsides, probably as garden throw-outs and relics of cultivation; maybe naturalised.

Cardamine pratensis L. Cuckooflower (13) [**G, Gf, Gs, Gw, U**]

Frequent in wet meadows, filled ponds and cemeteries; native.

Cardamine flexuosa With. Wavy Bitter-cress (14) [**C, G, U, W**]
A weed of cultivated land, disturbed ground and roadsides, with a preference for shady places. Native but possibly much augmented in recent decades by adventives from garden-centres.

Cardamine hirsuta L. Hairy Bitter-cress (12) [**C, G, U**]
Frequent at roadsides in town and country, in waste places and cultivated ground; native.

Lepidium draba L. Hoary Cress (1) [**Ur**]
A single small colony beside a recently-constructed road; established introduction.

Lepidium coronopus (L.) Al-Shehbaz Swine-cress (16) [**C, U**]
Sparse but widespread, a characteristic plant of tracks and pathways; native.

Lepidium didymum L. Lesser Swine-cress (7) [**C, U**]
Small colonies on disturbed ground and paths; introduced.

Lunaria annua L. Honesty (7) [**Wh, U**]
Occasional plants in hedgerows and at waysides; self-sown from gardens.

Erophila verna **s.l.** (L.) DC. Common Whitlowgrass (8) [**Ur**]
Small colonies on light soil and cracks in paving, particularly at roadsides. Hard to find after midsummer and perhaps under-recorded; native.

Brassica napus **subsp.** ***oleifera*** (DC.) Metzg. Oil-seed Rape (7) [**C, Ur**]
Arable land and roadsides, as a relic of cultivation or from seed spillage; introduced.

Sinapis arvensis L. Charlock (17) [**C, U**]
A widespread weed of arable land, also growing on waste ground in the town; native.

Raphanus raphanistrum L. Wild Radish (5) [**C**]
In small numbers as a weed of cultivation; native or long-established alien in Britain.

Sisymbrium officinale (L.) Scop. Hedge Mustard (22) [**Wh, U**]
Frequent along hedgerows, tracks and paths in the countryside and in the town; native.

Alliaria petiolata (M. Bieb.) Cavara & Grande Garlic Mustard (23) [**Wh**]
Often abundant in hedge-bottoms, rarely in sites of more open aspect; native.

Thlaspi arvense L. Field Penny-cress (4) [**C**]
A few plants in field margins and on disturbed ground at roadsides to the South and West of the town; possibly native.

Hesperis matronalis L. Dame's-violet (1) [**Ur**]
Dozens of plants surviving as a relic of cultivation in one roadside site at Tickton.

Cochlearia danica L. Danish Scurvygrass (10) [**Ur**]

As dense strips in the salt-desert splash-zones at the margins of roads that are gritted in the winter and a striking sight when flowering in the Spring. Native round the coast, it has spread inland in response to road management.

SANTALACEAE

Viscum album L. Mistletoe (2) [**U**]

Some well-developed colonies on the Limes of Beverley High School but also known from Apple and Rowan. John Killingbeck discovered a healthy colony growing on a specimen tree of ***Aesculus flava*** in Manor Road. A native plant but scarce in East Yorkshire.

POLYGONACEAE

Persicaria amphibia (L.) Delarbre Amphibious Bistort (14) [**A, G**]

Common throughout in its terrestrial or aquatic form except in all but the driest areas; native.

Persicaria maculosa Gray Redshank (19) [**C, G, U**]

In a wide range of generally disturbed places throughout; native.

Persicaria lapathifolia (L.) Delarbre Pale Persicaria (10) [**C, U**]

Most commonly seen as an agricultural weed, often with the previous; native.

Persicaria hydropiper (L.) Delarbre Water-pepper (3) [**A, Gw**]

In the wetter parts of Burton Bushes and the Westwood. Only seen in the west of the area; native.

Polygonum aviculare **agg.** L. Knotgrass (25) [**C, Gr, U**]

Frequent on disturbed ground both in urban and rural situations; native. This plant also seems to be salt-tolerant and plants from the verge of the A1035 near the River Hull at Tickton were determined as ***Polygonum aviculare*** **sensu stricto.** (WRD)

Fallopia japonica (Houtt.) Ronse Decr. Japanese Knotweed (1) [**U**]

Now thankfully scarce. A single plant seen in central Beverley; alien.

Fallopia baldschuanica (Regel) Holub Russian-vine (4) [**U, Wh**]

Always of garden origin but seemingly naturalised in some hedges.

Fallopia convolvulus (L.) Á. Löve Black-bindweed (8) [**C**]

An arable weed and plant of disturbed ground; archaeophyte.

Rumex acetosella L. Sheep's Sorrel (2) [**Gs, Gw**]

Found in small quantity in drier short-turf on Swine Moor and the Westwood; native.

Rumex acetosa L. Common Sorrel (19) [**G**]

A frequent component of most grassland; native.

Rumex crispus L. Curled Dock (12) [C, G]
Reasonably common throughout in disturbed areas and rank grassland; native.

Rumex conglomeratus Murray Clustered Dock (13) [**A**]
Generally a plant found in the damp and shady areas, more common to the east of the town; native.

Rumex sanguineus L. Wood Dock (14) [**W, Wh**]
Frequent, usually encountered in shady places; native.
It was noted that there was a considerable overlap in the general characters of this plant and ***Rumex conglomeratus*****.** Many plants exhibited the widely divergent branches of ***R. conglomeratus*** along with a single developed tubercle on the tepals. Whether this is indicative of some hybridisation in the local gene pool or just populations of atypical plants was not clear.

Rumex obtusifolius L. Broad-leaved Dock (25) [**A, G, U, W**]
Extremely abundant and generally the most frequent Dock in most places; native.

CARYOPHYLLACEAE

Arenaria serpyllifolia L. Thyme-leaved Sandwort (3) [**U**]
Infrequent, found on dry urban sites only; native.

Moehringia trinervia (L.) Clairv. Three-nerved Sandwort (5) [**W**]
A relic of old woodland, most frequently found in the west; native.

Stellaria media (L.) Vill. Common Chickweed (23) [**C, G, U**]
A common plant found abundantly in grassy and waste places; native.

Stellaria holostea L. Greater Stitchwort (3) [**Wh**]
Generally found only in relics of older woodland, native.

Stellaria graminea L. Lesser Stitchwort (4) [**Gf, Gs, Gw**]
Seen on all three commons but not generally in great quantity; native.

Stellaria alsine Grimm Bog Stitchwort (2) [**Af, As**]
Found only sparingly on the eastern commons; native.

Cerastium fontanum Baumg. Common Mouse-ear (22) [**G**]
Common in all grassy situations; native.

Cerastium glomeratum Thuill. Sticky Mouse-ear (15) [**U**]
Most commonly encountered by the roadside. Quick-growing and seeding into cracks and disturbed ground; native.

Sagina procumbens L.Procumbent Pearlwort (17) [**U**]
Abundant in most urban situations growing on walls and cracks in the paving; native.

Spergula arvensis L. Corn Spurrey (1) [**Ui**]

A single plant on the sandy material of a recently-patched verge near Grovehill Road; native.

Spergularia marina (L.) Griseb. Lesser Sea-spurrey (12) [**Ur**]

A native of coastal and saline habitats, now firmly established in the splash zone of major road verges.

Silene vulgaris (Moench) Garcke Bladder Campion (1) [**Ur**]

Found only at one site on Weel Road, east of the River Hull; native.

Silene latifolia Poir. White Campion (3) [**C**]

Infrequent but difficult to differentiate from Red Campion when not flowering; an archaeophyte. Some plants were possibly introduced with a seed mix.

Silene x hampeana Meusel & K. Werner Hybrid Red/White Campion (1) [**Wh**]

This hybrid was only noted once but non-flowering plants would have been missed.

Silene dioica (L.) Clairv. Red Campion (16) [**Wh**]

Commonly found under the older hedge-rows of the region; native.

Silene flos-cuculi (L.) Clairv. Ragged-Robin (1) [**A**]

Found only in the recently constructed, and at the time dried-out, pond at the northern end of Woodhall Way, where we were alerted to its presence by Rob Atkinson. A native plant but probably introduced here.

AMARANTHACEAE

Chenopodium rubrum L. Red Goosefoot (12) [**C**]

Found on nutrient-rich disturbed ground. Most commonly noted on the sites of manure heaps; native;

Chenopodium polyspermum L. Many-seeded Goosefoot (1) [**Ur**]

A single plant in a disturbed, roadside situation; archaeophyte.

Chenopodium album L. Fat-hen (20) [**C**]

A common garden weed and on all types of disturbed ground throughout; native.

Atriplex prostrata Boucher ex DC. Spear-leaved Orache (16) [**C, Ur**]

A plant of disturbed ground but also frequent along the verges of salted roads; native.

Atriplex littoralis L. Grass-leaved Orache (4) [**Ur**]

A native of light soils near the sea but now found as a casual along salted roads.

Atriplex patula L. Common Orache (20) [**C**]

A common plant of arable fields, gardens and waste places; native.

MONTIACEAE

Montia fontana* ssp. *chondrosperma (Frenzl) Walters Blinks (1) [**Gs**]

A useful record of this regionally scarce plant in the damp grassland of Swine Moor; native. Previously recorded by Crackles (1990) on Figham Common.

CORNACEAE

Cornus sanguinea L. Dogwood (9) [**Wh, U**]

An infrequent native component of East Yorkshire hedges but now widely planted in urban situations and when hedges are replaced or restored. The non-native ***Cornus alba*** has also been widely planted in urban situations.

PRIMULACEAE

Primula vulgaris Huds. Primrose (4) [**Wh, U**]

It is very difficult to determine the true status of this widely-planted native. Only seen on the western urban fringe.

Primula veris L. Cowslip (2) [**G**]

Only seen this year in the west of the area. There has long been a flourishing colony of Cowslips on the banks adjoining the northern end of the southern by-pass at Killingwoldgraves; native.

Lysimachia nemorum L. Yellow Pimpernel (1) [W]

On the wet rides of Burton Bushes; native.

Lysimachia nummularia L. Creeping-Jenny (5) [**Gf, Gs**]

Usually a plant of the damp eastern commons but also an occasional garden escape; native.

Lysimachia punctata L. Dotted Loosestrife (2) [**C**]

A garden escape occasionally seen flourishing on waste ground.

Anagallis arvensis L. Scarlet Pimpernel (8) [**C**]

Usually on disturbed land, a weed of gardens and arable land; native.

Cyclamen hederifolium Aiton Sowbread (2) [**U**]

A garden discard or escape.

Cyclamen coum Mill. Eastern Sowbread (1) [**U**]

A garden discard or escape found by Beverley Beck.

ERICACEAE

Rhododendron ponticum L. Rhododendron (1) [**U**]

Probably only seen as a garden relic in our calcareous soils; introduced.

RUBIACEAE

Phuopsis stylosa (Trin.) Benth. & Hook. f. ex B.D. Jacks.Caucasian Crosswort (1) [**U**]

An established colony of this pungent plant grows along the verge of Swinemoor Lane; introduced.

Galium odoratum (L.) Scop. Woodruff (1) [**U**]

Once native to the area but this record was almost certainly a garden discard.

Galium palustre L. Marsh-bedstraw (6) [**Gf, Gw**]

An abundant plant in the damp areas of the eastern commons; native.

Galium verum L. Lady's Bedstraw (4) [**G**]

Most frequently encountered on calcareous grasslands to the west; native.

Galium album Mill. Hedge Bedstraw (2) [**Wh**]

An infrequent plant of hedgerows on the eastern commons; native.

Galium saxatile L. Heath Bedstraw (2) [**Gs, Gw**]

In short turf on Swine Moor and also on Limekiln Bank, Westwood; native.

Galium aparine L. Cleavers (25) [**C, Wh, U**]

A plant found abundantly in hedge bottoms and on broken and waste land throughout; native.

Cruciata laevipes OpizCrosswort (12) [**G**]

Found in rough grassland but seemingly not persisting in urbanised areas; native.

GENTIANACEAE

Blackstonia perfoliata (L.) Huds. Yellow-wort (1) [**Ui**]

Normally a scarce native plant of calcareous grassland on the Wolds. In this survey it was only seen on a single industrial site in Grovehill.

APOCYNACEAE

Vinca major L. Greater Periwinkle (7) [**U**]

All plants seen were probably garden escapes or deliberate plantings; introduced.

BORAGINACEAE

Symphytum x uplandicum Nyman Russian Comfrey (11) [**U**]

Vigorous and patch-forming. Formerly introduced as a fodder plant, now well-established on waysides and rough ground.

Pentaglottis sempervirens (L.) Tausch ex L.H. Bailey Green Alkanet (9) [**U**]

A coloniser of hedges, waysides and rough ground; a garden escape.

Amsinckia micrantha Suksd. Common Fiddleneck (2) [**C**]

An infrequent casual on disturbed ground; alien.

Myosotis scorpioides L. Water Forget-me-not (10) [**A**]

The most common aquatic Forget-me-not, found by the margins of water courses, ponds and in damp grassland; native.

Myosotis laxa Lehm. Tufted Forget-me-not (1) [**Gf**]

Found growing alongside its larger relative in this survey on Figham Common; native.

Myosotis sylvatica Ehrh. ex Hoffm. Wood Forget-me-not (9) [**U, W**]

Fairly commonly found in woods and by shady roadsides; possibly native here but its numbers are considerably augmented by garden escapes.

Myosotis arvensis (L.) Hill Field Forget-me-not (20) [**C, G, U**]

Generally a weed of cultivation and in any open well-drained ground; an ancient introduction.

CONVOLVULACEAE

Convolvulus arvensis L. Field Bindweed (19) [**C, Ur**]

A widespread and persistent weed of cultivated ground, bare and waste places. A frequent plant of roadside verges; native.

Calystegia sepium (L.) R. Br. Hedge Bindweed (17) [**Ad, Wh**]

A common perennial climber of ditches, damp hedges and rough ground; native.

Calystegia silvatica (Kit.) Griseb. Large Bindweed (18) [**U, Wh**]

Larger and more robust than the native species. Frequent in hedges in the Beverley area, an established introduction.

SOLANACEAE

Nicandra physalodes (L.) Gaertn. Apple-of-Peru (1) [**U**]

A single plant was found growing on the site of a demolished building; a birdseed alien.

Solanum nigrum L. Black Nightshade (12) [**C, U**]

A surprisingly frequent plant in urban Beverley area, its origins remain obscure; native.

Solanum dulcamara L. Bittersweet (11) [**A**]

Found mainly in ditches and other damp, shady places; native. A white flowered variety was seen on Figham Common.

OLEACEAE

Fraxinus excelsior L. Ash (25) [**U, W**]

A familiar graceful hedgerow tree, freely seeding and also planted as an amenity tree. Now sadly under threat or succumbing to ash die-back; native.

Syringa vulgaris L. Lilac (1) [**U**]

Commonly grown as a garden tree, suckering and occasionally naturalising.

Ligustrum vulgare L. Wild Privet (3) [**Wh**]

An infrequent component of hedges in the outskirts; native but sometimes deliberately planted.

Ligustrum ovalifolium Hassk. Garden Privet (1) [**Wh**]

One of the most common urban hedging plants. Occasionally regarded as naturalised.

VERONICACEAE

Digitalis purpurea L. Foxglove (2) [**W**]

Found only in two Westwood monads. The status is uncertain as, although a native plant, it is much augmented with garden escapes and deliberate planting.

Veronica serpyllifolia L. Thyme-leaved Speedwell (13) [**G**]

Found mainly in grassy places including lawns and managed grassland; native.

Veronica chamaedrys L. Germander Speedwell (11) [**G, W**]

A fairly frequent plant in a variety of drier natural and semi-natural habitats; native.

Veronica montana L. Wood Speedwell (3) [**W**]

An indicator of ancient woodland, seen only in wooded parts of the Westwood; native.

Veronica scutellata L. Marsh Speedwell (3) [**Gf, Gs**]

A regionally scarce plant seen on both Swine Moor and Figham Common; native. It would probably have been overlooked but for the dry summer, which made its deep-marsh habitat accessible.

Veronica beccabunga L. Brooklime (10) [**A**]

Found in ditches and wet places generally; native, widespread and flourishing despite the long dry period.

Veronica anagallis-aquatica L. Blue Water-Speedwell (6) [**A**]

In ditches and at the margins of deeper water courses, mainly on Swine Moor and Figham Common; native.

Veronica catenata Pennell Pink Water-Speedwell (4) [**A**]

Less frequent than Blue Water-speedwell with a mainly similar distribution to the previous taxon, but favouring open muddy places with little or no flowing water: native.

Veronica arvensis L. Wall Speedwell (13) [**C, U**]

A diminutive annual found frequently on walls, pavement edges and cultivated land; native.

Veronica agrestis L. Green Field-speedwell (4) [**C**]

On cultivated ground but also growing abundantly in an old cemetery at New Walk along with Grey Field-speedwell but without the, now more frequent introduced Common Field-speedwell, suggesting the cemetery was a re-purposed field created before the arrival of the latter taxon. Native.

Veronica polita Fr. Grey Field-speedwell (1) [**C**]

Found only at a single site in New Walk cemetery in this survey; see note for previous taxon; native.

Veronica persica Poir. Common Field-speedwell (20) [**C, U**]

Usually the most common Speedwell of disturbed ground. Originally from Asia and first recorded nationally in 1825 (Stace 2010) it has largely displaced our native Field-speedwells on waste and cultivated ground.

Veronica filiformis Sm. Slender Speedwell (12) [**G, Ur**]

Found in managed grassland with short turf, particularly roadside verges. Another alien speedwell now well established in the region.

Veronica hederifolia L. Ivy-leaved Speedwell (11) [**C, U**]

A plant of cultivated and waste ground, open woods, hedgerows, walls and bank; archaeophyte.

Antirrhinum majus L. Snapdragon (5) [**U**]

Frequently seen in the urban setting on walls, buildings, railways and waste ground; sometimes self-seeding but mainly as a garden escape.

Cymbalaria muralis P. Gaertn., B. Mey. & Scherb. Ivy-leaved Toadflax (8) [**U**]

Long-established in Beverley (Hull 1829) and found on walls, buildings, pavements and snickets; old introduction.

Linaria vulgaris Mill. Common Toadflax (5) [**G, U**]

Most commonly encountered in urban, grassy waste places; native.

Linaria purpurea (L.) Mill. Purple Toadflax (10) [**U**]

An increasing, semi-naturalised garden escape, found on walls, pavements and other dry bare places.

PLANTAGINACEAE

Plantago coronopus L. Buck's-horn Plantain (2) [**Ui**]

Occasionally found in the salt-spray zone at the side of major roads; native.

Plantago major L. Greater Plantain (25) [**G**]

Common in all types of grassland throughout; native.

Plantago media L. Hoary Plantain (1) [**Gw**]

Only found on the calcareous grassland of the Westwood common; native.

Plantago lanceolata L. Ribwort Plantain (25) [**G**]

Common in grassland throughout; native.

HIPPURIDACEAE

Hippuris vulgaris L. Mare's-tail (2) [**As**]

In the wetter areas of Swine Moor to the east of the Barmston Drain where it may be abundant; native.

CALLITRICHACEAE

***Callitriche* agg.** Water-starwort (13) [**A**]

A frequent component of the submerged aquatic flora of most standing and flowing water. At least two forms were present, one of which was ***C. stagnalis* agg**., but in the absence of flowers and fruit no further subdivision was attempted.

SCROPHULARIACEAE

Verbascum thapsus L. Great Mullein (5) [**U**]

Usually seen as self-seeded plants on waste and disturbed ground. Considered to be a British native but all Beverley plants probably have a garden origin.

Scrophularia nodosa L. Common Figwort (2) [**Wh**]

A locally scarce plant found as a woodland relic in a couple of hedges; native.

Scrophularia auriculata L. Water Figwort (15) [**A**]

A widespread plant of pond and drain margins throughout; native.

Buddleja davidii Franch. Butterfly-bush (17) [**U**]

A frequent plant of waysides and waste places, its seeds being widely dispersed by the wind; a Victorian introduction from China.

LAMIACEAE

Stachys sylvatica L. Hedge Woundwort (24) [**Wh**]

A frequent plant of hedge bottoms everywhere; native.

Stachys palustris L. Marsh Woundwort (6) [**A**]

A frequent marginal in most of the larger western water courses; native.

Ballota nigra L. Black Horehound (2) [**Wh**]

An infrequent plant of hedge bottoms; native.

Lamiastrum galeobdolon* subsp. *argentatum (Smejkal) Stace Yellow Archangel (1) [**U**]

A scarce garden escape; a cultivated subspecies of a British native plant.

Lamium album L. White Dead-nettle (21) [**C, Wh**]

A very common plant of hedge bottoms and broken ground throughout; archaeophyte.

Lamium purpureum L. Red Dead-nettle (22) [**C**]

A very common weed of disturbed land throughout; archaeophyte.

Ajuga reptans L. Bugle (1) [**W**]

Found only in Newbigin Pits; native.

Nepeta cataria L. Cat-mint (1) [**U**]

An infrequent garden escape.

Glechoma hederacea L. Ground-ivy (24) [**Wh**]

Found frequently in shady hedge bottoms throughout; native.

Prunella vulgaris L. Selfheal (21) [**G, Gm, U**]

Common in grassy places, often thriving in managed urban grassland; native.

Origanum vulgare L. Wild Marjoram (1) [**Ui**]

A single unexplained plant found on industrial wasteland, Grovehill. Native but this plant may have garden origins.

Thymus polytrichus A. Kern. ex Borbás Wild Thyme (2) [**Gw**]

Seen in the short turf of Limekilns Bank, Westwood; native.

Lycopus europaeus L. Gypsywort (7) [**A**]

Mainly recorded as a marginal plant to the larger water courses in the east; native.

Mentha aquatica L. Water Mint (7) [**A**]

Often abundant in a scattered range of wet situations; native.

Mentha spicata L. Spear Mint (2) [**U**]

A few plants recorded in waste places; probably garden escapes or relics of cultivation.

***Lavandula* sp.** Lavender (1) [**U**]

An infrequent garden escape.

OROBANCHACEAE

***Euphrasia* agg**. L. Eyebright (2) [**Gs, Gw**]

Seen as minute plants on heavily grazed turf, Swine Moor and Limekilns Bank, Westwood. The Limekilns Bank population was determined as ***Euphrasia nemorosa*** (RM); native.

Odontites vernus (Bellardi) Dumort. Red Bartsia (4) [**G**]

This generally common plant was recorded less frequently than anticipated, usually in grassy places; native.

VERBENACEAE

Verbena officinalis L. Vervain (2) [**U**]

An infrequent garden escape.

AQUIFOLIACEAE

Ilex aquifolium L. Holly (21) [**W, Wh**]

A shrub common everywhere with the exception of some of the wetter eastern areas. A particularly abundant native component of Burton Bushes but in the urban area it has been much augmented by planting.

CAMPANULACEAE

Campanula persicifolia L. Peach-leaved Bellflower (1) [**U**]

An infrequent garden escape.

Campanula portenschlagiana Schult. Adria Bellflower (1) [**U**]

An infrequent garden escape, naturalising on old walls.

Campanula poscharskyana Degen Trailing Bellflower (6) [**U**]

A garden escape, often well naturalised on old walls.

Campanula rotundifolia L. Harebell (3) [**Gw**]

A fairly abundant component of the Westwood grassland. The frequency and extent only became apparent late in the year when the heavily grazed plants managed to flower; native.

Lobelia erinus L. Garden Lobelia (3) [**U**]

A garden escape, sometimes seen in pavement cracks under hanging baskets.

ASTERACEAE

Arctium minus (Hill) Bernh. Lesser Burdock (20) [**G, Ui, Ur**]

A familiar plant of grassland, field edges and verges, also widespread industrial zones; native.

Carduus tenuiflorus Curtis Slender Thistle (1) [**Gf**]

One vigorous colony was refound (WRD) on a dry bank formed over the buried sewage outfall pipe on the northern side of Figham Common. Not recently recorded in East Yorkshire; native.

Carduus crispus L. Welted Thistle (3) [**Wh, Gs**]

A locally uncommon thistle of dry shady hedge banks and in the open on Swine Moor; native.

Cirsium vulgare (Savi) Ten. Spear Thistle (25) [**G, U**]

Found in all monads and equally at home in grassy and waste places, waysides, urban pathways and cycle tracks; native.

Cirsium acaule (L.) Scop. Dwarf Thistle (1) [**Gw**]

A regionally scarce chalkland special, flourishing on Limekilns Bank, Westwood; native.

Cirsium palustre (L.) Scop. Marsh Thistle (7) [**Gf, Gs**]

Restricted to the eastern commons on wet and occasionally marshy grassland and in ditches; native.

Cirsium arvense (L.) Scop. Creeping Thistle (25) [**G, U**]

Probably our most common native thistle, found in similar locations to ***C. vulgare***, usually growing abundantly.

Centaurea montana L. Perennial Cornflower (1) [**U**]

A garden discard, occasionally naturalised on rough ground.

Centaurea nigra agg. L. Common Knapweed (17) [**G, U**]

A native plant commonly found in grassy places and in urban wasteland. No attempt was made to record below aggregate level. Probably introduced in seed mix in some roadside sites (e.g. Eastern end of Grove Hill Bridge) and other artificially induced herb-rich grassland (e.g. at Molescroft Grange Farm Allotments, which also has Oxeye Daisy and Musk Mallow).

Cichorium intybus L. Chicory (2) [**G, Ur**]

An attractive plant of roadside or rough grassy waste places, especially on lime; sometimes sown on set-aside land; an ancient introduction.

Lapsana communis L. Nipplewort (21) [**U, Wh**]

Frequently encountered on disturbed ground and in half-shade in open woodland and hedge banks; native.

Hypochaeris radicata L. Cat's-ear (19) [**G, U**]

A fairly common Dandelion look-alike which prefers a shorter turf and drier grassland. Also common on managed grassland in much of the urban area; native.

Scorzoneroides autumnalis (L.) Moench Autumn Hawkbit (21) [**G, U**]

A very successful native plant growing equally well on wet or dry grassland; found on waste land and on waysides.

Leontodon hispidus L. Rough Hawkbit (1) [**Gw**]

A calcicole found in only one location on the Westwood in this survey; native.

Leontodon saxatilis Lam. Lesser Hawkbit (6) [**Gs, Gw**]

A good record for Beverley (GJ) and a surprise find on Swine Moor as this plant is often associated with dry grassy turf and dunes, often by the sea. Also a flourishing colony on the Westwood; native.

Helminthotheca echioides (L.) Holub. Bristly Oxtongue (19) [**G, U**]

A common plant of waste ground, found also in rough grassy places, particularly on clay; archaeophyte.

Tragopogon pratensis L. Goat's-beard (7) [**G**]

Usually as single plants found in grassy places particularly on roadsides; introduced.

Sonchus arvensis L. Perennial Sow-thistle (18) [**C, G, U**]

A tall member of the Asteraceae family commonly found in colonies by roads, wasteland and on grassland in late summer; native.

Sonchus oleraceus L. Smooth Sow-thistle (20) [**G, U**]

An extremely common weed, long-flowering, turning up by roads, on grassland, on disturbed ground and in odd corners of the urban and industrial areas; native.

Sonchus asper (L.) Hill Prickly Sow-thistle (25) [**C, G, U**]

Ubiquitous in this survey, in many of the same places as ***Sonchus oleraceus***, but with a distinct preference for limy soil; more frequent in Beverley than in Hull where ***S. oleraceus*** is the more common Sow-thistle; native.

Lactuca serriola L. Prickly Lettuce (10) [**U**]

A plant of disturbed ground and waste places. becoming more frequent; archaeophyte.

Lactuca virosa L. Great Lettuce (4) [**U**]

Occurring in similar places to Prickly Lettuce, but less frequently; native.

Mycelis muralis (L.) Dumort. Wall Lettuce (11) [**U**]

A native plant of walls, shady banks and woodland edges, often on lime, but increasingly urbanised, as seen in this survey.

***Taraxacum* agg.** Dandelion (24) [**G, U**]

A ubiquitous apomictic perennial native thriving on grassland of all types, but particularly managed grassland in the urban areas, and on waysides and waste ground. There are many microspecies but plants were recorded at aggregate level only.

Crepis capillaris (L.) Wallr. Smooth Hawk's-beard (8) [**Gm, U**]

A familiar small plant of path-sides and managed grassland; native.

Crepis vesicaria L. Beaked Hawk's-beard (5) [**U**]

A native found in waste places, verges and even on walls.

Pilosella officinarum F.W. Schultz & Sch. Bip. Mouse-ear-hawkweed (5) [**Gm, Gs, Gw**]

Preferring short grazed turf or sparsely grassy places, often on lime; seen on Swine Moor and Westwood ; native.

Pilosella aurantiaca (L.) F.W. Schultz & Sch. Bip. Fox-and-cubs (7) [**U**]

A well-established, freely-seeding, garden escape which may be seen on rough ground, walls, verges and beside the railway track.

***Hieracium* agg.** L. Hawkweed (1) [**U**]

A difficult to distinguish group of plants only found once in our survey; native.

Gnaphalium uliginosum L. Marsh Cudweed (3) [**G, Gs**]

Found on damp bare ground and on paths with shallow ruts and puddles; native.

Inula helenium L. Elecampane (1) [**U**]

Found only once; a garden discard.

Inula conyzae (Griess.) Meikle Ploughman's-spikenard (1) [**Wh**]

A small colony was revealed on a steep bare slope in quarry where scrub had been removed. A native plant of calcareous soils and woodland edges, not particularly common in East Yorkshire.

Pulicaria dysenterica (L.) Bernh. Common Fleabane (5) [**Ad, Gf, Gs, Ui**]

Found in ditches, marshes and wet fields, but now also surviving as a relic in some industrial wasteland; native.

Erigeron karvinskianus DC. Mexican Fleabane (4) [**U**]

Seen mainly on urban walls. An escaped garden plant which is becoming naturalised.

Conyza canadensis (L.) Cronquist Canadian Fleabane (14) [**U**]

Found in pavement cracks, on walls and by the railway tracks. A very successful alien that has spread rapidly as in Hull, though as yet in Beverley, without its larger brethren.

Bellis perennis L. Daisy (25) [**Gm**]

A ubiquitous native plant of managed grassland.

Tanacetum parthenium (L.) Sch. Bip. Feverfew (14) [**U**]

A common sight on walls, waste ground and wayside, usually near habitation. An ancient introduction but sometimes clearly a garden escape; plants usually growing singly.

Tanacetum vulgare L. Tansy (3) [**G, U**]

Much less commonly seen than the previous taxon. Found in large clumps in grassy places, waysides and rough ground; another old introduction.

Artemisia vulgaris L. Mugwort (19) [**U**]

Extremely commonly seen in late summer on rough ground, waste places, urban footpaths; old introduction.

Artemisia absinthium L. Wormwood (1) [**U**]

A first for this area, found growing by some steps by Beverley Beck by GJ; archaeophyte.

Achillea ptarmica L. Sneezewort (3) [**G**]

Infrequently seen in this dry year; a native of damp grass and marshy fields.

Achillea millefolium L. Yarrow (23) [**G, U**]

A widespread plant found in short grassland, hedge banks, waysides and a variety of urban habitats; native.

Leucanthemum vulgare Lam. Oxeye Daisy (11) [**G, Ur**]

A common native plant of grassy places on the richer soils, this taxon is very variable. The native populations were probably much augmented as it is often deliberately planted by roads, as seen in this survey.

Matricaria chamomilla L. Scented Mayweed (18) [**C, Ur**]

An introduced arable weed once restricted to arable ground on light soils, in this survey also found along waysides.

Matricaria discoidea DC. Pineappleweed (19) [**C, U**]

An introduced and naturalised arable weed of bare places, paths, etc.; widespread in this survey.

Tripleurospermum inodorum (L.) Sch. Bip. Scentless Mayweed (14) [**C, U**]

A weed of waste, rough and cultivated ground; widespread. An archaeophyte.

Senecio inaequidens DC. Narrow-leaved Ragwort (3) [**Ur**]

Scattered and usually only a few plants. Most commonly at the road-side or in disturbed ground. This is a neophyte and the records from this survey are the first for the town. It has only appeared in the East Riding in recent years but is spreading rapidly, seemingly along the main roads.

Senecio jacobaea L. Common Ragwort (24) [**G, Gm, Ur**]

Found abundantly in most grassy places. It is tolerant of a wide range of environments and survives urban development by continuing vegetatively in utility grassland and mown verges. Native.

Senecio squalidus L. Oxford Ragwort (4) [**U, Ui**]

Scattered but still relatively uncommon in Beverley. Largely confined to the old urban centre and eastern industrial areas. Although never abundant this alien is now well established in Beverley.

Senecio vulgaris L. Groundsel (24) [**C, U**]

Very common and found on most areas of disturbed land throughout the area. Native and long known as a weed of gardens and arable land; possibly native.

Senecio viscosus L. Sticky Groundsel (1) [**Ui**]

This plant was only found as a single, diffuse colony on the Grove Hill industrial estate. It is not a common plant in the East Riding but it can be found in several industrial and dockland areas of Hull. Like ***Senecio inaequidens*** and ***S. squalidus*** it seems likely that populations will continue from local seed and seed brought in accidentally on commercial vehicles. Possibly native.

Tussilago farfara L. Colt's-foot (12) [**C, U**]

Colonies were found on open disturbed ground in many urban habitats, particularly waste ground near Grovehill industrial estate and a business park not far from river Hull; native.

Petasites hybridus (L.) P. Gaertn., B. Mey. & Scherb. Butterbur (7) [**Ad, Gf, Gs**]

Seen by river Hull, Beverley Beck and a wayside ditch on Long Lane and tending to grow in large colonies; native.

Petasites fragrans (Vill.) C. Presl Winter Heliotrope (4) [**Ur**]

A large patch was found opposite its native relative on Long Lane, also along the Beck and places in the southern end of the survey area. An introduced and naturalised relative of Butterbur.

Calendula officinalis L. Pot Marigold (4) [**U**]

A common garden escape or throw-out on tips and waste ground.

Ambrosia artemisiifolia L. Ragweed (1) [**U**]

A single plant was discovered by GJ on garden throw-outs by Butt Lane. A casual of waste ground and tips, the source usually being birdseed or oilseed.

Guizotia abyssinica (L. f.) Cass. Niger (1) [**U**]

A bird-seed alien found as a single plant on the site of a demolished house.

Galinsoga quadriradiata Ruiz & Pav. Shaggy Soldier (1) [**U**]

Found by GJ growing along New Walkergate and lining an adjacent car park. A South American alien now frequently naturalised in urban habitats. It may have arrived on car wheels from Hull where it is a fairly common pavement weed.

Eupatorium cannabinum L. Hemp-agrimony (2) [**Ad, G**]

A native growing in tall spreading clumps by water but equally happy in shade or in the open, on drier grassland or rough ground.

CAPRIFOLIACEAE

Sambucus nigra L. Elder (24) [**U, Wh**]

A frequent bird-sown component of hedges, found also in scrub, on waste ground and even rooftops; native.

Viburnum opulus L. Guelder-rose (6) [**U, Wh**]

A less common shrub, found native in hedges but also much planted as an amenity shrub around the town.

Viburnum lantana L. Wayfaring-tree (1) [**Wh**]

A British native tree but only encountered once in an obviously-planted hedge.

Symphoricarpos albus (L.) S.F. Blake Snowberry (8) [**U, Wh**]

A fairly widespread suckering and insidiously aggressive thicket-former in hedges, scrub and on waste ground. Introduced/naturalised from N America normally propagating from suckers.

Lonicera periclymenum L. Honeysuckle (6) [**W, Wh**]

Widely found in woods, scrub and hedges, often not flowering in shade. Native but many plants are garden escapes or are bird sown from cultivated varieties.

VALERIANACEAE

Valerianella locusta (L.) Laterr. Common Cornsalad (1) [**U**]

Encountered as a pavement weed off Walkergate. Native but also cultivated.

Valeriana officinalis L. Common Valerian (7) [**A**]

A tall variable perennial growing along the banks of the River Hull, Beverley Beck and in ditches; native.

Centranthus ruber (L.) DC. Red Valerian (9) [**U**]

Originally introduced but now fully naturalised on walls, pavement edges and waste ground.

DIPSACACEAE

***Dipsacus fullonum* s.l**. L. Wild Teasel (12) [**Ad, U**]

A widespread biennial preferring marginal habitats by roads, railways and often on waste ground, also ditch and drain sides; native.

Knautia arvensis (L.) Coult. Field Scabious (1) [**Ui**]

A singe plant was seen on Grovehill Industrial Estate. A native plant usually favouring dry grassy cultivated places on light soils.

Succisa pratensis Moench Devil's-bit Scabious (1) [**Gs**]

Seen flowering only on Swine Moor; native. A late-flowering plant which was possibly often overlooked on the commons in its heavily-grazed vegetative state.

ARALIACEAE

Hedera helix L. Common Ivy (25) [**U, W**]

A ubiquitous evergreen with both creeping and climbing stems. Native but much augmented by deliberate planting and the escape of cultivars.

HYDROCOTYLACEAE

Hydrocotyle vulgaris L. Marsh Pennywort (1) [**As**]

This native plant of bogs and marshes was only found on Swine Moor Common.

APIACEAE

Sanicula europaea L. Sanicle (3) [**W**]

Only seen in the western woodlands on the Chalk; native.

Chaerophyllum temulum L. Rough Chervil (3) [**Wh**]

Preferring light shade in hedgerows and wood borders, usually flowering after Cow Parsley but nowhere near as prolific; native.

Anthriscus sylvestris (L.) Hoffm. Cow Parsley (25) [**G, U, W**]

A familiar plant of grassy places, road verges, hedgerows and wood margins, often abundant; native.

Smyrnium olusatrum L. Alexanders (1) [**U**]

A single wayside occurrence of this plant, once widely cultivated for culinary purposes. It is still to be found in the garden of the Priory.

Conopodium majus (Gouan) Loret Pignut (5) [**G, W**]

Confined to the Westwood and western edges of the town; native.

Pimpinella major (L.) Huds. Greater Burnet-saxifrage (1) [**Ui**]

A single chance find by GJ beside a narrow lane on Swine Moor Industrial Estate, presumably having arrived on vehicle wheels; native but regionally scarce.

Aegopodium podagraria L. Ground-elder (11) [**C, U**]

A perennial invasive weed creeping to form extensive patches in shady places, marginal sites and gardens; an old introduction. Often associated with the sites of gardens.

Berula erecta (Huds.) Coville Lesser Water-parsnip (9) [**A**]

Always growing in and by water, most frequently on the eastern commons; native.

Oenanthe fistulosa L. Tubular Water-dropwort (1) [**As**]

Long known to be present on the wetter parts of Swine Moor and Figham Common (Browning 1920) but the dryness of the season and heavy grazing pressure made it a difficult plant to detect in 2018. Observed at only at one site there by WRD.

Oenanthe crocata L. Hemlock Water-dropwort (5) [**Ah**]

This toxic native plant was found growing along the River Hull and the lock end of Beverley Beck. It is being increasingly recorded in East Yorkshire.

Oenanthe fluviatilis (Bab.) Coleman River Water-dropwort (4) [**Ah**]

This rare aquatic floating umbellifer was an interesting find by WRD as it had not previously been recorded in the Hull's lower reaches. Seen at several points adjacent to both Swine Moor and Figham Common; native.

Aethusa cynapium L. Fool's Parsley (12) [**C, U**]

A common weed of cultivated ground and arable field edges, found also in gardens, verges and on urban waste ground; archaeophyte.

Foeniculum vulgare Mill. Fennel (2) [**C**]

Always a relic of cultivation or derived from garden discards.

Conium maculatum L. Hemlock (17) [**C, U**]

A common and often abundant plant of damp ground, roadside ditches and waste ground. A highly poisonous ancient introduction.

Apium nodiflorum (L.) Lag. Fool's-water-cress (14) [**A**]

Often growing with Watercress in many of Beverley's drains and ditches as well as Swine Moor, Figham, Barmston Drain and Beverley Beck; native.

Angelica sylvestris L. Wild Angelica (8) [**Gf, Gs**]

Confined entirely to wetter areas of the Beck, eastern commons and river bank; native. Dr R Goulder has reported a single plant of the cultivar ***Angelica archangelica*** along the Beck.

Heracleum sphondylium L. Hogweed (22) [**C, G, Wh**]

A familiar plant of roadside, banks, rough ground and grassy places, found all over Beverley; native.

Torilis japonica (Houtt.) DC. Upright Hedge-parsley (12) [**Wh**]

A graceful native of grassland, wood borders and hedgerows. It flowers later than the similar Cow Parsley and Rough Chervil, but more abundant than the latter as it can tolerate the more open situations by roads, tracks and pathways.

Torilis nodosa (L.) Gaertn. Knotted Hedge-parsley (1) [**Ur**]

Not a particularly common plant in East Yorkshire but it was found By Dr K Glover as a single small colony by a bridge on a Figham Common track; native.

ARACEAE

Zantedeschia aethiopica (L.) Spreng. Altar-lily (1) [**Ab**]

At only one site, along the Beck; a deliberate introduction.

Arum maculatum L. Lords-and-Ladies (24) [**Wh**]

Both urban and rural sites beneath old hedges; native.

Arum italicum Mill. Italian Lords-and-Ladies (2) [**U, Wh**]

Much less frequent than ***Arum maculatum***; garden escape or discard.

LEMNACEAE

Spirodela polyrhiza (L.) Schleid. Greater Duckweed (2) [**Ak**]

Rare in East Yorkshire, this native plant was reported by Dr Ray Goulder in Beverley Beck 2018.

Lemna minor L. Common Duckweed (13) [**A**]

Ubiquitous in standing water, never in small streams but occasional in the reedbeds beside the river. Still the commonest duckweed by far; native.

Lemna trisulca L. Ivy-leaved Duckweed (3) [**Ab**]

Confined to the Beverley and Barmston Drain but widespread and frequent where it occurred, in the more eutrophicated stretches; native.

Lemna minuta Kunth Least Duckweed (4) [**Ab, Ad, Af, As**]

Occasional as an established introduction and perhaps destined to increase in frequency.

ALISMATACEAE

Sagittaria sagittifolia L. Arrowhead (5) [**Ab, Af, Ah**]

A frequently occurring native plant in the Hull Valley, principally in the Beverley and Barmston Drain, where it flowered well later in the year, particularly in the more eutrophicated stretch at Figham Common, but occasional plants were also seen growing in the channel of the river.

Alisma plantago-aquatica L. Water-plantain (5) [**Af, Ad**]

Fairly frequent native, perhaps adversely affected by the drying out of the smaller drains and marshes early in the year. Available from garden centres.

BUTOMACEAE

Butomus umbellatus L. Flowering-rush (6) [**Af, Ah, As**]

Frequent as individuals or small groups of plants along the West bank of the river and in a large, dense, pure stand fringing an artificial pond in monad TA0437. Sometimes planted as an ornamental, as at the pond, but behaving like a native beside the river. The plant is usually shy to flower in East Yorkshire but this year it flowered freely, perhaps encouraged by the exceptionally warm weather.

HYDROCHARITACEAE

Elodea canadensis Michx. Canadian Waterweed (2) [**Ab**]

Found in small quantity along the Beverley and Barmston Drain; a decreasingly-frequent established alien

Elodea nuttallii (Planch.) H. St. John Nuttall's Waterweed (7) [**A**]

Often in abundance in water bodies in the Hull Valley as an established alien. It is the most abundant aquatic plant in the channel of the river. Always submerged except for its floating flowers, which were conspicuous in the Beverley and Barmston Drain, but not the river, in July.

JUNCAGINACEAE

Triglochin palustris L. Marsh Arrowgrass (2) [**Gs**]

Found in small quantity in the wetter grassland of Swine Moor; an infrequent native.

POTAMOGETONACEAE

Potamogeton natans L. Broad-leaved Pondweed (9) [**A**]

The commonest pondweed of still waters, often in quantity; not seen in the River Hull. Native.

Potamogeton lucens L. Shining Pondweed (4) [**Ab, Af, As**]

Abundant here and there in the Beverley and Barmston Drain; native.

Potamogeton friesii Rupr. Flat-stalked Pondweed (2) [**Ak**]

Confined to the Beverley Beck and not abundant; native.

Potamogeton pusillus L. Lesser Pondweed (1) [**Ab, As**]

A few plants were discovered (WRD) mixed with other aquatics in the Beverley and Barmston drain at Swine Moor; native.

Potamogeton crispus L. Curled Pondweed (6) [**Ab, Ad, Ak, As**]
Rather scattered but can occur in quantity; native.

Potamogeton pectinatus L. Fennel Pondweed (6) [**A**]
Plentiful in places in still waters and also occasionally in the river; native.

Groenlandia densa (L.) Fourr. Opposite-leaved Pondweed (2) [**Ab, As**]
In small quantity in the Beverley and Barmston Drain at Swine Moor; native.

Zannichellia palustris L. Horned Pondweed (2) [**Ab, As**]
In small quantity in the Beverley and Barmston Drain at Swine Moor; native.

DISCOREACEAE

Tamus communis L. Black Bryony (4) [**Wh**]
Occasional plants in hedgerows in agricultural areas both North and South of the town; native.

IRIDACEAE

Iris pseudacorus L. Yellow Iris (11) [**A**]
Widespread, growing as clumps beside still and flowing water; most populations appeared to be native but Yellow Iris is sometimes planted as an ornamental.

Iris foetidissima L. Stinking Iris (3) [**Wh**]
Infrequent and in small numbers; not seen in flower. Native to Britain but believed to be an established garden escape/discard in our area.

ALLIACEAE

Allium schoenoprasum L. Chives (1) [**Ur**]
An escape from cultivation beside the road at Grove Hill.

Allium ursinum L. Ramsons (2) [**W**]
Shady places on the Westwood; native.

Allium vineale L. Wild Onion (2) [**G**]
Still to be found growing on the eastern embankment of the river beside Weel Road, where it has long been known (Robinson, 1902: 186); native.

Galanthus nivalis L. Snowdrop (11) [**U, W**]
Found scattered throughout. Introduced, either as a garden throw-out or deliberately established. Several other species are grown in gardens.

Narcissus agg. Daffodil (11) [**Ur, Wh**]
Often planted at roadsides, where the bulbs frequently persist and multiply. Also seen as a garden throw-out.

ASPARAGACEAE

Hyacinthoides non-scripta (L.) Chouard ex Rothm. Bluebell (7) [**W, Wh**]

In woods and hedges, sometimes in quantity as under an old hedge south of Leconfield; native.

Hyacinthoides x massartiana Geerinck Hybrid Bluebell (6) [**Ur, Wh**]

A commonly grown fertile hybrid between the native species and the Spanish bluebell. Frequently seen but generally in small quantity.

Hyacinthoides hispanica (Mill.) Rothm. Spanish Bluebell (4) [**Ur, Wh**]

An alien species established as a garden throw-out or escape in a few places but not in quantity. Less frequent than the previous.

Ruscus aculeatus L. Butcher's-broom (1) [**U**]

Iin small quantity under tree cover in a cemetery at Molescroft; introduced.

TYPHACEAE

Sparganium erectum L. Branched Bur-reed (9) [**Ab, Ad, Af, Ak, Ah, As**]

Mostly in the Hull valley, where it can occur in large beds, particularly in the more eutrophic standing waters; native.

Sparganium emersum Rehmann Unbranched Bur-reed (6) [**Ab, Ah, Ak**]

In the river and larger bodies of standing water. It was not seen to flower in the main channel of the river but did so abundantly in the Beverley and Barmston drain near Beverley Lock; native.

Typha latifolia L. Bulrush (6) [**Ad, Af, As**]

Often in dense stands at the sides of drains and in swamps. Substantial patches in normally inaccessible swamps on Swine Moor where it was grazed to the ground as the swamps dried out; native.

JUNCACEAE

Juncus bufonius L. Toad Rush (3) [**Ab, Af, As**]

At the margins of pools and drains in the commons of the Hull Valley, only a few plants even where extensive areas of apparently suitable habitat were exposed by the drying-out of the shallow pools; native.

Juncus subnodulosus Schrank Blunt-flowered Rush (1) [**Ad**]

In small quantity at one wet site South of Leconfield; native.

Juncus articulatus L. Jointed Rush (9) [**Ad**]

Frequent in marshy places, especially on Swine Moor, where it grew and fruited mostly as very small plants due to intensive grazing; larger elsewhere. Native.

Juncus inflexus L. Hard Rush (8) [**G, Gf, Gs**]

Frequent in damp grassland and marshes, particularly in the grazing commons of the Hull valley; native.

Juncus effusus L. Soft-rush (13) [**G, Gf, Gs**]

The most abundant rush of damp meadows; native. The variety ***compactus*** occurred frequently.

Juncus conglomeratus L. Compact Rush (1) [**G**]

A small population in damp grassland in the north of Molescroft; native. May have been over-recorded in the past, as the variety ***compactus*** of Soft Rush is very similar.

Luzula campestris (L.) DC. Field Wood-rush (8) [**Gs, Gw**]

Frequent on the dry pasture of the Westwood and the wet pasture of Swine Moor, native.

CYPERACEAE

Eleocharis palustris (L.) Roem. & Schult. Common Spike-rush (3) [**Gs**]

Numerous plants in the more marshy places on Swine Moor, where it suffered from grazing; native.

Cyperus eragrostis Lam. Pale Galingale (1) [**Ui**]

A few small plants were seen on a derelict site on the Swine Moor Industrial Estate; a garden escape.

Carex paniculata L. Greater Tussock-sedge (2) [**Ak**]

In beds beside the Beverley Beck, where it was introduced (Middleton & Cook, 2014); a British native.

Carex otrubae Podp. False Fox-sedge (1) [**Wh**]

A few spikes under a hedge beside a small drain on Figham Common; native.

Carex disticha Huds. Brown Sedge (3) [**GF, Gs**]

Confined to the grazing commons in the Hull valley, local and in rather small quantity; native.

Carex remota L. Remote Sedge (2) [**W**]

In damp, shady places, in small quantity; native.

Carex hirta L. Hairy Sedge (9) [**G, Gf, Gs, Gw**]

Widespread and fairly frequent in marshy places; native.

Carex acutiformis Ehrh. Lesser Pond-sedge (5) [**Ab, Ad**]

At the waterline in large and small drains, infrequent but can be plentiful where it occurs; native.

Carex riparia Curtis Greater Pond-sedge (4) [**Ab, Ad**]

Small stands at the waterline in the Beverley and Barmston drain and a smaller drain to the South of the town; native.

Carex pseudocyperus L. Cyperus Sedge (1) [**Af**]

A single plant was found in a drain on Figham Common by Dr K Glover; later determined by P J Cook. The welcome re-discovery of a plant found by the YNU on their visit to Figham Common (Browning 1920).

Carex pendula Huds. Pendulous Sedge (12) [**Ah, U, W, Wh**]

As single plants or several together, often obviously planted, as beside the Beverley Beck. Occasional tufts beside the river, where it is unlikely to have been deliberately introduced. Perhaps native but the majority of plants are clearly garden escapes, either by seeding or creeping under the fence.

Carex sylvatica Huds. Wood-sedge (2) [**W**]

A few plants seen growing under the tree canopy in Limekilns Wood and Burton Bushes; native.

Carex flacca Schreb. Glaucous Sedge (7) [**G, Gs, Gw**]

In both damp and dry grassland; native.

Carex panicea L. Carnation Sedge (3) [**Gs**]

Confined to the damp pasture of Swine Moor and infrequent there; native.

Carex demissa Hornem. Common Yellow-sedge (1) [**Gs**]

Several rather small patches confined to one restricted area of Swine Moor; native. Regarded as regionally scarce (Middleton & Cook, 2014).

Carex caryophyllea Latourr. Spring-sedge (3) [**Gw**]

Confined to the dry, calcareous pasture of the Westwood where it is widespread but infrequently observed; native.

Carex nigra (L.) Reichard Common Sedge (4) [**Gs**]

Apparently confined to Swine Moor but widespread and fairly frequent there; much dwarfed by grazing, like all the sedges on the Moor; native.

POACEAE

Milium effusum L. Wood Millet (1) [**W**]

Found in our survey (by WRD) only at Shorthill Hag, in fair quantity; native. Occurring frequently in the woods of the low Wolds but rare elsewhere in the East Riding (Crackles 1990).

Schedonorus pratensis (Huds.) P. Beauv. Meadow Fescue (3) [**Gs**]

Occasional tussocks on and in the vicinity of Swine Moor; native.

Schedonorus arundinaceus (Schreb.) Dumort. Tall Fescue (3) [**G, Ur**]

A few tussocks in rough grassland beside paths and a strip along the edge of a cereal field; native.

Schedonorus giganteus (L.) Holub. Giant Fescue (4) [**Wh**]

A tall, imposing grass of damp, shady hedgerows, populations generally of few plants; native.

Lolium perenne L. Perennial Rye-grass (23) [**G, Gm, U**]

An abundant and ubiquitous grass occurring naturally and sown for lawns, recreation fields and other amenity areas, where it is valued for its tolerance of mowing and trampling, as well as a pasture grass; absent from wet habitats. Native.

Festuca rubra agg. L. Red Fescue (25) [**G, Gm**]

Much sown for pastures and lawns but not in great quantity in natural situations; native but many strains sown for agriculture or amenity originated overseas.

Festuca ovina L. Sheep's-fescue (1) [**Gs**]

A few tussocks noted on Swine Moor (WRD), where it is undoubtedly native.

Vulpia bromoides (L.) Gray Squirreltail Fescue (1) [**Ui**]

Fairly numerous in wind-blown soil at the roadside in the Swine Moor Industrial Estate. Its British status is unclear but it is obviously an alien in Beverley.

Vulpia myuros (L.) C.C. Gmel. Rat's-tail Fescue (1) [**U**]

At one urban site in central Beverley; introduced.

Cynosurus cristatus L. Crested Dog's-tail (14) [**G, Gf, Gs, Gw**]

In quantity on all three commons but rather sparse elsewhere; native but sometimes included in seed mixes for amenity and conservation areas.

Puccinellia distans (Jacq.) Parl. Reflexed Saltmarsh-grass (9) [**Ur**]

Only seen on the verges of major thoroughfares where splashes from 'gritted' roads create a narrow zone of salt-desert, where it can occur in pure stands. Native around the coast, from where it has spread inland due to winter salting of the roads.

Briza media L. Quaking-grass (6) [**G, Gf, Gs, Gw**]

On drier grassland, never abundant but sometimes spread over substantial areas, as at Swine Moor. An attractive grass when in flower and seed; native.

Poa annua L. Annual Meadow-grass (25) [**C, G, U**]

An ubiquitous grass of disturbed ground, especially in gardens; native.

Poa trivialis L. Rough Meadow-grass (17) [**G, Gf, Gm, Gs, Gw**]

Often in quantity in mesic grassland and tolerant of shade, valued as a pasture grass (sometimes sown for that purpose, for hay and for amenity). A native but some strains probably of foreign origin.

Poa pratensis L. Smooth Meadow-grass (7) [**G, Gs, Gw**]

Very similar to ***Poa trivialis*** in appearance, less shade-tolerant, preferring drier conditions and generally less abundant, though valued as fodder and sometimes sown in leys, usually mixed with other species. Native but foreign strains may be sown.

Dactylis glomerata L. Cock's-foot (25) [**G**]

Ubiquitous in grassy places, such as road verges, tracksides, field margins and commons. Despite its tussock-forming habit, it is tolerant of mowing and often present in lawns. A succulent pasture-grass; native.

Catabrosa aquatica (L.) P. Beauv. Whorl-grass (6) [**Ab, Af, As**]

A typical component of the aquatic flora of the Hull valley, occurring in drains, flooded wheel-ruts and marshy hollows. Substantial beds extend out into the Beverley and Barmston Drain at Swine Moor as floating mats. Its sweet, succulent foliage is eagerly grazed by horses and cattle where they can reach it. Scarce in the East Riding (Middleton & Cook, 2014); native.

Catapodium rigidum (L.) C.E. Hubb. Fern-grass (3) [**U**]

In shallow soils, on top of a wall and at the foot of a wall adjacent to the pavement, never abundant; native.

Arrhenatherum elatius (L.) P. Beauv. ex J. Presl & C. Presl False Oat-grass (23) [**G, Ui, Ur**]

Generally abundant on rough, unmown verges of roads and tracks and on waste ground; native.

Avena fatua L. Wild-oat (9) [**C, Ur**]

Very obvious towering above cereals but usually not in troublesome amounts unless the cereal crop is being grown for seed; native.

Avena sativa L. Oat (2) [**U**]

Occasional as a result of spillage (bird-seed?) but occasionally grown as a field crop in the wider region.

Trisetum flavescens (L.) P. Beauv. Yellow Oat-grass (1) [**G**]

A few plants seen on the herb-rich verge of a small road north of the town; native.

Deschampsia cespitosa (L.) P. Beauv. Tufted Hair-grass (10) [**G, Gf, Gs, Gw**]

A tussock-forming grass with a wide ecological range, too coarse to be acceptable to grazing animals unless they are very short of food, so particularly favoured by the removal of more palatable species on the three commons; native.

Holcus lanatus L. Yorkshire-fog (25) [**C, G, U, W**]

Ubiquitous, often abundant in wet or shady places but of little value as a pasture grass; native.

Anthoxanthum odoratum L. Sweet Vernal-grass (12) [**G**]

Frequent and abundant on the Westwood and the drier parts of Swine Moor, less so elsewhere; native.

Phalaris arundinacea L. Reed Canary-grass (12) [**Ab, Ad, Af, Ah, As**]

Often seen forming extensive pure stands in shallow water. Beside the river it is generally confined to the west bank, the east bank being largely occupied by Common Reed; native.

Agrostis capillaris L. Common Bent (18) [**C, G, Gf, Gs, Gw, U**]

Frequent in grazed and mown grassland, particularly the Westwood and the drier parts of Figham Common and Swine Moor, but also on infrequently mown road verges; native

Agrostis gigantea Roth Black Bent (10) [**C, G, U**]

Generally only found in small quantity but abundant in one part of a cereal field; native.

Agrostis stolonifera L.Creeping Bent (19) [**C, G, U**]

Frequently encountered in all kinds of grassland and by the roadside. It can be a troublesome weed in gardens; native.

Polypogon viridis (Gouan) Breistr. Water Bent (6) [**Ur**]

A recent arrival in the area, widespread in such situations as the joints in paving. Despite its vernacular name it was thriving in the hot, dry summer in the absence of any special source of moisture; a relatively recent introduction to Britain.

Alopecurus pratensis L. Meadow Foxtail (10) [**C, G, Gm, Gw**]

More commonly seen on the Westwood than the wetter commons. One of the first grasses to flower, so it may have been overlooked later in the year. Valued for grazing and hay and probably also included in amenity seed mixes. Native and introduced.

Alopecurus geniculatus L. Marsh Foxtail (14) [**G, Gf, Gs**]

Always noted in very wet situations, particularly in small hollows, almost an aquatic grass; native.

Alopecurus myosuroides Huds. Black-grass (7) [**C, U**]

Can occur in troublesome amounts in cereal fields, where it is subjected to a variety of control measures. Occasionally found on derelict urban sites; native.

Phleum pratense L. Timothy (18) [**G, Gm**]

Usually not in quantity but valued as fodder and sometimes sown as a ley for late hay; native and introduced. A few depauperate plants on Swine Moor (seen by WRD) may have been suffering from the effects of drought and grazing or could have been the native ***Phleum bertolonii***.

Glyceria maxima (Hartm.) Holmb. Reed Sweet-grass (8) [**Ab, Ad, Af, Ah, Ak, As**]

Growing in smaller stands than the, sometimes extensive, reed-beds of ***Phragmites*** and ***Phalaris*** and grazed by horses and cattle on the commons of the Hull valley; native.

Glyceria fluitans (L.) R. Br. Floating Sweet-grass (8) [**Ad, Af, As or G, Gf, Gs**]

Growing extensively on the usually marshy areas of Swine Moor, particularly between the river and the Beverley and Barmston Drain. A succulent grass grazed by stock; native.

Glyceria notata Chevall. Plicate Sweet-grass (1) [**As or Gs**]

Scarce, perhaps because of the unusually dry year; native.

Bromus hordeaceus L.Soft-brome (18) [**C, G, U**]

Frequent where it occurs, often colonising disturbed ground. Can be invasive in hay meadows, unwelcome there because of its low food value. Native, but the invasive strain may be an introduced alien.

Bromus secalinus L. Rye Brome (1) [**C**]

Seen along the edge of a cereal field and among the crop. A British native, nationally scarce; regionally secure (Middleton & Cook, 2014). Presumably introduced as a seed contaminant.

Anisantha diandra (Roth) Tutin ex Tzvelev Great Brome (1) [**C**]

A few plants at the edge of a cereal field, among the crop. Regionally rare but introduced as seed contaminant (Middleton & Cook, 2014). Alien in Beverley.

Anisantha sterilis (L.) Nevski Barren Brome (24) [**C, G, U**]

Often frequent on waysides in town and country and quick to invade disturbed or derelict urban sites; native.

Bromopsis ramosa (Huds.) Holub Hairy-brome (7) [**Wh**]

A characteristic and rather graceful grass of shady hedge-bottoms; native.

Brachypodium sylvaticum (Huds.) P. Beauv. False-brome (8) [**W, Wh**]

Found in shady places, particularly hedge-bottoms, where it is usually more abundant than Hairy-brome or Giant fescue; native.

Elytrigia repens (L.) Desv. ex Nevski Common Couch (21) [**C, G**]

Sometimes in pure stands at waysides and to some extent tolerant of salt. It can be a troublesome weed of gardens; native.

Hordeum distichon s.l. L. Two-rowed Barley (3) [**C, U**]

Occasional plants seen as seed contaminants in Wheat, Also as relic of cultivation or as the result of spillage; alien.

Hordeum murinum L. Wall Barley (12) [**U**]

A familiar sight on disturbed ground in urban situations, in small quantity; native.

Triticum aestivum L. Bread Wheat (5) [**C, U**]

Occasional plants as the result of spillage or relic of cultivation; alien.

Phragmites australis (Cav.) Trin. ex Steud. Common Reed (10) [**Ab, Ad, Ah, Af, As**]

Frequently noted in the Hull valley and in ditches to the South of the town. Particularly extensive beds occur along the East side of the river, where Reed Buntings nest among it; native.

Setaria pumila (Poir.) Roem. & Schult. Yellow Bristle-grass (1) [**Ur**]

A single plant at the roadside on New Walk; alien.

Appendix: THE TREES OF BEVERLEY, A GENERAL RÉSUMÉ

by John Killingbeck

This appendix presents the results of a survey undertaken by John Killingbeck in December 2018 and represents a broad picture of the treescape of Beverley. It is by no means exhaustive but includes species found in streets, gardens, parks and cemeteries in the town and a little way beyond the urban fringe. The area examined was smaller than that of the main survey but lies entirely within its boundaries**. It also differs slightly from the wider survey in that plantings in private gardens were included.** After Hull and its suburbs, Beverley has probably the next most varied selection of trees in vc61.

1. Widespread street trees

A relatively small number of species are widespread over most of the town and Limes are perhaps the most frequent. Lime (*Tilia x europaea*) and Large-leaved Lime (*Tilia platyphyllos*) are much the commonest, with a few examples *of* Caucasian Lime (*Tilia x euchlora*). Small-leaved Lime (*Tilia cordata*) is rarer than either. Of other genera, Maples (*Acer spp.*) are equally common and Sycamore (*Acer pseudoplatanus*) is perhaps the most widespread. However, Norway Maple (*Acer platanoides*) is almost as frequent – particularly in the district around Admiral Walker Road. Field Maple (*Acer campestre*) is also commonly planted particularly in the newer estates. Ash (*Fraxinus excelsior*), though not an ideal street tree, is found in most districts although, surprisingly, there are no other Ash species. Italian Alder (*Alnus cordata*) is prominent in all but the older parts of town, less commonly along with Grey Alder (*Alnus incana*) and more rarely Alder (*Alnus glutinosa*). Horse-chestnut (*Aesculus hippocastanum*) is widely street planted but Red Horse-chestnut (*Aesculus carnea*), although frequent, is more often confined to large gardens. Leyland Cypress (*XCuprocyparis leylandii*) is the ubiquitous evergreen. A number of smaller trees are typical of the denser, newer residential areas and central districts. These include Common Whitebeam (*Sorbus aria*) and Rowan (*Sorbus aucuparia*) with some records of Swedish Whitebeam (*Sorbus intermedia*). Ornamental Cherries and Crabs (*Prunus* spp. and *Malus* spp.) are widely used as street trees in the newer estates. The Cherries are often forms of Japanese Cherry (*Prunus serrulata*), of which there are a few fine old trees. Bird Cherry (*Prunus padus* 'Watereri') and Cherry Plum (*Prunus cerasifera*) – particularly 'Pissardii' - are also very widespread, with the Wild Cherry (*Prunus avium* 'Plena') where space allows. Almost as frequent are Hawthorns (*Crataegus* spp.) – mostly forms of the native species. Birches, (mainly *Betula pendula*) and Hornbeam (mainly *Carpinus betulus* 'Fastigiata') are also fairly frequent.

2. The town centre (Saint Mary's to the Minster)

The town centre has few large trees due to confined space and is dominated by generally common species similar to those already mentioned above. Many are notable urban favourites particularly Fastigiate Hornbeam (*Carpinus betulus* 'Fastigiata') and a few examples of Callery Pear (*Pyrus calleryana* 'Chanticleer') – e.g. near the fire station. More recently Turkish Hazel (*Corylus colurna*) has arrived and a few young London Plane (*Platanus x hispanica*) are growing strongly. One rarity grows by the minster- Red Alder (*Alnus rubra*), and another- Yellow Buckeye (*Aesculus flava*), bearing mistletoe (*Viscum album*) off Wylies Road.

3. Older residential areas, mainly to the north and west (properties bordering the Westwood and to the north - featuring New Walk to Molescroft)

This part of Beverley has much the best treescape and most of the largest specimens. Most striking, even from a distance, are big conifers like Wellingtonia (or Giant Redwood) (*Sequoiadendron giganteum*), Monterey Cypress (*Cupressus macrocarpa*) and Cedars – mostly Atlas Cedar (*Cedrus atlantica*) and Deodar (*Cedrus deodara*). Few of these are present at large sizes elsewhere in Beverley. There are swathes of mature *Chamaecyparis* and *Thuja* among the ubiquitous Leyland Cypress (*XCuprocyparis leylandii*), Black Pine (*Pinus nigra*) and less common Scots Pine (*Pinus sylvestris*). Spruces are mostly Norway (*Picea abies*), Sitka (Picea sitchensis) and Colorado Spruces (Picea pungens) with Firs represented by a few Douglas Fir (*Pseudotsuga menziesii*) and Giant Fir (*Abies grandis*). A fine and unusual avenue of Deodars (or Indian Cedars) (*Cedrus deodara*) lines Cedar Grove, Molescroft. Of broadleaves, there is a surprising number of Evergreen Oak (*Quercus ilex*) making it Beverley's second commonest Oak. Molescroft also has what is probably East Yorkshire's largest Cider Gum (*Eucalyptus gunnii*). Several deciduous species are also notable for their size – notably Sycamore (*Acer pseudoplatanus*), Beverley's Sessions House has the largest specimen in Yorkshire. A number of tall Limes including a very big Silver Weeping Lime (*Tilia tomentosa* 'Petiolaris'), the town's largest Planes, East Yorkshires largest Katsura Trees (*Circidiphyllum japonicum*) and a very big Gean (*Prunus avium*) were all seen in the vicinity of Langholm Close (arguably the epicentre of Beverley's treescape). There are some notably big Hornbeams (*Carpinus betulus*) near the tennis club and a scatter of fine Beech (*Fagus sylvatica*) throughout this district.

4. Newer residential and industrial area, mainly to the south and east

These areas form much the most extensive district but have few large trees due to urban density and are dominated by the species described in the first section. A few unusual exotics crop up in private gardens however and peripheral areas do have tall specimens. Some are worth particular mention. Eucalyptus (mostly *Eucalyptus gunnii*) are very widespread and in a few cases quite large. Along the Swinemoor Lane industrial area are a sizable White Poplar (*Populus alba*), a False-acacia (*Robinia pseudoacacia*) bearing Mistletoe (*Viscum album*) and, at the southern end, a particularly fine Lombardy-poplar (*Populus nigra* var. 'Italica'). Other tall poplars may be found in open areas like the Sports Centre fields and Beverley Beck mostly Hybrid Black-poplar clones (*Populus x canadensis*) and Hybrid Balsam-poplars (*Populus trichocarpa*), where in the latter locality they mingle with fine Willows (White Willow (*Salix alba*)). Particular mention must be made of the Manor Road district which is the epicentre of Beverley's outstanding mistletoe enclave. Centred on a massively infested old orchard off Manor Close, it has spread conspicuously into tall Limes behind the High School and into other trees beyond, including Rowan (*Sorbus aucuparia*), Thorn (*Crataegus* spp.), Poplar (*Populus*), False-acacia (*Robinia pseudoacacia*) and Yellow Buckeye (*Aesculus flava*).

5. The Westwood and Burton Bushes

Avenues of trees including Large-leaved Lime (*Tilia platyphyllos*), Hornbeam (*Carpinus betulus*), Horse-chestnut (*Aesculus hippocastanum*) and Sycamore (*Acer pseudoplatanus*) radiate from the town into this distinct, non-urban, area. The open pasture itself is dominated mostly by native species, particularly Hawthorn (*Crataegus monogyna*), Ash (*Fraxinus excelsior*) and Pedunculate Oak (*Quercus robur*). Towards and within Burton Bushes Pedunculate Oak becomes dominant and particularly large. Burton Bushes is a remnant of ancient woodland or wood pasture and in its current condition is perhaps the closest thing in East Yorkshire to "wildwood", though only superficially so. Although many of the oaks are clearly of good age (perhaps around 250 to 300 years), until the area was fenced from cattle a few decades ago they were failing to regenerate. Since fencing, regeneration has been extensive but it has now probably stalled due to sapling density. More striking is perhaps the regeneration of Holly (*Ilex aquifolium*), now dense throughout and continuing to dominate the understorey. Most other native species are also to be found here including Hazel (*Corylus avellana*), Wild Cherry (*Prunus avium*), Field Maple (*Acer campestre*), Ash (*Fraxinus excelsior*), Birches (mainly *Betula pubescens*). A number of particularly large and fine examples of each can be found. Other species "native" but probably not to East Yorkshire include Beech (*Fagus sylvatica*) and Hornbeam (*Carpinus betulus*), neither of which regenerates, and Limes, (notably *Tilia platyphyllos*) which does regenerate by vegetative (phoenix) growth. A few complete exotics, like Turkey Oak (*Quercus cerris*), which were clearly originally introduced are also to be found

Burton Bushes is far from the wildwood it at first seems. It is, however, one of the very few woodlands in the county not under any direct management and as such provides a fascinating study into the behaviour of tree species left to their own devices, at least until human interference resumes which, at some point, it no doubt will.

Catalogue of tree species noted

This represents the result of a quick December survey. It does not mean that if a species is absent from the list, it does not occur. Several common species are missing e.g. *Castanea* and *Liriodendron*; it seems unlikely that there are no such trees in Beverley. Localities are mentioned only where the species is remarkable in some way.

GINKGOACEAE

Ginkgo biloba L. Maidenhair-tree

PINACEAE

Abies grandis (Douglas ex D. Don) Lindl. Giant Fir
Abies concolor (Gordon) Lindl. ex Hildebr. Colorado White-fir
Abies nordmanniana (Steven) Spach Caucasian Fir
Abies koreana Wils. Korean Fir

Pseudotsuga menziesii (Mirb.) Franco Douglas Fir

Picea sitchensis (Bong.) Carrière Sitka Spruce
Picea abies (L.) H. Karst. Norway Spruce
Picea omorika (Pancic) Purk. Serbian Spruce
Picea pungens Engelm. **'Glauca'** Blue Colorado Spruce

Larix decidua Mill. European Larch

Cedrus deodara (Roxb. ex D. Don) G. Don Deodar
Cedrus atlantica (Endl.) Carrière **'Glauca'** Blue Atlas Cedar

Pinus sylvestris L. Scots Pine
Pinus nigra J.F. Arnold Austrian Pine varieties including Black Pine
Pinus pinea L. Stone Pine
Pinus wallichiana A.B. Jacks. Bhutan Pine

ARUCARIACEAE

Araucaria araucana (Molina) K. Koch Monkey-puzzle

TAXACEA

Taxus baccata L. Yew and varieties

CUPRESSACEAE

Metasequoia glyptostroboides Hu & W.C. Cheng Dawn Redwood

Sequoia sempervirens (D. Don) Endl. Coastal Redwood

Sequoiadendron giganteum (Lindl.) Buchholz Wellingtonia

Cryptomeria japonica (L. f.) D. Don Japanese Red-cedar

Cupressus macrocarpa Hartw. ex Gordon Monterey Cypress including varieties
Cupressus sempervirens L. Italian Cypress
Cupressus arizonica Greene Arizona Cypress

XCuprocyparis leylandii (A.B. Jacks. & Dallim.) Farjon Leyland Cypress

Chamaecyparis lawsoniana (A. Murray bis) Parl. Lawson's Cypress varieties
Chamaecyparis pisifera (Siebold & Zucc.) Siebold & Zucc. Sawara Cypress varieties
Chamaecyparis obtusa (Siebold & Zucc.) Endl. Hinoki Cypress varieties

Thuja plicata Donn ex D. Don Western Red-cedar
Thuja occidentalis L. Northern White-cedar varieties

Juniperus communis L. Juniper varieties
Juniperus chinensis L. Chinese Juniper varieties
Juniperus scopulorum Sarg. **'Skyrocket'** Rocky Mountain Juniper
Juniperus squamata Buchan.-Ham. Flaky Juniper

Calocedrus decurrens (Torrey) Florin Californian Incense-cedar

Platycladus orientalis (L.) Franco Chinese Thuja

Thujopsis dolabrata (L. f.) Siebold & Zucc. Hiba

Xanthocyparis nootkatensis (D. Don) Farjon & D.K. Harder Nootka Cypress

CERCIDIPHYLLACEAE

Cercidiphyllum japonicum Sieb. and Zucc. Katsura Tree
East Yorkshire's largest, Westwood Park

MAGNOLIACEAE

Magnolia grandiflora L. Evergreen Magnolia
Magnolia x soulangeana Thiéb.-Bern. Saucer Magnolia

LAURACEAE

Laurus nobilis L. Bay

ALTINGIACEAE

Liquidambar styraciflua L. Sweet Gum

HAMAMELIDACEAE

Parrotia persica C. A. Mey. Persian Ironwood

PLATANACEAE

Platanus x hispanica Mill. ex Münchh. London Plane

BUXACEAE

Buxus sempervirens L. Box

FABACEAE

Robinia pseudoacacia L. False-acacia including varieties
a tree on Swinemoor Road has Mistletoe

Gleditsia tricanthos L. Honey-Locust including varieties

Laburnum anagyroides Medik. Laburnum
Laburnum x watereri (Wettst.) Dippel **'Vossii'** Voss's Laburnum

Genista aetnensis (Raf. ex Biv.) DC. Mount Etna Broom

Acacia dealbata Link. Mimosa

ROSACEAE

Prunus cerasifera Ehrh. Cherry Plum including **'Pissardii'**
Prunus domestica L. orchard Plums
Prunus avium (L.) L. Gean or Wild Cherry
Prunus padus L. Bird Cherry
Prunus lusitanica L. Portugal Laurel
Prunus laurocerasus L. Cherry Laurel
Prunus x subhirtella Miq. **'Autumnalis'** Winter-flowering Cherry
Prunus serrula Franch. Tibetan Cherry
Prunus serrulata Lindl. Japanese Cherry many varieties
Prunus serrulata '**Cheal's Weeping'** Cheal's Weeping Cherry
***Prunus hillieri* 'Spire'**

Pyrus calleryana Dcne. **'Chanticleer'** Callery Pear
Pyrus salicifolia Pall. Willow-leafed Pear
***Pyrus* spp.** many orchard Pears.

***Malus* spp.** there are numerous Crabs in gardens and streets, e.g. Golden Hornet, Red sentinel; plus orchard apples.

Sorbus aucuparia L. Rowan
Sorbus intermedia (Ehrh.) Pers. Swedish Whitebeam
Sorbus aria (L.) Crantz Common Whitebeam including varieties
***Sorbus* 'Joseph Rock'**
Sorbus vilmorinii C.K. Schneid. Vilmorin's Rowan

Amelanchier lamarckii F.G. Schroed. Juneberry

Cotoneaster frigidus Wall. ex Lindl. Tree Cotoneaster also **'Cornubia'**
Cotoneaster salicifolius Franch. Willow-leaved Cotoneaster

Crataegus monogyna Jacq. Hawthorn

Crataegus laevigata (Poir.) DC. Midland Hawthorn (ornamental varieties)
Crataegus x lavallei Hérincq Hybrid Cockspur Thorn

ULMACEAE

Ulmus glabra Huds. Wych Elm
Ulmus procera Salisb. English Elm

MORACEAE

Morus nigra L. Black Mulberry
Morus alba L. White Mulberry Molescroft School

Ficus carica L. Fig

NOTHOFAGACEAE

Nothofagus obliqua (Mirb.) Blume Roble

FAGACEAE

Fagus sylvatica L. Beech (and varieties)

Quercus *cerris* L. Turkey Oak
Quercus ilex L. Evergreen Oak
Quercus robur L. Pedunculate Oak
Quercus rubra L. Red Oak
Quercus suber L. Cork Oak a small tree, Park Grove

JUGLANDACEAE

Juglans regia L. Walnut
Juglans nigra L. Black Walnut

BETULACEAE

Betula pendula Roth Silver Birch
Betula pubescens Ehrh. Downy Birch
Betula utilis D. Don **var. *jacquemontii*** (Spach) A. Henry Himalayan Birch
Betula ermanii Cham. Erman's Birch
Betula nigra L. River Birch

Alnus glutinosa (L.) Gaertn. Alder
Alnus incana (L.) Moench Grey Alder
Alnus cordata (Loisel.) Duby Italian Alder
Alnus rubra Bong. Red Alder Minster

Carpinus betulus L. Hornbeam also **'Fastigata'**

Corylus avellana L. Hazel
Corylus colurna L. Turkish Hazel

CELASTRACEAE

Euonymus japonicus Thunb. Evergreen Spindle

SALICACEAE

Populus alba L. White Poplar
Populus nigra L. var. **'Italica'** Lombardy-poplar
Populus x canadensis Moench Hybrid Black-poplar
Populus trichocarpa Torr. & A. Gray ex Hook. Western Balsam-poplar and hybrids

Salix alba L. White Willow
Salix x sepulcralis Simonk. **'Chrysocoma'** Golden Weeping Willow
Salix caprea L. Goat Willow
Salix cinerea L. Grey Willow
Salix babylonica L. **var. *pekinensis* 'Tortuosa'** Peking Willow

MYRTACEAE

Eucalyptus gunnii Hook. f. Cider Gum
Eucalyptus pauciflora Sieb. Ex. Spreng. Snow Gum

ANACARDIACEAE

Rhus typhina L. Stag's-horn Sumach

SAPINDACEAE

Koelreuteria paniculata Laxm. Pride-of-India

Aesculus hippocastanum L. Horse-chestnut
Aesculus carnea J. Zeyh. Red Horse-chestnut
Aesculus flava Sol. Yellow Buckeye

Acer platanoides L. Norway Maple
Acer cappadocicum Gled**. subsp. *lobelii*** (Ten.) De Jong Lobel's Maple Rokeby Close
Acer campestre L. Field Maple
Acer pseudoplatanus L. Sycamore Includes Yorkshire's largest
Acer saccharinum L. Silver Maple
Acer palmatum Thunb. Smooth Japanese-maple
Acer davidii Franch. Pere David's Maple
Acer griseum (Franch.) Pax Paperbark Maple E. Yorkshire's largest in Centinal Av.

MALVACEAE

Tilia platyphyllos Scop. Large-leaved Lime
Tilia x europaea L. Lime
Tilia cordata Mill. Small-leaved Lime
Tilia x euchlora K. Koch Caucasian Lime
Tilia tomentosa Moench **'Peteolaris'** Weeping Silver Lime

ERICACEAE

Arbutus unedo L. Strawberry-tree

OLEACEAE

Fraxinus excelsior L. Ash including **'Jaspidea'**

Ligustrum ovalifolium Hassk. Garden Privet

LAMIACEAE

Vitex agnus-castus L. Chaste Tree shrubby – perhaps Beverley's most unusual tree – and flowering!

PAULOWNIACEAE

Paulownia tomentosa (Thunb.) Steudel Foxglove-tree Westwood Road

AQUIFOLIACEAE

Ilex aquifolium L. Holly and many varieties

Ilex x altaclerensis (hort. ex Loudon) Dallim. Highclere Holly

Ilex cornuta Lindl. & Paxton Horned Holly off Grovehill

CAPRIFOLIACEAE

Sambucus nigra L. Elder

PITTOSPORACEAE

Pittosporum tenuifolium Gaertn. Kohuhu

ASPARAGACEAE

Cordyline australis (G. Forst.) Endl. Cabbage-palm

ARECACEAE

Trachycarpus fortune*i* (Hook.) H. Wendl. Chusan Palm